February 2018 | EIR Addendum

BASELINE ROAD MASTER PLAN (SYCAMORE HILLS PLANNING AREA 3)

for Allen Matkins Leck Gamble Mallory & Natsis LLP

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1. Introduction

1.1 BACKGROUND, PURPOSE, AND SCOPE

This document is an Addendum to the previously certified Environmental Impact Report (EIR) (State Clearinghouse No. 2006011124) for the approved Baseline Road Master Plan (2008 Approved Project)—which included the Park View Specific Plan—and addresses minor changes to the site plan of Planning Area 3, also known as Sycamore Hills (Proposed Project). The Proposed Project is a 176-unit single-family detached and single-family attached residential project.

The 2007 Draft EIR and 2008 Final EIR (collectively referred to as the 2008 Certified EIR), in conjunction with this Addendum, serve as the environmental review for the Proposed Project, as required by the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Sections 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3, Sections 15000–15387). Pursuant to the provisions of CEQA and the State CEQA Guidelines, the City of Upland is the Lead Agency charged with deciding whether or not to approve the Proposed Project. This addendum addresses the potential environmental impacts associated with the Proposed Project as compared to the 2008 Approved Project. The Proposed Project is limited to Planning Area 3 because it would function as a standalone development project separate from the remainder of the Master Plan area. See Page 4 of this addendum for a description of the Proposed Project.

Baseline Road Master Plan (2008)

The Baseline Road Master Plan (2008 Approved Project) is a mixed use project on approximately 99 acres in the cities of Upland and Claremont. The 2008 Approved Project consists of two distinct parts: a 57-acre sports park and a 42-acre Specific Plan area—described below—that allows approximately 32 acres of residential uses and 10 acres of commercial uses. Land use statistics for the 2008 Approved Project are shown in Table 1. A conceptual site plan for the 2008 Approved Project is shown in Figure 1.

1. Introduction

Table 1 Land Use Summary for the 2008 Approved Project

Planning Area	Acres	Housing Units	Commercial Square Feet
Park View Specific Plan			
1	7.6	76	—
2	8.6	112	—
3	15.8	212	—
4	7.6	—	80,000
5	2.4	—	20,000
Subtotal	42.0	400	100,000
City Sports Park			
Sports Park	44.0	—	—
Water Conservation/Riparian	13.0	—	—
Subtotal	57.0	—	—
Total	99.0	400	100,000

Park View Specific Plan

The Park View Specific Plan portion of the Master Plan area was proposed to be developed into distinct commercial and residential areas. The Specific Plan includes a 10-acre retail center that would allow up to 100,000 square feet of commercial space. This retail center was anticipated to include an anchor store such as a supermarket or drug store, specialty shops, and restaurants. The remaining 32 acres in Planning Areas 1 through 3 were planned for up to 400 housing units with densities between 10 and 20 units per acre.

The Specific Plan allows flexibility in the distribution of residential units and building types within each residential planning area. However, a maximum of 76 units is allowed in Planning Area 1. Any portion of this number not developed in Planning Area 1 may be developed in Planning Area 2 or 3. The maximum number of units in Planning Areas 1 and 2 together is 188. The Specific Plan includes a matrix identifying which types of units are permitted or not permitted in each planning area. It also includes provisions that guide the development of landscaping, new streets, pedestrian paths, a Class III bicycle path, and parking in Planning Areas 1 through 3. It establishes development standards and design guidelines for the area.

Since approval of the Park View Specific Plan, it has been renamed the Sycamore Hills Specific Plan to reflect rebranding of the Specific Plan area by its new owner.

City Sports Park

The City Sports Park portion of the Master Plan area plans for the development of a sports park that is integrated with existing water development and water conservation uses on the proposed park site. The 2008 Approved Project conceptually proposes that park amenities include six soccer fields, two tennis courts, a basketball court, a volleyball court, a "tot lot," a small community amphitheater, and a concession stand. The 2008 Approved Project indicates that access to the site by the Southern California Water Company, including access to the agency's water well and easement, would continue under the Master Plan.

Project Approvals

Implementation of the 2008 Approved Project required the project approvals listed in Table 2.

Table 2 Project Approvals for the 2008 Approved Project

Agency	Action	
City of Upland	• Adoption of the Park View Specific Plan • Adoption of the City Sports Park Master Plan • General Plan Amendment • Zone Change • Parcel Map	• Site Plan Review • Grading and Building Permits • Conditional Use Permits (as required) • Lot Line Adjustment • General Variances (as required)
City of Claremont	• Zone Change • Parcel Map • Site Plan Review	• Conditional Use Permits • Grading and Building Permits
Regional Water Quality Control Board	• Stormwater Pollution Prevision Plan • Water Quality Management Plan	• Cable Airport Authority • Site Plan Review
Caltrans	• Temporary Encroachment Permit (for sound walls)	
County of San Bernardino Flood Control District	• Review of sites plans for consistency with District Plan for flood control in San Antonio Wash	
Pomona Valley Protective Association	• Resolution of issues associated with mining leaseholds	

Finding. On March 11, 2008, the Upland City Council certified the 2008 Certified EIR and approved the 2008 Approved Project.

2008 Certified EIR

The 2008 Certified EIR analyzed environmental impacts of the 2008 Approved Project. Most impacts identified in the EIR were determined to be less than significant after implementation of mitigation measures. However, the following impacts were determined to be significant and unavoidable after implementation of feasible mitigation:

- **Air Quality (Construction).** Construction emissions of nitrogen oxides (NOx), respirable particulate matter (PM10), and fine particulate matter (PM2.5) from painting were found to exceed South Coast Air Quality Management District (SCAQMD) thresholds even after mitigation.

- **Air Quality (Operational).** Long-term regional air quality impacts from CO, NOx, and ROG emissions were determined to exceed SCAQMD thresholds.

- **Air Quality (Cumulative).** The 2008 Approved Project, in conjunction with other proposed projects, was determined to result in significant and unavoidable cumulative air quality impacts.

- **Mineral Resources.** The 2008 Certified EIR found that no mitigation measure could replace the loss of 57 acres of mineral resources extraction area, which was determined to contain approximately 3.25 million tons of aggregate.

1. Introduction

Finding. On March 11, 2008, the Upland City Council certified the 2008 Certified EIR and approved the 2008 Approved Project. The 2008 Certified EIR (State Clearinghouse No. 2006011124) was prepared in conformance with CEQA (PRC Sections 21000 et seq.) and the CEQA Guidelines (14 CCR Sections 15000 et seq.).

Proposed Project

Since certification of the 2008 Certified EIR and approval of the 2008 Approved Project, a final site plan for Planning Area 3 of the Sycamore Hills Specific Plan (formerly the Park View Specific Plan) has been designed. The project analyzed by this EIR Addendum (Proposed Project) includes a Tentative Tract Map for Planning Area 3 of the Specific Plan. Implementation of the Proposed Project would involve the construction of 176 housing units on Planning Area 3, including 83 townhomes and 93 single-family detached homes. This number of proposed units is less than what was allowed by the 2008 Approved Project, which proposed 212 units for Planning Area 3. The proposed site plan for the Proposed Project is shown in Figure 2.

Table 3 Differences between 2008 Approved Project and Proposed Project (Planning Area 3)

	2008 Approved Project	Proposed Project	Difference
Acres	15.8	16.6[1]	0.8[1]
Land Use	Single-family detached and single-family attached residential	Single-family detached and single-family attached residential	—
Commercial Square Feet	0	0	—
Housing Units	212	176	-36
Density (Units/Acre)	13.4	10.6	-2.8

*Difference likely due to more precise calculations compared to original site plans.

1.2 LEAD AGENCY AND DISCRETIONARY APPROVALS

This EIR Addendum documents the City's consideration of the potential environmental impacts resulting from the Proposed Project and explains why CEQA analysis in the form of a subsequent EIR or supplemental EIR is not required. The City of Upland is the lead agency and has approval authority over the Proposed Project. Discretionary approvals for the Proposed Project include the following:

- Tentative Tract Map for Sycamore Hills Planning Area 3

Figure 1 - 2008 Approved Project Conceptual Land Use Plan

Sycamore Hills Planning Area 3 (Project Site)

0 300
Scale (Feet)

Base Map Source: Lilburn Corporation 2007

1. Introduction

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Figure 2 - Proposed Project Site Plan

0 300
Scale (Feet)

Base Map Source: William Hezmalhalch Architects, Inc. 2016

1. Introduction

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2. Environmental Findings

The CEQA Guidelines provide detailed information on when a subsequent EIR, supplemental EIR, and EIR Addendum can be prepared. This chapter considers the provisions of CEQA Guidelines Sections 15162, 15163, and 15164 and discusses this Addendum to the Baseline Road Master Plan EIR.

2.1 ENVIRONMENTAL PROCEDURES

Pursuant to CEQA and the State CEQA Guidelines, the City's review of the Addendum focuses on the potential environmental impacts associated with the Proposed Project that might cause major revisions to the 2008 Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects pursuant to State CEQA Guidelines Section 15162.

Pursuant to CEQA Section 21166 and State CEQA Guidelines Section 15162, when an EIR has been certified or a negative declaration adopted for a project, no subsequent or supplemental EIR or negative declaration shall be prepared for the project unless the lead agency determines that one or more of the following conditions are met:

- Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted shows any of the following:

    A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration.

    B. Significant effects previously examined will be substantially more severe than identified in the previous EIR.

    C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives.

D. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

If some changes or additions to the previously prepared EIR or negative declaration are necessary, but none of the conditions specified in Section 15162 are present, the lead agency shall prepare an addendum (CEQA Guidelines Section 15164[a]). In accordance with the CEQA Guidelines, since none of the conditions specified in Section 15162 are present, the City has determined that an Addendum to the 2008 Certified EIR is the appropriate form of environmental review for the Proposed Project.

This Addendum analyzes the differences between the Proposed Project and the 2008 Approved Project and any changes to the existing conditions that have occurred since the certification of the 2008 Certified EIR. It also reviews any new information related to environmental impacts, mitigation measures and/or alternatives (if any) that was not known and could not have been known with exercise of reasonable diligence at the time that the 2008 Final EIR was certified. It further examines whether, as a result of any changes or any new information, a Subsequent EIR or Negative Declaration may be required. This examination includes an analysis of the provisions of CEQA Section 21166 and State CEQA Guidelines Section 15162 and their applicability to the Proposed Project.

2.2 CEQA GUIDELINES

This section describes the requirements for the preparation of a Subsequent EIR and EIR Addendum and demonstrates why the preparation of an Addendum to the 2008 Certified EIR is appropriate for the proposed specific plan revisions.

2.2.1 CEQA Guidelines, Section 15162: Subsequent EIRs and Negative Declarations

CEQA Guidelines Section 15162(a) states,

> When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1. **No substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.** (14 CCR Section 15162[a][1])

A subsequent EIR or supplemental EIR is only required when "substantial changes" occur to a project or the circumstances surrounding a project, or "new information" about a project implicates "new significant environmental effects" or a "substantial increase in the severity of previously significant effects."

A supplemental EIR is not required unless there is substantial evidence that modifications to the project would significantly increase the severity of the impacts identified in the previous EIR. Under CEQA,

"substantial evidence" includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

A statement of overriding considerations was made for significant unavoidable environmental impacts identified in the 2008 Certified EIR related to air quality and mineral resources.

Approval of the Proposed Project would not require major revisions to the 2008 Certified EIR because no new significant environmental effects or substantial increase in the severity of previously identified significant effects would occur. No changes to the Sycamore Hills Specific Plan are proposed, and the number and type of units proposed by the Proposed Project are consistent with the adopted Specific Plan. The proposed number of residential units (176 units) is less than the maximum allowed in the planning area by the adopted Sycamore Hills Specific Plan (212 units). The final site plan for Sycamore Hills Planning Area 3 would not add new development or physically change the environment such that an increase in previously identified cumulative impacts would occur. Furthermore, the Specific Plan revisions would not cause a substantial increase in the severity of cumulative impacts identified in the 2008 Certified EIR.

The analysis below, which discusses environmental topic areas listed in Appendix G of the CEQA Guidelines, demonstrates that no substantial changes are proposed and no major revisions of the 2008 Certified EIR would be required due to approval of the Proposed Project.

Aesthetics. The Proposed Project, like the 2008 Approved Project, proposes residential uses on the project site. The type and scale of development on the project site does not differ from that analyzed in the 2008 Certified EIR, and the proposed number of residential units (176 units) is less than the maximum allowed in the planning area by the adopted Sycamore Hills Specific Plan (212 units). Furthermore, the Proposed Project, like the 2008 Approved Project, would be required to comply with applicable regulations, mitigation identified in the 2008 Certified EIR (see Mitigation Measure AVQ-1), and provisions of the Sycamore Hills Specific Plan related to aesthetics. Therefore, no new impacts or substantially greater impacts than previously analyzed would occur.

Agriculture and Forestry Resources. There are no agricultural or forestry resources on the project site. Therefore, the Proposed Project, like the 2008 Approved Project, would not impact these types of resources. No new impacts or substantially greater impacts than previously analyzed would occur.

Air Quality. PlaceWorks has prepared an air quality and greenhouse gas (GHG) emissions technical study (AQ/GHG Technical Report) to evaluate potential construction and operational impacts associated with the Proposed Project relative to those identified in the 2008 Certified EIR. This study, which is found in Attachment A to this EIR Addendum, is consistent with the current methodology of the South Coast Air Quality Management District (SCAQMD) for projects in the South Coast Air Basin (SoCAB). The study calculates project-related criteria air pollutant and GHG emissions using CalEEMod v. 2013.2.2, which is the latest emissions computer model released by SCAQMD. Emissions related to transportation, energy use, water and wastewater generation, solid waste generation, and construction materials and activities were analyzed.

2. Environmental Findings

The AQ/GHG Technical Report found that the Proposed Project would:

- Not conflict with or obstruct SCAQMD's air quality management plan for the SoCAB as compared to the 2008 Approved Project.
- Not increase the severity or result in new short-term or long-term regional air quality impacts, cumulative air quality impacts, or localized air quality impacts compared to the 2008 Approved Project.
- Not create objectionable odors affecting a substantial number of people as compared to the 2008 Approved Project.

For detailed analysis supporting these conclusions, see Attachment A to this EIR Addendum.

Similar to the 2008 Approved Project, the Proposed Project would be required to comply with Mitigation Measures AQ-1 through AQ-5. Consistent with the finding above, no new impacts or substantially greater impacts than previously analyzed would occur.

Biological Resources. Although implementation of the Proposed Project could adversely impact biological resources, including California gnatcatchers and burrowing owls, the Proposed Project would not expand the geographic extent of potential impacts. The Proposed Project, like the 2008 Approved Project, would place residential uses on the project site, and impacts to biological resources on the site were analyzed in the 2008 Certified EIR. Furthermore, the Proposed Project, like the 2008 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2008 Certified EIR (see Mitigation Measures BIO-1 through BIO-4), which were determined to reduce potential impacts to less than significant. Lastly, two biological resource field surveys have been conducted on the project site since approval of the 2008 Approved Project and certification of the 2008 Certified EIR: a burrowing owl survey (RCA Associates, LLC; see Attachment B to this Addendum) and a California gnatcatcher survey (Leatherman BioConsulting, Inc.; see Attachment C to this Addendum). The burrowing owl survey was conducted on November 22, 2017. No burrowing owls or signs of owls were observed in Planning Area 3 or in adjacent areas. The California gnatcatcher survey was conducted on December 1, 2017. It concluded that, as found by previous studies, the area containing and including the project site does not support habitat suitable for the California gnatcatcher. No California gnatcatchers were observed or detected. No new impacts or substantially greater impacts than previously analyzed would occur.

Cultural Resources. The Proposed Project would disturb the same area as the 2008 Approved Project and would not be expected to uncover any additional subsurface cultural resources beyond those contemplated by the 2008 Certified EIR. Furthermore, the Proposed Project, like the 2008 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2008 Certified EIR (see Mitigation Measures C-1 through C-4), which were determined to reduce potential impacts to less than significant. No new impacts or substantially greater impacts than previously analyzed would occur.

Geology and Soils. Implementation of the Proposed Project could result in impacts related to geology and soils, including impacts resulting from seismic activity or erosion. However, the Proposed Project, like the 2008 Approved Project, proposes residential uses on the whole of the project site. The type and scale of

development on the project site does not differ from that analyzed in the 2008 Certified EIR. Furthermore, the Proposed Project, like the 2008 Approved Project, would be required to comply with applicable regulations, and mitigation identified in the 2008 Certified EIR (see Mitigation Measures G-1 through G-5). Therefore, no new impacts or substantially greater impacts than previously analyzed would occur.

Greenhouse Gas Emissions. As discussed above under Air Quality, an AQ/GHG Technical Report has been prepared to evaluate air quality and greenhouse gas emission impacts of the Proposed Project relative to those of the 2008 Approved Project. The AQ/GHG Technical Report determined that the Proposed Project would:

- Not increase the severity or result in new greenhouse gas emissions impacts compared to the 2008 Approved Project.

- Not conflict with an applicable plan, policy, or regulation adopted for the purpose reducing GHG emissions. Applicable plans include the California Air Resources Board Scoping Plan, Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy, and the City of Upland Climate Action Plan.

For detailed analysis supporting these conclusions, see Attachment A to this EIR Addendum. Similar to the 2008 Approved Project, the Proposed Project would be required to comply with Mitigation Measures AQ-1 through AQ-5. No new impacts or substantially greater impacts than previously analyzed would occur.

Hazards and Hazardous Materials. Implementation of the Proposed Project could result in impacts related to hazards and hazardous materials. However, like the 2008 Approved Project, the Proposed Project proposes residential uses on the whole of the project site. The type and scale of development on the project site do not differ from those analyzed in the 2008 Certified EIR. Furthermore, the Proposed Project, like the 2008 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2008 Certified EIR (see Mitigation Measures H-1 through H-5). No new impacts or substantially greater impacts than previously analyzed would occur.

Hydrology and Water Quality. Like the 2008 Approved Project, the Proposed Project would alter the existing drainage pattern of the project site, potentially generating runoff and affecting water quality and groundwater recharge in the area. However, the site plan proposed for the Proposed Project is consistent with the layout and type of development analyzed by the 2008 Certified EIR. Therefore, this topic was adequately analyzed by the 2008 Certified EIR. Furthermore, the Proposed Project, like the 2008 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2008 Certified EIR (see Mitigation Measures HWQ-1 through HWQ-5). No new impacts or substantially greater impacts than previously analyzed would occur.

Land Use and Planning. The site plan and proposed land use of the Proposed Project are consistent with those of the 2008 Approved Project. The proposed number of residential units (176 units) is less than the maximum allowed in the planning area by the adopted Sycamore Hills Specific Plan (212 units). No new impacts or substantially greater impacts than previously analyzed would occur.

2. Environmental Findings

Mineral Resources. The 2008 Certified EIR found that, under the 2008 Approved Project, no mitigation measure could replace the loss of 57 acres of mineral resource extraction area. Because the project site would also feature new residential uses under the Proposed Project, this significant and unavoidable impact would still occur. However, because the 2008 Approved Project and Proposed Project both feature the same type of development on the same project site, no additional loss of mineral resource accessibility would occur, and this topic was adequately analyzed by the 2008 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

Noise. As with the 2008 Approved Project, implementation of the Proposed Project would generate construction-related and operational noise. Furthermore, residents on the project site would experience new sources of noise from the proposed shopping center on Sycamore Hills Planning Areas 4 and 5 and the proposed sports park to the immediate northeast. However, the Proposed Project, like the 2008 Approved Project, contemplated the construction of housing on the project site. Because the Proposed Project would result in 36 fewer housing units than allowed by the adopted Specific Plan, traffic and construction noise would be less than the Proposed Project. Because the mix of land uses and amount of development are consistent with those analyzed in the 2008 Certified EIR, conclusions in the 2008 Certified EIR related to noise would remain the same. Upon adherence to applicable regulations and mitigation identified in the 2008 Certified EIR (see Mitigation Measures NOI-1, NOI-2, NOI-4, NOI-6, and NOI-7)[1], impacts would remain less than significant. No new impacts or substantially greater impacts than previously analyzed would occur.

Population and Housing. As under the 2008 Approved Project, the housing units associated with the Proposed Project would generate population growth in Upland. However, because implementation of the Proposed Project would result in 36 fewer housing units than planned for the project site under the 2008 Approved Project, the growth generated by the Proposed Project was adequately analyzed by the 2008 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

Public Services. The 176 housing units proposed for the project site by the Proposed Project would generate demand for police protection, fire protection, school, and library services. However, the 2008 Certified EIR analyzed the public services needs for 400 total units in the Specific Plan area, including up to 212 housing units on the project site. Because implementation of the Proposed Project would place 36 fewer housing units on the project site compared to the 2008 Approved Project, demand for public services would be reduced by the Proposed Project, and this topic was adequately analyzed by the 2008 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

Recreation. The Proposed Project proposes development of 36 fewer housing units on the project site compared to the 2008 Approved Project. Therefore, demand for recreational amenities would be reduced by the Proposed Project and this topic was adequately analyzed by the 2008 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

Transportation and Traffic. The 2008 Certified EIR determined that implementation of the 2008 Approved Project would affect the level of service (LOS) at arterial roadways and intersections and would

[1] Mitigation Measures NOI-3, NOI-5, and NOI-8 apply to other portions of the Specific Plan area.

contribute to near-term cumulative impacts at nine intersections and long-term cumulative impacts at ten intersections. However, the 2008 Certified EIR identified two mitigation measures (TC-1 and TC-2) that, if implemented, would reduce potential traffic impacts to less than significant. The proposed number of residential units (176 units) is less than the maximum allowed in the planning area by the adopted Sycamore Hills Specific Plan (212 units). Because the number and type of housing units proposed by the Proposed Project are less than the overall number and type of units analyzed by the 2008 Certified EIR, the Proposed Project would result in fewer vehicle trips and a reduced traffic impact compared to the 2008 Approved Project with adherence to Mitigation Measures TC-1 and TC-2. No new impacts or substantially greater impacts than previously analyzed would occur.

Utilities and Service Systems. The 176 housing units proposed for the project site by the Proposed Project would generate demand for water, sewer conveyance, wastewater treatment, solid waste disposal, and other services. However, the 2008 Certified EIR analyzed the utility needs for 400 total units in the Specific Plan area, including up to 212 housing units on the project site. Because implementation of the Proposed Project would place 36 fewer housing units on the project site compared to the 2008 Approved Project, demand for utilities and service systems would be reduced by the Proposed Project, and this topic was adequately analyzed by the 2008 Certified EIR. Furthermore, to assess the availability of water supply to serve the Proposed Project, PlaceWorks has prepared a technical memorandum (see Attachment D, *Water Supply Assessment Memorandum*, to this Addendum) reevaluating this topic. The memorandum found that 88.7 acre-feet/year water demand calculated for Planning Area 3 by the 2008 Certified EIR was likely an overestimate since it did not account for regulatory compliance with the CALGreen building code and the City's landscaping ordinance, which would result in water savings. The technical memorandum's revised water demand calculation of 43.7 acre/feet/year is a 47 percent reduction from the estimate identified in the 2008 Certified EIR. Because utility demands of the Proposed Project would be less than those of the 2008 Approved Project, this topic was adequately analyzed by the 2008 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

2. No substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. (14 CCR Section 15162(a)(2))

Approval of the Proposed Project would not require major revisions to the 2008 Certified EIR because no substantial changes have occurred with respect to the circumstances under which the project was undertaken. Existing conditions on Planning Area 3 of the Sycamore Hills Specific Plan area have not significantly changed. The revisions would not result in any physical changes to the environment that would cause new significant effects or increase the severity of previously identified cumulative impacts.

Although a statement of overriding considerations was made in conjunction with the 2008 Certified EIR, substantial changes in the circumstances under which the project was undertaken have not occurred since the Specific Plan was adopted on March 11, 2008. No substantial increases in the severity of the cumulative impacts would occur. Therefore, the Sycamore Hills Specific Plan would not have new significant

environmental effects or substantially increase the severity of previously identified significant effects due to changes in circumstances.

3. **No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:**

   a. **The project will not have one or more significant effects not discussed in the previous EIR.** (14 CCR Section 15162(a)(3)(A))

   No new information has been introduced that would increase the severity of the identified cumulative impacts or cause new significant effects not discussed in the certified EIR. The final site plan for Sycamore Hills Planning Area 3 is not considered new information of substantial importance. The Proposed Project would not permit new development or result in physical changes to the environment that would increase previously identified cumulative impacts. The Proposed Project would not have significant project or cumulative effects because there are no new areas of development or other changes to the physical environment outside the original project site.

   b. **Significant effects previously examined will not be substantially more severe than shown in the previous EIR.** (14 CCR Section 15162(a)(3)(B))

   No new information has been introduced that would increase the severity of impacts discussed in the 2008 Certified EIR. The Proposed Project does not propose nor allow new development or other changes to the physical environment that were not previously analyzed.

   c. **No mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative"** (14 CCR Section 15162(a)(3)(C))

   Since the certification of the EIR, no new, previously unknown information of substantial importance has come to light that would affect the mitigation measures that were adopted or the alternatives that were considered as a part of the decision-making process for the 2008 Certified EIR.

   The Proposed Project would not create new significant effects that were not previously analyzed, nor would the magnitude of impacts exceed those found in the 2008 Certified EIR. No new mitigation measures are proposed, and the Mitigation Monitoring and Reporting Program adopted as a part of the 2008 Certified EIR remains adequate to mitigate impacts of the Sycamore Hill Specific Plan.

   The alternatives that were analyzed also remain applicable to the Sycamore Hills Specific Plan and do not need to be reconsidered; therefore, the Proposed Project does not create new impacts that would require new analysis of project alternatives.

   d. **No mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the**

environment, but the project proponents decline to adopt the mitigation measure or alternative. (14 CCR Section 15162(a)(3)(D))

No new mitigation measures are required, and the Mitigation Monitoring and Reporting Program adopted as a part of the 2008 Certified EIR remains adequate to mitigate impacts of the Sycamore Hills Specific Plan. The alternatives that were analyzed also remain applicable and do not need to be reconsidered; the Proposed Project does not create new impacts that would require new analysis of project alternatives.

As substantiated in this document, the Proposed Project does not create new significant impacts that would require the preparation of a subsequent EIR, and an addendum to the 2008 Certified EIR would be appropriate to satisfy CEQA.

2.2.2 CEQA Guidelines Section 15164: Addendum to an EIR or Negative Declaration

1. **The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.** (14 CCR Section 15164(a))

This EIR Addendum provides additional information specifically relevant to the changes to the 2008 Certified EIR caused by the Proposed Project. None of the conditions from Section 15162 are present that would require a subsequent EIR.

2. **An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.** (14 CCR Section 15164(b))

The Baseline Master Plan, which included the Park View Specific Plan (now the Sycamore Hills Specific Plan), was the subject of a full EIR, not a negative declaration; therefore subsection (b) does not apply.

3. **An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.** (14 CCR Section 15164(c))

Although not required, this Addendum will be made available for public review as part of the packet for the Planning Commission hearing at which the Proposed Project will be considered.

4. **The decision making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.** (14 CCR Section 15164(d))

The Upland Planning Commission will consider the EIR Addendum and the 2008 Certified EIR prior to approving the Proposed Project.

2. Environmental Findings

5. **A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.** (14 CCR Section 15164(e))

Pursuant to CEQA Guidelines Section 15164, after an EIR has been certified for a project, if some minor technical changes to the previously certified EIR are necessary, preparation of an Addendum to the EIR is appropriate.

Previous analysis of environmental impacts has been conducted for the Baseline Road Master Plan—which included the Park View Specific Plan (now the Sycamore Hills Specific Plan)—in an Initial Study, a Draft EIR, and a certified Final EIR. As determined through a review of the adopted Specific Plan and the 2008 Certified EIR, the Proposed Project would not involve new significant environmental effects or a substantial increase in the severity of significant effects already identified in the 2008 Certified EIR. Given this finding, an Addendum to the existing EIR is appropriate and has been prepared.

3. Environmental Determination

Based on the evidence in light of the whole record documented in the certified EIR and cited incorporations:

☐ 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 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL 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.

Signature	*Date*
Printed Name	*For*

3. Environmental Determination

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Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
I. AESTHETICS. Would the project:					
a) Have a substantial adverse effect on a scenic vista?				**X**	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				**X**	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				**X**	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				**X**	
II. AGRICULTURE AND FORESTRY 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 Dept. 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 non-agricultural use?					**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?					**X**
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?					**X**
d) Result in the loss of forest land or conversion of forest land to non-forest use?					**X**
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?					**X**
III. 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?				**X**	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				**X**	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				**X**	
d) Expose sensitive receptors to substantial pollutant concentrations?				**X**	

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
e) Create objectionable odors affecting a substantial number of people?				X	
IV. 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 Wildlife or U.S. Fish and Wildlife Service?				X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?					X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X	
V. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?					X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?				X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X	
d) Disturb any human remains, including those interred outside of dedicated cemeteries?					X
VI. 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:				X	

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.					X
ii) Strong seismic ground shaking?				X	
iii) Seismic-related ground failure, including liquefaction?				X	
iv) Landslides?				X	
b) Result in substantial soil erosion or the loss of topsoil?				X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?					X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?					X
VII. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X	
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?					X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X	

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				**X**	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				**X**	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				**X**	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?					**X**
IX. HYDROLOGY AND WATER QUALITY. Would the project:					
a) Violate any water quality standards or waste discharge requirements?				**X**	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				**X**	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site				**X**	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				**X**	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				**X**	
f) Otherwise substantially degrade water quality?				**X**	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?					**X**
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?					**X**
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				**X**	
j) Inundation by seiche, tsunami, or mudflow?					**X**

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
X. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?					**X**
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				**X**	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?					**X**
XI. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				**X**	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**	
XII. NOISE. Would the project result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				**X**	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				**X**	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				**X**	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				**X**	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				**X**	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				**X**	
XIII. POPULATION AND HOUSING. Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				**X**	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?					**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?					**X**

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
a) Fire protection?				X	
b) Police protection?				X	
c) Schools?				X	
d) Parks?				X	
e) Other public facilities?				X	
XV. RECREATION.					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?					X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?					X
XVI. TRANSPORTATION/TRAFFIC. Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				X	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?					X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?					X
e) Result in inadequate emergency access?				X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X	

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
XVII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or					**X**
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.					**X**
XVIII. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?				**X**	
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				**X**	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				**X**	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?				**X**	
e) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				**X**	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				**X**	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				**X**	
XIX. MANDATORY FINDINGS OF SIGNIFICANCE.					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				**X**	

Issues	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information Showing New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				**X**	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				**X**	

Attachment A.
Air Quality and Greenhouse Gas Emissions Technical Report

Attachments

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August 2016 | Air Quality and Greenhouse Gas Emissions Technical Report

Planning Area 3 of Sycamore Hills Specific Plan

Allen Matkins Leck Gamble Mallory & Natsis LLP

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PLACEWORKS

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1. Introduction

This Air Quality and Greenhouse Gas (GHG) Emissions Technical Report is prepared for Allen Matkins Leck Gamble Mallory & Natsis LLP (Client) to evaluate—pursuant to the California Environmental Quality Act (CEQA)—the potential air quality and GHG emissions impacts from the development of Planning Area 3 of the Sycamore Hills Specific Plan in the City of Upland. The project site was previously analyzed in the certified 2008 Baseline Road Master Plan Environmental Impact Report (SCH NO. 200601114) for the Sycamore Hills Specific Plan. Therefore, this report compares the impacts of the Proposed Project to the impacts of the project previously analyzed as Planning Area 3 (Approved Project) in 2008 Certified EIR.

1.1 PROJECT LOCATION AND SETTING

The undeveloped 16.61-acre triangular-shaped Planning Area 3 (project site) is in the larger Sycamore Hills Specific Plan area. The project site is in an open space area bounded by State Route 210 on the north, Baseline Road to the south, and open space to the east. Nearby surrounding land uses primarily consist of residential uses to the east and west. Other uses consist of a water treatment facility across the open space to the east.

1.2 PROJECT DESCRIPTION

The Proposed Project would develop approximately 83 townhomes and 93 single-family detached homes for a total of 176 dwelling units (DUs) in Planning Area 3 of the Sycamore Hills Specific Plan area. As analyzed in the 2008 Certified EIR, up to 212 single-family detached and attached multifamily dwelling units could be accommodated in Planning Area 3.

Construction would entail site preparation and grading, and approximately 160,000 cubic yards of soil would be transported to other planning areas in the Specific Plan area. Other activities include asphalt paving, construction of the proposed homes, and architectural coating. The Proposed Project is anticipated to begin as early as October 2016 and be completed by the beginning of May 2019.

1.3 MODELING METHODOLOGY

This analysis evaluates the impacts of the Proposed Project based on the significance criteria of the South Coast Air Quality Management District. The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. "Emission" refers to the actual quantity of pollutant, measured in pounds per day. "Concentration" refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Transportation emissions are based on average daily vehicle trips for the Proposed Project provided by David Evans and Associates, Inc. (2016). Emissions of the Proposed Project are modeled using the California

1. Introduction

Emissions Estimator Model (CalEEMod), version 2013.2.2. Criteria air pollutant and GHG emissions modeling for construction and operational phases of the Proposed Project is included in the appendices of this technical report.

2. Regulatory Setting

2.1 AIR QUALITY

The project site is in the South Coast Air Basin (SoCAB). Land use is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD), the California Ambient Air Quality Standards (AAQS) adopted by the California Air Resources Board (CARB), and National AAQS adopted by the United States Environmental Protection Agency (EPA). Air pollutants for which the state and federal government have identified AAQS are known as criteria air pollutants. In addition to criteria air pollutants, both the state and federal governments regulate the release of toxic air contaminants (TACs). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

2.1.1 Federal and State Laws

2.1.1.1 AMBIENT AIR QUALITY STANDARDS

The Clean Air Act was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

3. Environmental Setting

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016a.
Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
1 California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1- and 24-hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California AAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2 National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
4 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
5 On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- California Code of Regulations (CCR), Title 20: Appliance Energy Efficiency Standards
- 24 CCR, Part 6: Building and Energy Efficiency Standards
- 24 CCR, Part 11: Green Building Standards Code

2.1.1.2 TANNER AIR TOXICS ACT AND AIR TOXICS HOTS INFORMATION AND ASSESSMENT ACT

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the

federal Clean Air Act (42 U.S. Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate "toxics best available control technology" to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **CARB Rule** 2485 (13 CCR, Chapter 10 § 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- **CARB Rule 2480** (13 CCR Chapter 10 § 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- **CARB Rule 2477** (13 CCR § 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

2.1.1.3 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. VOC and NO_2 are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

- **Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005; USEPA 2016). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2015a).

- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (SCAQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O_3, SCAQMD has established a significance threshold.

- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2016). The SoCAB is designated an attainment area for NO_2 under the National and California AAQS (CARB 2015a).

- **Sulfur Dioxide** a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or

playing.) At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (SCAQMD 2005; USEPA 2016). The SoCAB is designated attainment under the California and National AAQS (CARB 2015a).

- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (SCAQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of 0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), have human health implications, because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,[1] environmental damage,[2] and aesthetic damage[3] (SCAQMD 2005; USEPA 2016). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2015a).[4]

- **Ozone** is commonly referred to as "smog" and is a gas that is formed when VOCs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people.

[1] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.

[2] Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

[3] Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

[4] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM_{10} standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2016). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2015a).

- **Lead** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAMQD 2005; USEPA 2016). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[5] As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2015a). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the proposed project.

2.1.2 Air Quality Management Planning

SCAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the SoCAB. SCAQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

[5] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

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2.1.2.1 2012 AQMP

On December 7, 2012, SCAQMD adopted the 2012 AQMP, which employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources, and area sources. It also addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The 2012 AQMP builds upon the approach identified in the 2007 AQMP for attainment of federal PM and ozone standards and highlights the significant amount of reductions needed. It also highlights the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria air pollutant standards within the time frames allowed under the Clean Air Act. The 2012 AQMP demonstrates attainment of federal 24-hour $PM_{2.5}$ standards by 2014 and the federal 8-hour ozone standard by 2023. Preliminary ambient air quality data suggests that meeting the 2016 federal 24-hour $PM_{2.5}$ standards by the end of 2014 is not likely, largely due to the extreme drought conditions in the SoCAB (SCAQMD 2015a). It includes an update to the revised EPA 8-hour ozone control plan with new commitments for short-term NO_X and VOC reductions. The plan also identifies emerging issues—ultrafine particulate matter ($PM_{1.0}$), near-roadway exposure, and energy supply and demand.

2.1.2.2 2016 DRAFT AQMP

The SCAQMD is in the process of updating the AQMP and released a draft of the 2016 AQMP on June 30, 2016. The 2016 AQMP addresses strategies and measures to attain the 2008 federal 8-hour ozone standard by 2031, the 2012 federal annual $PM_{2.5}$ standard by 2025, the 2006 federal 24-hour $PM_{2.5}$ standard by 2019, the 1997 federal 8-hour ozone standard by 2023, and the 1979 federal 1-hour ozone standard by year 2022. It is projected that total NO_X emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (SCAQMD 2016), which requires reducing NO_X emissions in the SoCAB to 250 tpd. Reducing NO_X emissions would also reduce $PM_{2.5}$ concentrations within the SoCAB. However, as the goal is to meet the 2012 federal annual $PM_{2.5}$ standard no later than year 2025, SCAQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under this federal standard. A "moderate" nonattainment would require meeting the 2012 federal standard no later than 2021. Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (SCAQMD 2016).

2.1.2.3 LEAD IMPLEMENTATION PLAN

In 2008 the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in Vernon and in the City of Industry exceeding the new standard in the 2007 to 2009 period. The remainder of the SoCAB outside the Los

Angeles County nonattainment area remains in attainment of the new standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

2.1.3 SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations in effect at the time of activity, including the following:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust, and requires best available control measures to be applied to earth moving and grading activities.

- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

2.2 GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC

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that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 1996).[6,7] The major GHGs are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.

    - *Chlorofluorocarbons (CFCs)* are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down the ozone layer. These gases are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

    - *Perfluorocarbons (PFCs)* are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with hydrofluorocarbons (HFCs), to ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.

[6] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

[7] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2014a). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

- ***Sulfur Hexafluoride (SF_6)*** is a colorless gas soluble in alcohol and ether, and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

- ***Hydrochlorofluorocarbons (HCFCs)*** contain hydrogen, fluorine, chlorine, and carbon atoms. Although they are ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs.

- ***Hydrofluorocarbons (HFCs)*** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs. (IPCC 1996; EPA 2015)

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 2, *GHG Emissions and their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report GWP values for CH_4, a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 210 MT of CO_2. [8]

[8] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

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Table 2 GHG Emissions and their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[2] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF_4	50,000	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	NA	23,900	22,800

Sources: IPCC 1996; IPCC 2007.

Notes: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

1 Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.

2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

2.2.1 California's Greenhouse Gas Sources and Relative Contribution

California is the tenth largest GHG emitter in the world and the second largest emitter of GHG emissions in the United States, surpassed only by Texas (EIA 2013). However, California also has over 12 million more people than Texas. Because of more stringent air emission regulations, in 2001, California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services)(CEC 2006a).

The California Air Resources Board's (CARB) last update to the statewide GHG emissions inventory was in 2012 and used the Second Assessment Report GWPs for year 2009 emissions.[9] In 2009, California produced 457 million metric tons (MMT) of CO_2e GHG emissions. California's transportation sector is the single

9 Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

largest generator of GHG emissions, producing 37.9 percent of the state's total emissions. Electricity consumption is the second largest source, producing 22.7 percent. Industrial activities are California's third largest source of GHG emissions at 17.8 percent. (CARB 2011).

In 2016, the statewide GHG emissions inventory was updated for 2000 to 2014 emissions using the GWPs in IPCC's Fourth Assessment Report. Based on these GWPs, California produced 442 MMTCO_2e GHG emissions in 2014. California's transportation sector remains the single largest generator of GHG emissions, producing 36.1 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent and electric power generation made up 20.0 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (8.7 percent), agriculture (8.2 percent), high global warming potential GHGs (3.9 percent), and recycling and waste (2.0 percent) (CARB 2016a).

2.2.2 Human Influence on Climate Change

For approximately 1,000 years before the industrial revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and climate change pollutants that are attributable to human activities. The amount of CO_2 has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is rising at a rate that cannot be explained by natural causes alone.[10] Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historic trends in emissions as well as observations on the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, climate trends include varying degrees of certainty on the magnitude of the trends for:

- Warmer temperatures and fewer cold days and nights over most land areas.
- Warmer temperatures and more frequent hot days and nights over most land areas.

[10] At the end of the last ice age, the concentration of CO_2 increased by around 100 ppm over about 8,000 years, or approximately 1.25 ppm per century. Since the start of the industrial revolution, the rate of increase has accelerated markedly. The rate of CO_2 accumulation currently stands at around 150 ppm/century—more than 200 times faster than the background rate for the past 15,000 years.

- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extremely high sea level (excludes tsunamis).

2.2.3 Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels (CCCC 2012).

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) an advanced snowmelt of 5 to 30 days earlier in the springs; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). According to the California Climate Action Team, even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 2), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are listed in Table 3, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

Specific climate change impacts that could affect the Proposed Project include:

- **Water Resources Impacts.** By the late twenty-first century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone, because the spring snowpack will melt sooner and the moisture contained in soils will evaporate during long dry summer months (CCCC 2012).
- **Wildfire Risks.** Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase from 58

percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location (CCCC 2012).

Table 3 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006b; CEC 2008; CCCC 2012.

- **Health Impacts.** Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession and simultaneous heat waves in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California (CCCC 2012).

- **Increase Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and long summer season and decrease demand for heating in the cooler season.

Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process from higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand (CCCC 2012).

2.2.4 Federal Laws

The EPA announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (EPA 2009).

The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world (the first three are applicable to the Proposed Project).

2.2.4.1 US MANDATORY REPORT RULE FOR GHGS (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO_2 per year are required to submit an annual report.

2.2.4.2 UPDATE TO CORPORATE AVERAGE FUEL ECONOMY STANDARDS (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow auto makers who show compliance with the national program to be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025.

2.2.4.3 EPA REGULATION OF STATIONARY SOURCES UNDER THE CLEAN AIR ACT (ONGOING)

Pursuant to its authority under the CAA, the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the President's 2013 Climate Action Plan, the EPA will be directed to also develop regulations for existing stationary sources.

2.2.5 State Laws

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375).

2.2.5.1 EXECUTIVE ORDER S-03-05

Executive Order S-3-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

2.2.5.2 EXECUTIVE ORDER B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal of Executive Order B-30-15 as well as the long-term goal for 2050 in Executive Order S-03-5. It also requires the Natural Resources Agency to conduct triennial updates to the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

2.2.5.3 ASSEMBLY BILL 32, THE GLOBAL WARMING SOLUTIONS ACT (2006)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO_2e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 MMT CO_2e in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMT CO_2e (471 million tons). The 2020 target requires a total emissions reduction of 169 MMT CO_2e, 28.5 percent

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from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 MMT CO_2e) (CARB 2008).[11]

Key elements of CARB's GHG reduction plan that may be applicable to the Proposed Project are:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance efficiency standards (adopted and cycle updates in progress).
- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).
- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted).
- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (LCFS) (adopted 2009).
- Creating target fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

Table 4, *Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target*, shows the proposed reductions from regulations and programs outlined in the 2008 Scoping Plan. In recognition of the critical role that local governments play in the successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of baseline 2005–2008 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.[12] Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled (VMT) (CARB 2008).

[11] CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[12] The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the state's GHG reduction target of AB 32.

Table 4 Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMT CO2e	Percentage of Statewide 2020 Target[1]
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[2]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations[3]	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB 2008.
Notes: $MMTCO_2e$: million metric tons of CO_2e
[1] The percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 $MMTCO_2e$ and the Scoping Plan identifies 174 $MTCO_2e$ of emissions reductions strategies.
[1] Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
[2] According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

First Update to the Scoping Plan

CARB recently completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014, board hearing. The update defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020 goals in

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Executive Orders S-03-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 5.6-1).[13] CARB projected that statewide BAU emissions in 2020 would be approximately 509 million $MTCO_2e$.[14] Therefore, to achieve the AB 32 target of 431 million $MTCO_2e$ (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 million $MTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020 (CARB 2014a).[15] Therefore, to achieve the AB 32 target of 431 $MMTCO_2e$ (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 $MMTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020. The data from the First Update to the Scoping Plan regarding GHG emissions and reductions needed to achieve the 1990 emissions target are shown in Table 5, *State BAU Forecast in the First Update to the Scoping Plan.*

Table 5 State BAU Forecasts in the First Update to the Scoping Plan

Category	2020 $MMTCO_2e$ – Fourth Assessment Report GWPs
AB 32 Baseline 2020 Forecast Emissions (2020 BAU) with Pavley I and the Renewable Electricity Standard (RPS)	539
AB 32 Baseline 2020 Forecast Emissions (2020 BAU)[1]	509
Expected Reductions from Sector-Based Measures	
Energy	25
Transportation	23
High-GWPs	5
Waste	2
Cap-and-Trade Reductions[2]	23
2020 Limit	431
Percent Reduction from BAU with Pavley I and RPS	20.0%
Percent Reduction from BAU without Pavley and RPS	15.3%

Sources: CARB 2014a, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.

1 The total projected emissions in the 2020 BAU scenario accounts for reductions anticipated from Pavley I and the Renewable Electricity Standard (30 million $MTCO_2e$ total).

2 The cap-and-trade reductions depend on the emissions forecast.

The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the Update to the Scoping Plan also addresses the state's

13 IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 $MMTCO_2e$ (CARB 2014b).

14 The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard.

15 If the GHG emissions reductions from Pavley I and the Renewable Electricity Standard are accounted for as part of the BAU scenario (30 million $MTCO_2e$ total), then the state would need to reduce emissions by 108 million $MTCO_2e$, which is a 20 percent reduction from BAU.

longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the State to adopt a mid-term target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals (CARB 2014a).

According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant accelerations of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014a).

Second Update to the Scoping Plan

The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. The second Scoping Plan will address the new 2030 interim target to achieve a 40 percent reduction below 1990 levels by 2030. CARB released the 2030 Target Scoping Plan Update Concept Paper in June 2016 that identifies potential scenarios focusing on different emissions sectors with and without the Cap-and-Trade program, which is currently in litigation (CARB 2016b). Release of the second Scoping Plan Update that carries through the potential regulations and programs to achieve the 2040 target is anticipated in fall 2017.

2.2.5.4 SENATE BILL 375

In 2008, Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). SCAG is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010). SB 375 requires CARB to periodically update the targets, no later than every 8 years. CARB plans to propose updated targets for consideration in 2016, with the intent to make them effective in 2018. Sustainable communities strategies adopted in 2018 would be subject to the updated targets (CARB 2015b).

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that

more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 MMT CO_2e of reductions by 2020 and 15 MMT CO_2e of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

CARB is currently in the process of updating the next round of targets and methodology to comply with the requirement for updates every eight years. Considerations for the next round of targets include whether to change the nature or magnitude of the emissions reduction targets for each of the MPOs, and whether the target-setting methodology should account for advances in technologies that reduce emissions. Such changes in methodology would permit cities to account for emissions reductions from advances in cleaner fuels and vehicles, not from land use and transportation planning strategies only.

SCAG's 2016 RTP/SCS

SB 375 requires the MPOs to prepare a sustainable communities strategy in their regional transportation plan. For the SCAG region, the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted on April 7, 2016 (SCAG 2016), and is an update to the 2012 RTP/SCS. In general, the SCS outlines a development pattern for the region, which when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

The 2016-2040 RTP/SCS projects that the SCAG region will meet or exceed the passenger per capita targets set in 2010 by CARB. It is projected that VMT per capita in the region for year 2040 would be reduced by 7.4 percent with implementation of the 2016-2040 RTP/SCS compared to a no plan year 2040 scenario. Under the 2016-2040 RTP/SCS, SCAG anticipates lowering GHG emissions 8 percent below 2005 levels by 2020, 18 percent by 2035, and 21 percent by 2040. The 18 percent reduction by 2035 over 2005 levels represents a 2 percent increase in reduction compared to the 2012 RTP/SCS projection. Overall, the SCS is meant to provide growth strategies that will achieve the aforementioned regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around High Quality Transit Areas, Livable Corridors, and creating Neighborhood Mobility Areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2016). However, the SCS does not require that local general plans, specific plans, or zoning be consistent with SCS; instead, it provides incentives to governments and developers for consistency.

2.2.5.5 ASSEMBLY BILL 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel-economy and GHG-emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced

Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases with requirements for greater numbers of zero-emission vehicles to create a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

2.2.5.6 EXECUTIVE ORDER S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold within the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

2.2.5.7 EXECUTIVE ORDER B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. Finally, the executive order sets a target of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

2.2.5.8 SENATE BILLS 1078 AND 107 AND EXECUTIVE ORDER S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SBX1-2). The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

2.2.5.9 SENATE BILL 350

Senate Bill 350 (de Leon), signed into law September 2015, establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

2.2.5.10 CALIFORNIA BUILDING CODE, BUILDING ENERGY EFFICIENCY STANARDS

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2013 (24 CCR, Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on July 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (non-residential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

Most recently, the CEC adopted the 2016 Building Energy Efficiency Standards. The 2016 standards will continue to improve upon the current 2013 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards will go into effect on January 1, 2017. Under the 2016 standards, residential buildings are 28 percent more energy efficient than the 2013 standards, and nonresidential buildings are 5 percent more energy efficient than the 2013 standards (CEC 2015).

The 2016 standards will not get us to zero net energy. However, they do get us very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2016).

2.2.5.11 CALIFORNIA BUILDING CODE, CALGREEN

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards—the California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen")—adopted as part of the California Building Standards Code (24 CCR). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[16] The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2013.

2.2.5.12 2006 APPLIANCE EFFICIENCY REGULATIONS

The 2006 Appliance Efficiency Regulations (20, CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by any other state, and they reduce GHG emissions by reducing energy demand.

[16] The green building standards became mandatory in the 2010 edition of the code.

2.2.5.13 SOLID WASTE REGULATIONS

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2013 CALGreen also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014 Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

2.2.5.14 WATER EFFICIENCY REGULATIONS

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the Energy Commission, in consultation with the DWR, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment. This equipment includes irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

2.2.6 Local

2.2.6.1 CITY OF UPLAND CLIMATE ACTION PLAN

The City of Upland adopted its General Plan Update in September of 2015, which incorporates the City's Climate Action Plan (CAP). The CAP includes baseline, current, and year 2020 and 2035 projected emissions inventories for the City, a reduction target, and strategies to meet the reduction target. Emissions inventories accounts for GHG emissions from transportation, energy, water, wastewater, and solid waste. The primary source of emissions is associated with the transportation sector followed by the energy, solid waste, water, and wastewater sectors. Overall, the CAP establishes a reduction target of 16 percent below BAU emission levels in year 2020 based on its 2008 baseline emissions inventory. To obtain this reduction target goal, it is necessary for the City to reduce Citywide GHG emissions by 22 percent based on its current emissions inventory.

The CAP includes various strategies that would contribute towards the City achieving its established reduction target goals. These strategies cover transportation and land use, energy use and conservation, water use and efficiency, solid waste reduction and recycling, and municipal operations. Policies that would implement each of these strategies are incorporated in the City's General Plan. In general, the transportation and land use strategies focuses on increasing active transit, promotion of alternative fueled vehicles (e.g., electric, hybrid, hybrid-electric), and reducing the average trip distance through smart growth. For energy, the CAP includes strategies that focus on increasing community and municipal energy efficiency and conservation in addition to increasing the use of renewable energy. Water use and efficiency strategies emphasize a reduction of potable water demand and minimization of wastewater generation while strategies for solid waste reduction focuses on recycling and a reduction of solid waste sent to landfills. Strategies for municipal operations focus on energy efficiency for municipal buildings, providing public education on energy efficiency and resource conservation, and reducing emissions associated municipal vehicles. The CAP will be reviewed and updated as necessary in response to improvements in climate science and changes in climate change policy and to explore new opportunities for GHG reduction and climate adaptation.

2.2.6.2 CITY OF UPLAND MUNICIPAL CODE

In addition to the CAP, the City also has adopted the following into its municipal code that would contribute to reducing GHG emissions:

- Chapter 13.16: Water Conservation
- Chapter 13.20: Water Conservation Retrofit
- Section 15.10.010: California Green Building Standards Code
- Section 15.30.010: California Energy Code
- Section 17.22.090: Vehicle Trip Reduction Measures
- Section 17.26.030: Water Efficient Project Requirements
- Section 17.26.040: Water Efficient Design Standards
- Section 17.26.050: Water Efficient Design Criteria

3. Environmental Setting

3.1 SOUTH COAST AIR BASIN

The project site is in the SoCAB, which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

3.1.1 Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project site that would best represent the climatological conditions of the area is the Upland Monitoring Station (ID 049157). The average low is reported at 39.9°F in January, and the average high is 89.6°F in July (WRCC 2016).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through May. Historical rainfall averages recorded for the area is 22.44 inches per year (WRCC 2016).

3.1.2 Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog are frequent, especially along the coast. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

3.1.3 Wind

Wind patterns across the southern coastal region are characterized by westerly or southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

3.1.4 Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

3.2 SoCAB AREA DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the AAQS. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 6, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*. The SoCAB is designated in attainment of the California AAQS for sulfates.

Table 6 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2015

[1] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

3.3 MULTIPLE AIR TOXICS EXPOSURE STUDY IV

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and estimated the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update to the MATES study (MATES III). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the cancer risk (SCAQMD 2008a).

SCAQMD recently released the fourth update (MATES IV). The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basinwide population-weighted risk decreased by approximately 57 percent compared to the MATES III time period (SCAQMD 2015b).

The Office of Environmental Health Hazard Assessment updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods from MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015b).

3.4 EXISTING AMBIENT AIR QUALITY

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site and project area are best documented by measurements made by SCAQMD. The project site lies within Source Receptor Area (SRA) 32 (Northwest San Bernardino Valley). The air quality monitoring station closest to the project site is the Upland Monitoring Station. However, since this station does not monitor $PM_{2.5}$, data was obtained from the Fontana – Arrow Highway Monitoring Station for this pollutant. Data from these stations are summarized in Table 7, *Ambient Air Quality Monitoring Summary*. The data show that the area regularly exceeded the state one-hour and the state and federal eight-hour O_3 standards and the federal $PM_{2.5}$ standard within the last five recorded years. Based on available data, the CO, NO_2, and PM_{10} standards have not been exceeded in the last five years in the project vicinity.

Table 7 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels				
	2011	2012	2013	2014	2015
Ozone (O_3)[1]					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	36	42	25	34	49
State 8-hour ≥ 0.07 ppm (days exceed threshold)	45	66	44	60	69
Federal 8-Hour > 0.075 ppm (days exceed threshold)[3]	36	45	27	42	53
Max. 1-Hour Conc. (ppm)	0.145	0.136	0.143	0.126	0.136
Max. 8-Hour Conc. (ppm)	0.122	0.111	0.111	0.101	0.106
Carbon Monoxide (CO)[1]					
State 8-Hour > 9.0 ppm (days exceed threshold)	0	0	*	*	*
Federal 8-Hour ≥ 9.0 ppm (days exceed threshold)	0	0	*	*	*
Max. 8-Hour Conc. (ppm)	1.27	0.93	*	*	*
Nitrogen Dioxide (NO_2)[1]					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	0.0685	0.0667	0.0621	0.0741	0.0716
Sulfur Dioxide (SO_2)					
State 24-Hour ≥ 0.04 ppm (days exceed threshold)	*	*	*	*	*
Federal 24-Hour ≥ 0.14 ppm (days exceed threshold)	*	*	*	*	*
Max 24-Hour Conc. (ppm)	*	*	*	*	*
Coarse Particulates (PM_{10})[1]					
State 24-Hour > 50 µg/m³ (days exceed threshold)	*	*	*	*	*
Federal 24-Hour > 150 µg/m³ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m³)	72.4	92.7	96.8	80.8	77.7
Fine Particulates ($PM_{2.5}$)[2]					
Federal 24-Hour > 35 µg/m³ (days exceed threshold)	2	3	1	0	3
Max. 24-Hour Conc. (µg/m³)	60.1	39.9	43.6	34.9	50.5

Source: CARB 2016c.
Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter
* Data not available.
[1] Data obtained from the Upland Monitoring Station.
[2] Data obtained from the Fontana-Arrow Highway Monitoring Station.
[3] On October 1, 2015, the EPA adopted a new 8-hour National AAQS for ozone of 0.070 ppm (70 ppb).

3.5 EXISTING EMISSIONS

The project site is currently undeveloped open space and is not a source of emissions.

3.6 SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

The nearest sensitive receptors are the existing single-family residential land uses approximately 1,210 feet to the northwest across SR-210 and approximately 1,275 feet to the east across Planning Areas 1 and 2.

3. Environmental Setting

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4. CEQA Thresholds

4.1 CEQA APPENDIX G THRESHOLDS

4.1.1 Air Quality

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect on the environment with respect to air quality if it would:

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

AQ-3 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).

AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

AQ-5 Create objectionable odors affecting a substantial number of people.

4.1.2 Greenhouse Gas Emissions

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect on the environment with respect to GHG emissions if it would:

GHG-1 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

4.2 SCAQMD SIGNIFICANCE CRITERIA

4.2.1 Air Quality

The analysis of the Proposed Project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website.[17] CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds, projects are also subject to the AAQS. These are addressed though an analysis of localized CO impacts and localized significance thresholds (LSTs).

4.2.1.1 REGIONAL SIGNIFICANCE THRESHOLDS

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 8, *SCAQMD Regional Significance Thresholds*, lists SCAQMD's regional significance thresholds. The table lists thresholds that apply for all projects regardless of size or scope. There is growing evidence that although ultrafine particulates contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate ultrafine particulates; therefore, SCAQMD has not developed thresholds for them.

Table 8 SCAQMD Regional Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day
Particulates ($PM_{2.5}$)	55 lbs/day	55 lbs/day

Source: SCAQMD 2015c.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)

[17] SCAQMD's Air Quality Significance Thresholds are current as of March 2011 and can be found at http://www.aqmd.gov/ceqa/hdbk.html.

- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Contributes to lower birth weight in newborns (PM2.5) (SCAQMD 2015d)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, a landmark children's health study by the University of Southern California found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (SCAQMD 2015e).

Mass emissions in Table 8 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact. SCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air quality in the SoCAB. To achieve the health-based standards established by the EPA, SCAQMD prepares an AQMP that details regional programs to attain the AAQS.

4.2.1.2 LOCALIZED SIGNIFICANCE THRESHOLDS

SCAQMD identifies localized significance thresholds, shown in Table 9, *SCAQMD Localized Significance Thresholds*. Emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site (offsite mobile-source emissions are not included in the LST analysis) could expose sensitive receptors to substantial concentrations of criteria air pollutants. A project that generates emissions that trigger a violation of the AAQS when added to the local background concentrations would generate a significant impact.

Table 9 SCAQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO_2 Standard (CAAQS)	0.18 ppm
Annual NO_2 Standard (CAAQS)	0.03 ppm
24-Hour PM_{10} Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
Annual Average PM_{10} Standard (SCAQMD)[1]	1.0 µg/m^3

Source: SCAQMD 2015c.
ppm = parts per million; µg/m^3 = micrograms per cubic meter
[1] Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

4. CEQA Thresholds

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the levels shown in Table 9 for projects under five acres. These "screening-level" LSTs tables are the localized significance thresholds for all projects of five acres and less; however, they can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 9.

In accordance with SCAQMD's LST methodology for construction, construction LSTs are based on the acreage disturbed per day based on equipment use. The LSTs for the project site in SRA 32 are shown in Table 10, *SCAQMD Screening-Level Localized Significance Thresholds*, for the nearest receptor which is within 1,210 feet (369 meters). Because the Proposed Project is not an industrial project that has the potential to emit substantial sources of stationary emissions, operational LSTs are not an air quality impact of concern, but they are shown in Table 10 for reference.

Table 10 SCAQMD Screening-Level Localized Significance Thresholds

	Threshold (lbs/day)			
Acreage Disturbed	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
Construction Phase[1]				
=<1 Acre Disturbed per Day	513	15,467	203	93
1.31 Acres Disturbed per Day	525	15,915	176	95
2.50 Acres Disturbed per Day	567	17,543	139	103
3.50 Acres Disturbed per Day	300	18,826	181	108
4.00 Acres Disturbed per Day	617	19,468	201	110
5.00 Acres Disturbed per Day	650	20,752	242	115
Operational Phase[2]				
=>5.00-Acre Site	650	20,752	59	28

Source: SCAQMD 2008b, based on receptors in SRA 32.
[1] LSTs are based on the nearest receptors that are within 1,210 feet (369 meters) of the Proposed Project site.
[2] LSTs are based on receptors within 1,210 feet (369 meters) for a project site size of 5 acres or more.

4.2.1.3 HEALTH RISK THRESHOLDS

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 11, *SCAQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. For purposes of this study, the impacts of the Proposed Project on the environment are identified and not the significant effects of the environment on the Proposed Project. (*California Building Industry Association v. Bay Area Air Quality Management District* [2015] 62 Cal.4th 369 [Case No. S213478]). CEQA does not require analyzing the environmental effects of attracting development and people to an area. However, CEQA requires analysis of impacts of environmental hazards on future users when a project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are

typically applied to new industrial projects. The Proposed Project is not a major industrial project that would emit substantial TACs; therefore, these thresholds are not applicable to the Proposed Project.

Table 11 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: SCAQMD 2015c.

4.2.1.4 CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

4.2.2 Greenhouse Gas Emissions

SCAQMD has adopted a significance threshold of 10,000 $MTCO_2e$ per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010):

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

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD identified a screening-level threshold of

4. CEQA Thresholds

3,000 $MTCO_2e$ annually for all land use types or the following land-use-specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, or 3,000 $MTCO_2e$ for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

The SCAQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.[18] The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[19]

Project-related GHG emissions include on-road transportation, energy use, water use and wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The SCAQMD Working Group identified that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings, in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation.

For the purpose of this Proposed Project, SCAQMD's project-level thresholds for all land use types are used. If projects exceed the thresholds, GHG emissions would be considered potentially significant in the absence of mitigation measures.

[18] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this meeting.

[19] SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

5. Environmental Impacts

5.1 METHODOLOGY

This air quality and GHG emissions evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with the type and scale of development associated with the Proposed Project. Air quality and GHG emissions modeling was completed for the Proposed Project using the California Emissions Estimator Model (CalEEMod), version 2013.2.2, recommended by the SCAQMD. Air quality modeling datasheets for the project can be found in Appendix A.

The operational-phase project-related emissions are based on development of the new proposed homes. The modeling accounts for the average daily vehicle trips generated, energy usage, water demand, and wastewater and solid waste generation from operation of the Proposed Project. Construction emissions are based on information provided for the Proposed Project by LStar Communities. Where specific information was not available, CalEEMod default values were utilized. Life cycle emissions are not included in this analysis because not enough information is available.[20]

- **Transportation.** The weekday average daily trip (ADT) generation for the proposed and existing land uses was provided by David Evans and Associates. The weekday trip generation for the proposed townhomes and single-family uses are 386 and 708 ADTs, respectively. Weekend ADTs were based on the 9th edition of the Institute of Transportation Engineers' Trip Generation Manual (ITE 2012). Overall weekend ADTs for the proposed land uses also includes a 20 percent internal trip capture reduction, which is consistent with the weekday methodology utilized by David Evans and Associates, Inc. Trip lengths are based on CalEEMod defaults. For further details, refer to Appendix A of this study. On-road criteria air pollutant emissions are based on year 2019 emission rates, which coincide with the anticipated opening year.

- **Energy Use.** Modeling assumes that the proposed buildings would be constructed to achieve the 2013 Building Energy Efficiency Standards which generally provides 25 percent more energy efficiency for residential uses compared to the 2008 Building Energy Efficiency Standards.

[20] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the Proposed Project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

5. Environmental Impacts

- **Water/Wastewater.** Water demand and wastewater generation for the proposed land uses are based on information compiled by PlaceWorks (PlaceWorks 2016).
- **Solid Waste.** Solid waste generation for the proposed land uses is based on CalEEMod defaults.
- **Area Sources.** Modeling assumes the following assumptions shown in Table 12, *Architectural Coating Assumptions*.

Table 12 Architectural Coating Assumptions

Building	Percentage of Exterior Area Painted[1]	Percentage of Interior Area Painted[1]	Exterior Paint VOC (g/L)[1]	Interior Paint VOC (g/L)[1]
Townhomes	100%	100%	100	50
Single-Family Homes	100%	100%	100	50
Surface Parking Lot[2]	1.5%	4.5%	100	100

[1] Residential coating percentages are per LStar Communities. Exterior and interior paint VOC content based on CalEEMod defaults and SCAQMD Rule 1113.
[2] Percentage of exterior and interior area painted is based on CalEEMod methodology, which assumes that 6 percent of a surface parking lot would be painted. Of this 6 percent, approximately 25 percent is proportioned as exterior and 75 percent as interior.

- **Construction.** The Proposed Project is anticipated to be built in one development phase. Construction would commence in October 2016 and end in May 2019. Overall construction duration would be approximately 31 months. Table 13, *Construction Activities, Phasing, and Equipment*, shows the assumed construction activities, phasing, and construction equipment based on information provided. Per LStar Communities, modeling accounts for approximately 160,000 cubic yards of soil haul export during the grading phase.

Table 13 Construction Activities, Phasing and Equipment

Activities[1]	Start and End Dates[1]	Equipment[2]
Site Preparation	10/1/2016 to 10/15/2016	2 bulldozers; 3 tractors/loaders/backhoes; 2 dump trucks; 1 water truck
Rough Grading	10/15/2016 to 12/15/2016	2 bulldozers; 3 tractors/loaders/backhoes; 1 grader; 8 scrapers; 1 water truck
Rough Grading Soil Haul	10/15/2016 to 11/3/2016	No additional off-road equipment
Utility Trenching	1/2/2017 to3/2/2017	1 excavator; 1 tractor/loader/backhoe
Fine Grading	3/2/2017 to 3/15/2017	2 tractors/loaders/backhoes; 1 grader; 2 scrapers; 1 water truck
Asphalt Paving	3/15/2017 to 4/1/2017	1 paver; 2 rollers; 4 dump trucks
Building Construction	5/1/2017 to 5/1/2019	1 crane; 3 forklifts; 1 generator set; 3 tractors/loaders/backhoes; 1 welder
Architectural Coating	9/3/2018 to 5/1/2019	1 air compressor

[1] Based on information provided by LStar Communities and CalEEMod defaults.

5.2 ENVIRONMENTAL IMPACTS

5.2.1 Air Quality Impacts

This section discusses the project-specific and cumulative impacts related to air quality.

AIR-1	Implementation of the Proposed Project, similar to the Approved Project, would not conflict with or obstruct implementation of the applicable air quality plan.

The 2008 Certified EIR found that the proposed project would not increase the frequency or severity of air quality violations in the SoCAB and would not exceed the assumptions of the AQMP. As a result, impacts of the Approved Project were considered less than significant in the 2008 Certified EIR. SCAQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SoCAB to achieve National and California AAQS. On December 7, 2012, the SCAQMD Governing Board adopted the 2012 AQMP, which is a regional and multiagency effort (SCAQMD, CARB, SCAG, and EPA). A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

The two principal criteria for conformance to an AQMP are:

1. Would the project exceed the assumptions in the AQMP?

2. Would the project result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards?

Indicator 1

The regional emissions inventory for the SoCAB is compiled by SCAQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the RTP/SCS, compiled by SCAG to determine priority transportation projects and vehicle miles traveled in the SCAG region. The AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan.

The Approved Project is not considered a regionally significant project that would warrant Intergovernmental Review by SCAG under CEQA Guidelines section 15206 as it would result in the development of less than 500 total dwelling units. Furthermore, the 2008 Certified EIR determined that the Master Plan area, which encompasses the Approved Project, would be consistent with the AQMP. Overall, the land uses proposed under the Proposed Project would remain unchanged from the Approved Project. In addition, the total number of dwelling units (176 DUs) to be developed under the Proposed Project would be fewer than the

maximum number of units (212 DUs) proposed under Approved Project. Thus, the project would not have the potential to substantially affect SCAG's demographic projections. Therefore, overall, with respect to the first criterion, the proposed project would not increase or modify SCAG's population, housing, or employment projections beyond what is already anticipated for the area.

Indicator 2

With respect to the second indicator, the analysis provided in Impact AIR-2 demonstrates that the Proposed Project would not generate long-term emissions of criteria pollutants that would exceed SCAQMD's regional operation-phase significance thresholds, which were established to determine whether a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations. Additionally, as stated, the Proposed Project would develop fewer total dwelling units compared to the Approved Project and would result in reduced operation-related regional air quality impacts. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of the AAQS.

Summary

As discussed above for Indicators 1 and 2, the Proposed Project would develop the same types of land uses as the Approved Project, but with fewer total dwelling units. Additionally, it would not exceed the SCAQMD regional significance thresholds for operation-related emissions and would not result in introducing new operation-related regional air quality impacts compared to the Approved Project. Thus, it would not have the potential to substantially affect the regional growth projections and would not affect the regional emissions inventory or conflict with strategies in the AQMP. Therefore, the Proposed Project would not create a new significant impact or a substantial increase in the severity of previously identified effects as determined in the 2008 Certified EIR.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

AIR-2	Development of the Proposed Project would not increase the severity or result in new short- and long-term regional air quality impacts compared to the Approved Project.

The 2008 Certified EIR identified that construction and operational activities associated with the Approved Project would exceed the thresholds established by SCAQMD and would cumulatively contribute to air quality impacts in the SoCAB. The following describes changes in regional impacts from short-term construction activities and long-term operation of the Proposed Project.

Regional Construction Emissions

Construction activities produce combustion emissions from various sources, such as onsite heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM_{10} and $PM_{2.5}$) from demolition and soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities onsite would vary daily as construction activity levels change. As identified above, the

2008 Certified EIR identified that construction activities associated with the Approved Project would exceed the thresholds established by SCAQMD and would cumulatively contribute to air quality impacts in the SoCAB. Mitigation Measure AQ-1 (fugitive dust control), Mitigation Measure AQ-2 (construction mobile source emissions), and Mitigation Measure AQ-3 (architectural coatings) were identified to reduce the potential significant construction impacts of the Approved Project. Despite implementation of Mitigation Measures AQ-1 through AQ-3, the 2008 Certified EIR identified construction emissions as a significant and unavoidable impact of the Approved Project.

The Proposed Project is anticipated to be constructed starting in October 2016 and ending the beginning of May 2019. Construction air pollutant emissions are based on information provided by LStar Communities. Construction would generally entail grading the site, trenching for utilities, asphalt paving, construction of the 83 townhomes and 93 single-family residences, and architectural coating. Approximately 160,000 cubic yards of soil would be removed from Planning Area 3 to the other planning areas in the Specific Plan area. An estimate of maximum daily construction emissions for the Proposed Project is provided in Table 14, *Maximum Daily Regional Construction Emissions*.

5. Environmental Impacts

Table 14 Maximum Daily Regional Construction Emissions

Construction Phase	Pollutants (pounds per day)[1, 2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2016						
Site Preparation	4	50	36	<1	8	5
Site Preparation, Rough Grading, and Rough Grading Soil Haul Overlap	33	322	352	<1	29	18
Rough Grading and Rough Grading Soil Haul Overlap	28	272	316	<1	21	13
Year 2017						
Utility Trenching	1	7	6	<1	<1	<1
Utility Trenching and Fine Grading Overlap	6	66	44	<1	5	3
Fine Grading	5	59	38	<1	4	3
Fine Grading and Asphalt Paving Overlap	7	70	46	<1	5	3
Asphalt Paving	2	11	8	<1	1	1
Building Construction	4	29	26	<1	3	2
Year 2018						
Building Construction	3	25	24	<1	3	2
Building Construction and Architectural Coating Overlap	18	27	27	<1	3	2
Year 2019						
Building Construction and Architectural Coating Overlap	18	25	26	<1	3	2
Comparison to the 2008 Certified EIR						
Worst Case Approved Project Maximum Daily Emissions[3]	40	357	173	<1	742	166
Proposed Project Maximum Daily Emissions	33	322	352	<1	29	18
Difference Compared to the 2008 Certified EIR	(7)	(35)	179	<1	(713)	(148)
SCAQMD Regional Construction Threshold	75	100	550	150	150	55
Exceed Thresholds?	No	No	No	No	No	No

Source: CalEEMod Version 2013.2.2.
Notes: Emissions totals may not equal 100 percent due to rounding. () = negative emissions
1 Based on the information provided by the LStar Communities. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects
2 Includes implementation of fugitive dust control measures per Mitigation Measure AQ-1 and as required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.
3 Based on Table 4.2-8, Worst-Case Peak Construction Emissions (pounds/day), in the 2008 Certified EIR.

The Proposed Project would generally be of the same type of land use development as the Approved Project, and it is anticipated that similar construction processes would be required. Furthermore, the 176 dwelling units proposed would be within the 212 dwelling units analyzed for Planning Area 3 in the 2008 Certified EIR. Thus, it is anticipated construction activities associated with the Proposed Project would be similar to the Approved Project. However, since preparation of the 2008 Certified EIR, additional information regarding construction activities and equipment use has been identified. Additionally, SCAQMD and CARB have updated emissions factors, which have been integrated into the latest air quality model. Table 14 reflects the updated construction phasing and equipment for the Proposed Project, as modeled using CalEEMod 2013.2.2. As shown in Table 14, VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions would be less than those identified in the 2008 Certified EIR, and SO_X emissions would be similar. The Proposed Project would have CO

emissions that are greater than those identified in the 2008 Certified EIR. However, CO emissions would not exceed the SCAQMD significance threshold.

Level of Significance: No new significant impacts or increase in severity of impacts identified from the 2008 Certified EIR.

Regional Operational Emissions

As identified above, the 2008 Certified EIR identified that operational activities associated with the Approved Project would exceed the thresholds established by SCAQMD and would cumulatively contribute to air quality impacts in the SoCAB. Mitigation Measure AQ-4 (transportation demand management and energy efficiency) was identified to reduce the potential significant long-term air quality impacts of the Approved Project. Despite implementation of Mitigation Measure AQ-4, the 2008 Certified EIR identified operational phase emissions as a Significant and Unavoidable impact of the Approved Project

Long-term air pollutant emissions generated by the Proposed Project would be generated by transportation sources (e.g., resident vehicle trips), area sources (e.g., landscape fuel use, aerosols, and architectural coatings), and energy use (natural gas) associated with the proposed homes. Table 15, *Maximum Daily Regional Operational Phase Emissions*, identifies the criteria air pollutant emissions that would result from implementation of the Proposed Project. As shown in the table, operation-related air pollutant emissions associated with the Proposed Project would not exceed the SCAQMD's regional emissions thresholds for operational activities. Additionally, because the Proposed Project would develop the same types of land uses and fewer dwelling units compared to the Approved Project, it would generate fewer emissions. Therefore, the Proposed Project would not create a new significant impact or a substantial increase in the severity of previously identified effects as determined in the 2008 Certified EIR.

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Table 15 Maximum Daily Regional Operational Phase Emissions

Construction Phase	Criteria Air Pollutants (lbs/day)					
	ROG (VOC)	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Proposed Project						
Area	8	<1	15	<1	<1	<1
Energy	<1	1	<1	<1	<1	<1
Mobile	3	3	36	<1	8	2
Total	11	4	51	<1	8	3
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold	No	No	No	No	No	No
Comparison to 2008 Certified EIR						
Maximum Proposed Project	11	4	51	<1	8	3
2008 Certified EIR	101	208	688	1	10	8
Proposed Project Emissions as a Percent of Emissions Reported in 2008 Certified EIR	11%	2%	7%	11%	85%	32%

Source: CalEEMod, Version 2013.2.2. Based on trip generation information provided by David Evans and Associates, Inc.
Notes: Highest winter or summer. Emissions totals may not equal 100 percent due to rounding.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

AIR-3	Development of the Proposed Project would not increase the severity or result in new cumulative air quality impacts compared to the Approved Project. [Threshold AQ-

The 2008 Certified EIR identified that construction and operational activities associated with the Approved Project would exceed the thresholds established by SCAQMD and would cumulatively contribute to air quality impacts in the SoCAB. Despite implementation of Mitigation Measures AQ-1 through AQ-4, this impact was identified as Significant and Unavoidable.

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS, nonattainment for lead (Los Angeles County only) under the National AAQS, and nonattainment for PM_{10} under the California AAQS. According to SCAQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact (SCAQMD 1993). As described above in AIR-2, the Proposed Project would not exceed SCAQMD's significance thresholds and therefore would not cumulatively contribute to the nonattainment designations of the SoCAB.

The Proposed Project would not increase the total amount of development within Planning Area 3 of the Sycamore Hills Specific Plan area as evaluated in the 2008 Certified EIR. Therefore, as discussed in AIR-2 above, the Proposed Project would not result in a substantial increase in regional construction or operational emissions when compared to the previous analyses. The 2008 Certified EIR found that the increase in

nonattainment pollutants could result in cumulatively considerable impacts that would be would be significant and unavoidable. Since the land uses proposed under the Proposed Project would remain unchanged from the Approved Project, and the total number of dwelling units to be developed would be less than 212 DUs, impacts associated with the Proposed Project would be consistent with what was identified in the 2008 Certified EIR. Therefore, the Proposed Project would not create a new significant impact or a substantial increase in the severity of effects previously identified in the 2008 Certified EIR.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

AIR-4	Development of the Proposed Project would not increase the severity of or result in new localized air quality impacts compared to the Approved Project.

The 2008 Certified EIR evaluated localized impacts associated with CO hotspots. As identified in the 2008 Certified EIR, the Approved Project would not generate any long-term localized air quality impacts. The following describes changes in localized impacts from short-term construction activities and long-term operation of the Proposed Project.

Localized Construction Impacts

The Proposed Project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the mass of construction and operations emissions shown in the regional emissions analysis in Tables 14, 15, and 16, which are described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Construction-Phase LSTs

LSTs are the amount of project-related emissions at which localized concentrations (ppm or $\mu g/m^3$) could exceed the AAQSs for criteria air pollutants for which the SoCAB is designated nonattainment. LSTs are based on the size of the Proposed Project site and its distance to the nearest sensitive receptor. Thresholds are based on the California AAQS, which are the most stringent AAQS, established to provide a margin of safety in the protection of the public health and welfare. They are designed to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise.

Table 16, *Maximum Daily Onsite Localized Construction Emissions*, shows the Proposed Project maximum daily construction emissions (pounds per day) generated during onsite construction activities compared with the SCAQMD's LSTs. As shown in the table, maximum daily Project-related construction emissions would not exceed the SCAQMD LSTs for NO_X, CO, PM_{10}, or $PM_{2.5}$. Thus, construction emissions would not exceed the California AAQS, and Project construction would not expose sensitive receptors to substantial pollutant concentrations. The 2008 Certified EIR did not provide a quantified construction LST analysis and determined impacts to be significant and unavoidable for the entire Master Plan area. However, the types of land uses under the Proposed Project would remain unchanged from the Approved Project, and fewer total

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number of dwelling units would be developed. Thus, it is anticipated that the emissions shown for the Propose Project would be less than the Approved Project. Therefore, the Proposed Project would not create a new significant impact or a substantial increase in the severity of previously identified effects as determined in the 2008 Certified EIR.

Table 16 Maximum Daily Onsite Localized Construction Emissions

Source	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Asphalt Paving Phase – 2017	10	7	1	1
Utility Trenching Phase – 2017	7	6	<1	<1
=<1.00-Acre or Less LST	513	15,467	203	93
Exceeds LST?	No	No	No	No
Building Construction Phase – 2017	26	18	2	2
Building Construction Phase – 2018	23	18	1	1
Building Construction and Architectural Coating Phases Overlap – 2018	26	19	2	2
Building Construction and Architectural Coating Phases Overlap – 2019	23	19	1	1
1.31-Acre or Less LST	525	15,915	176	95
Exceeds LST?	No	No	No	No
Site Preparation Phase – 2016	49	35	8	5
2.50-Acre or Less LST	567	17,543	139	103
Exceeds LST?	No	No	No	No
Fine Grading and Asphalt Paving Phases Overlap – 2017	69	44	5	3
3.50-Acre or Less LST	600	18,826	181	108
Exceeds LST?	No	No	No	No
Utility Trenching and Fine Grading Phases Overlap – 2017	66	43	4	3
4.00-Acre or Less LST	617	19,468	201	110
Exceeds LST?	No	No	No	No
Rough Grading – 2016	650	20,752	242	115
Site Preparation, Rough Grading, and Rough Grading Soil Haul Phases Overlap – 2016	295	190	28	18
Rough Grading and Rough Grading Soil Haul Phases Overlap – 2016	245	156	20	13
5.00-Acre or Less LST	650	20,752	242	115
Exceeds LST?	No	No	No	No

Source: CalEEMod v. 2013.2.2; SCAQMD, Localized Significance Methodology, Appendix A, October 2006. In accordance with SCAQMD methodology, only onsite stationary sources and mobile equipment on the Proposed Project site are included in the analysis. LSTs are based on the nearest sensitive receptors that are within 1,210 feet (369 meters) of the Proposed Project site.

Notes: Emissions totals may not equal 100 percent due to rounding.

[1] Based on the information provided by LStar Communities. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.

[2] Includes implementation of fugitive dust control measures per Mitigation Measure AQ-1 and as required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

Health Risk

Health risk assessments are based on risk accumulated over a 70-year lifetime. Given the relatively short-term schedule for construction activities (1 year compared to 70 years), the Proposed Project would not result in a long-term substantial source of TAC emissions. SCAQMD does not currently require a risk assessment for short-term emissions generated by diesel exhaust from construction equipment. Furthermore, as identified in Table 16, localized emissions of criteria air pollutants would be less than SCAQMD thresholds. Therefore, project-related diesel particulate matter impacts during construction would also not be significant. In addition, because the Proposed Project would not change land uses from the Approved Project and would require similar construction processes, it is not anticipated new health risk impacts would be introduced.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

Localized Operational Impacts

Operational Phase LSTs

Operation of the Proposed Project would not generate substantial quantities of emission from onsite, stationary sources. Land uses that have the potential to generate substantial stationary sources of emissions that would require a permit from SCAQMD include industrial land uses, such as chemical processing and warehousing operations where substantial truck idling could occur onsite. The Proposed Project does not fall within these categories of uses. While operation of the Proposed Project could result in the use of standard onsite mechanical equipment such as heating, ventilation, and air conditioning units in addition to occasional use of landscaping equipment for project site maintenance, air pollutant emissions generated from these activities would be nominal (see Table 15). Thus, localized air quality impacts related to stationary-source emissions would not expose sensitive receptors to pollutant concentrations. While the 2008 Certified EIR did not address operational LST impacts, the Proposed Project would remain unchanged from the Approved Project and develop fewer dwelling units. Therefore, it is anticipated that the Proposed Project would not introduce new or increase the severity of operation-related localized air quality impacts compared to the Approved Project.

CO Hotspots

The 2008 Certified EIR identified less than significant impacts from CO hotspots. At the time of the 1993 SCAQMD Handbook, the SoCAB was designated nonattainment under the California and National AAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined. In 2001, the SCAQMD was designated in attainment for CO under both the California and National AAQS. As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes as a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in

order to generate a significant CO impact (BAAQMD 2011). As the types of land uses proposed under the Proposed Project would not change from the 2008 Approved Project and fewer dwelling units would be developed, it would not produce the volume of traffic at any one intersection required to generate a CO hotspot. Therefore, the Proposed Project would not create a new significant impact or a substantial increase in the severity of previously identified effects as determined in the 2008 Certified EIR.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

AIR-5	The Proposed Project, similar to the Approved Project, would not create objectionable odors affecting a substantial number of people.

The 2008 Certified EIR identified that the Approved Project would not create objectionable odors affecting a substantial number of people. Nuisance odors from land uses in the SoCAB are regulated under SCAQMD Rule 402, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The 2008 Certified EIR identified that implementation of the Approved Project would not create objectionable odors that would affect a substantial number of people or require further analysis. The types of land uses under the Proposed Project would not change from the 2008 Approved Project and would be subject to SCAQMD Rule 402. In addition, development of the Proposed Project would require the same general construction processes as the Approved Project. Any construction-related odor emissions would be temporary and intermittent in nature. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

5.2.2 Greenhouse Gas Emissions Impacts

GHG-1	Development of the Proposed Project would not increase the severity or result in new greenhouse gas emissions impacts compared to the Approved Project.

The 2008 Certified EIR identified that development of the Approved Project would increase GHG emission. Mitigation Measures AQ-4 and AQ-5 were identified to ensure that new structures, lighting, and appliances would be energy efficient. However, no significant impacts were identified in the 2008 Certified EIR for GHG emissions.

Implementation of a development project could contribute to global climate change through direct emissions of GHGs from onsite area sources and vehicle trips generated by the project, and indirectly through offsite energy production required for onsite activities, water use, and waste disposal. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, global warming impacts of a project are considered on a cumulative basis.

Table 17, *Operational Phase GHG Emissions*, as quantified using the latest modeling software accepted by the SCAQMD, represents emissions associated with the Proposed Project. Operational phase emissions are from operation of the proposed land uses and from the new project-related vehicle trips that would be generated. Construction emissions were amortized into the operational phase in accordance with SCAQMD's proposed methodology (SCAQMD 2010). As shown in the table, the Proposed Project would not generate GHG emissions that would not exceed the SCAQMD bright-line significance threshold of 3,000 $MTCO_2e$/day. Thus, GHG emissions generated by the Proposed Project are not considered to cumulatively contribute to statewide GHG emissions. The 2008 Certified EIR quantified GHG emissions for the entire Baseline Road Master Plan area only. In addition, quantified emissions were provided for daily emissions only, and at the time, no significance thresholds had been established by SCAQMD. However, as the land uses proposed under the Proposed Project would remain unchanged from the Approved Project, and fewer dwelling units would be developed, emissions shown in the table would be less than the emissions that would have been generated by the Approved Project. Therefore, the Proposed Project would not introduce a new significant impact compared to the Approved Project.

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Table 17 Operational Phase GHG Emissions

Source	GHG Emissions	
	$MTCO_2e$/Yr	Percent of Total
Proposed Project		
Area	46	2%
Energy[1]	520	28%
Mobile	1,081	59%
Solid Waste	67	4%
Water	47	3%
Construction-Amortized[2]	68	4%
Total All Sectors	1,829	100%
Proposed SCAQMD Bright-Line Threshold	3,000 $MTCO_2e$	NA
Exceeds Threshold?	No	NA
Comparison to 2008 Certified EIR		
Maximum Proposed Project	1,829	NA
2008 Certified EIR (Entire Master Plan)[3]	14,016	NA
Proposed Project Emissions as a Percent of Emissions Reported in 2008 Certified EIR	13%	NA

Source: CalEEMod, Version 2013.2.2.
Notes: Totals may not equal 100 percent due to rounding.
[1] The proposed buildings are assumed to comply with the 2013 Building and Energy Efficiency Standards, which are 25 percent more energy efficient for nonresidential buildings than the 2008 standards. Modeling also includes applicable water efficiency improvements required under CALGreen.
[2] Construction emissions are amortized over a 30-year project lifetime per recommended SCAQMD methodology.
[3] Based on 365 days per year and daily emissions of 84,658.62 pounds per day of GHG emissions as calculated in the 2008 Certified EIR.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

GHG-2 Implementation of the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The 2008 Certified EIR did not identify any significant impacts related to consistency of the Approved Project with plans adopted for the purpose of reducing GHG emissions.

Since Certification of the 2008 EIR, several plans have been adopted by state and regional agencies and the City of Upland. Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan, SCAG's 2016 RTP/SCS, and the City of Upland Climate Action Plan. A consistency analysis with these plans is presented below:

CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies but is not directly applicable to cities/counties and individual projects. In accordance with AB 32, CARB developed the Scoping Plan to outline the state's strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 BAU GHG emissions and identified that the state as a whole would be required to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the targets of AB 32 (CARB 2008). The

GHG emissions forecast was updated as part of the First Update to the Scoping Plan. In the First Update to the Scoping Plan, CARB projected that statewide BAU emissions in 2020 would be approximately 509 million $MTCO_2e$.[21] Therefore, to achieve the AB 32 target of 431 million $MTCO_2e$ (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 million $MTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020 (CARB 2014a).[22]

Since adoption of the 2008 Scoping Plan, state agencies have adopted programs identified in the plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the LCFS, California Appliance Energy Efficiency regulations, California Building Standards (i.e., CALGreen and the 2016 Building and Energy Efficiency Standards), 33 percent RPS, and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars [Pavley II]). While the Scoping Plan itself is not directly applicable to the Proposed Project, the Project's GHG emissions shown in Table 17 include reductions associated with statewide strategies that have been adopted since AB 32. The Proposed Project would comply with these GHG emissions reduction measures because they are statewide strategies. Therefore, the Proposed Project would not obstruct implementation of the CARB Scoping Plan. Additionally, as the Proposed Project would develop the same types of land uses and fewer dwelling units compared to the Approved Project, no new impacts would be introduced.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy

SCAG's 2016 RTP/SCS was adopted April 7, 2016. The RTP/SCS identifies multimodal transportation investments, including bus rapid transit, light rail transit, heavy rail transit, commuter rail, high-speed rail, active transportation strategies (e.g., bike ways and sidewalks), transportation demand management strategies, transportation systems management, highway improvements (interchange improvements, high-occupancy vehicle lanes, high-occupancy toll lanes), arterial improvements, goods movement strategies, aviation and airport ground access improvements, and operations and maintenance to the existing multimodal transportation system.

SCAG's RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in the 2016 RTP/SCS is to provide for a plan that allows the southern California region to grow in more compact communities in existing urban areas; provide neighborhoods with efficient and plentiful public transit and abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands (SCAG 2016). The 2016 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as a forecast

[21] The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard (RPS).

[22] If the GHG emissions reductions from Pavley I and the Renewable Portfolio Standard (RPS) are accounted for as part of the BAU scenario (30 million $MTCO_2e$ total), then the state would need to reduce emissions by 108 million $MTCO_2e$, which is a 20-percent reduction from BAU.

for development that is generally consistent with regional-level general plan data. The projected regional development pattern—when integrated with the proposed regional transportation network identified in the RTP/SCS—would reduce per capita vehicular travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region.

The Upland General Plan incorporates the Sycamore Hills Specific Plan area into its land use designation map. As the residential land uses proposed for Planning Area 3 under the Proposed Project would be consistent with the Sycamore Hills Specific Plan, they would also be consistent with underlying General Plan land use designation for the site. In addition, the Proposed Project would develop fewer dwelling units than the Approved Project. Thus, growth associated within the Proposed Project would be within the growth forecast assumed in the RTP/SCS. Therefore, implementation of the Proposed Project would not interfere with SCAG's ability to implement the regional strategies outlined in the RTP/SCS. Additionally, as the development intensity of the Proposed Project would be less than the Approved Project, no new impacts would be introduced.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

City of Upland Climate Action Plan

The Proposed Project would generally be consistent with the applicable strategies in the City of Upland CAP. Consistent with Policy E-11, development of the Proposed Project would comply with the 2016 Building Energy Efficiency Standards and CALGreen, which would contribute in increasing energy efficiency and energy conservation. Additionally, the Proposed Project would comply with the City's municipal code sections requiring water efficient design, which would generally be consistent with Objective A, Improve Water Use Efficiency and Conservation, and Objective B, Reduce Landscape Water Usage, of the City's CAP. Furthermore, the Proposed Project would be subject to compliance with Mitigation Measures AQ-4 and AQ-5 as prescribed in the 2008 Certified EIR, which includes energy efficiency measures such as installation of energy efficient street lighting and use of Energy Star appliances. Overall, the development of the Proposed Project would not conflict with or interfere with implementation of the City of Upland CAP. Additionally, as the Proposed Project would develop the same types of land uses and fewer dwelling units compared to the Approved Project, no new impacts would be introduced.

Level of Significance: No new significant impacts or increased in severity of impacts identified from the 2008 Certified EIR.

5.3 CERTIFIED 2008 MITIGATION MEASURES

The Proposed Project would comply with the following mitigation measures prescribed in the 2008 Certified EIR.

AQ-1 Comply with SCAQMD's Rule 402 and 403. Applicable mitigation measures listed within Rule 402, 403, Tables 1, 2, and 3 shall be utilized. In addition, the contractors will be

required to submit a fully execute Large Operation Notification to the SCAQMD's Executive Officer and provide copies to the City of Upland.

AQ-2 Reduce construction equipment emissions by implementing the following measures. The following measures should be implemented and be included in grading and improvement plans specifications for implementation by contractors.

- Use low emission mobile construction equipment. The Applicant shall comply with CARB requirements for heavy construction equipment.
- Maintain construction equipment engines by keeping them tuned.
- Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators.
- Configure construction parking to minimize traffic interference.
- Minimize obstruction of through-traffic lanes. Construction should be planned so that lane closures on existing streets are kept to a minimum.
- Schedule construction operations affecting traffic for off-peak hours to the best extent when possible.
- Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with shuttle service.).

AQ-3 **Architectural Coating Emission Control**

- Limit the amount of painting each day.
- Minimize the amount of paint used by using pre-coated, pre-colored and naturally colored building materials.
- Use Water-Based and LOW-VOC coatings with VOC contents less than those required by SCAQMD 1113.
- Use high transfer efficiency painting methods such as HVLP (High Volume Low Pressure) sprayers and brushes/rollers where possible.

AQ-4 **Transportation Demand Management Measures**

- Provide adequate ingress and egress at all entrances to public facilities to minimize vehicle idling at curbsides.
- Provide dedicated turn lanes as appropriate and provide roadway improvements at heavily congested roadways.

5. Environmental Impacts

Energy Efficient Measures

- Improve thermal integrity of the buildings and reduce thermal load with automated time clocks or occupant sensors.
- Install energy efficient street lighting.
- Capture waste heat and reemploy it in nonresidential buildings.
- Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits.
- Provide lighter color roofing and road materials and tree planning programs to comply with the AQMP Miscellaneous Sources MSC-01 measure.
- Synchronize traffic signals.
- Introduce window glazing, wall insulation, and efficient ventilation methods.

AQ-5 The Applicant shall comply with the energy standards and GHG reduction measures as required by the City, State, or Federal Government at the time of issuance of building permits and will include but not be limited to:

- The utilization of florescent light bulbs where feasible.
- Prohibiting delivery trucks from idling for more than two minutes.
- The use of Energy Star efficiency rated appliance in all residential and commercial buildings.
- The utilization of tank-less water heaters where feasible in all residential and commercial buildings; and
- The use of solar energy where feasible.

6. References

Bay Area Air Quality Management District (BAAQMD). 2011, Revised. California Environmental Quality Act Air Quality Guidelines.

California Air Resources Board (CARB). 1998, April 22. The Report on Diesel Exhaust. http://www.arb.ca.gov/toxics/dieseltac/de-fnds.htm.

———. 2008, October. Climate Change Proposed Scoping Plan, a Framework for Change.

———. 2010, August. Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375.

———. 2011, December. California Greenhouse Gas Inventory for 2000–2009: By Category as Defined by the Scoping Plan.

———. 2014a, May 15. Proposed First Update to the Climate Change Scoping Plan: Building on the Framework, http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm.

———. 2014b, March 24. California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm.

———. 2015a, December. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

———. 2015b, September 15. ARB Process and Schedule for SB 375 Target Update. http://www.arb.ca.gov/cc/sb375/sb375.htm.

———. 2016a, May 4. Ambient Air Quality Standards. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

———. 2016b, June. 2016 Edition California Greenhouse Gas Inventory for 2000-2014: By Category as Defined in the 2008 Scoping Plan. http://www.arb.ca.gov/cc/inventory/data/data.htm.

———. 2016b, June 17. State of California, 2030 Target Scoping Plan Update Concept Paper. http://www.arb.ca.gov/cc/scopingplan/document/2030_sp_concept_paper2016.pdf.

———. 2016c. Air Pollution Data Monitoring Cards (2011, 2012, 2013, 2014, and 2015). Accessed May 3, 2016, http://www.arb.ca.gov/adam/topfour/topfour1.php.

California Climate Action Team (CAT). 2006, March. Climate Action Team Report to Governor Schwarzenegger and the Legislature.

6. References

California Climate Change Center. (CCCC) 2012, July. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

California Energy Commission (CEC). 2005, June. Climate Change Emissions Estimates from Bemis, Gerry and Jennifer Allen, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2002 Update. California Energy Commission Staff Paper CEC-600-2005-025. Sacramento, California.

———. 2006a, December. Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004. Report CEC-600-2006-013-SF.

———. 2006b. Our Changing Climate: Assessing the Risks to California. 2006 Biennial Report, California Climate Change Center. CEC-500-2006-077.

———.2008. The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California. CEC-500-2008-0077.

———. 2015, June 10 "2016 Building Energy Efficiency Standards, Adoption Hearing Presentation," http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf.

———. 2016. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

California Public Utilities Commission (CPUC). California Renewables Portfolio Standard (RPS). Accessed February 2014. http://www.cpuc.ca.gov/PUC/energy/Renewables/.

David Evans and Associates, Inc. 2016, August 2. Traffic Impact Analysis/Addendum Report: Baseline Road Master Plan: Sycamore Hills.

Governor's Office of Planning and Research (OPR). 2008, June. Technical Advisory, CEQA and Climate Change: Addressing Climate Change Through CEQA Review. http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf.

Institute of Transportation Engineers. 2012. Trip Generation Manual. 9th edition.

Intergovernmental Panel on Climate Change (IPCC). 1996. Third Assessment Report: Climate Change 2001. New York: Cambridge University Press.

———. 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.

PlaceWorks. 2016, July 13. Review of Water Supply Issues for Sycamore Hills, Planning Area 3.

South Coast Air Quality Management District (SCAQMD). 1993. California Environmental Quality Act Air Quality Handbook.

6. References

———. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. http://www.aqmd.gov/home/library/documents-support-material/planning-guidance/guidance-document.

———. 2008a, September. Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES III). http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iii.

———.2008b, June. Final Localized Significance Threshold Methodology. http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

———. 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2

———. 2012a, May 4. Final 2012 Lead State Implementation Plan: Los Angeles County. http://www.aqmd.gov/home/library/clean-air-plans/lead-state-implementation-plan.

———. 2012b. Air Quality Analysis Handbook. Updates to CEQA Air Quality Handbook. http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

———. 2013a, February. Final Air Quality Management Plan. http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan.

———. 2013b. California Emissions Estimator Model (CalEEMod). Version 2013.2.2.

———. 2015a, February 6. Supplement to 24-hour PM2.5 State Implementation Plan for South Coast Air Basin. http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2015/2015-feb6-022.pdf?sfvrsn=2.

———. 2015b, May. Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV) Final Report. http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv.

———. 2015c, March (Revised). SCAQMD Air Quality Significance Thresholds.http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

———. 2015d. Health Effects of Air Pollution. http://www.aqmd.gov/home/library/public-information/publications.

———. 2015e, October. Blueprint for Clean Air Whitepaper. 2017 AQMP Whitepaper. http://www.aqmd.gov/home/about/groups-committees/aqmp-advisory-group/2016-aqmp-white-papers.

6. References

———. 2016, January 28. 2016 Air Quality Management Plan Fact Sheet. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/factsheet-2016-aqmp.pdf?sfvrsn=2.

Southern California Association of Governments (SCAG). 2012, April. 2012–2035 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS). http://rtpscs.scag.ca.gov/Pages/default.aspx.

Southern California Association of Governments (SCAG). 2016, April 7. Final 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life. http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx.

Upland, City of. 2015, September. City of Upland Climate Action Plan.

US Environmental Protection Agency (EPA). 2009, December. EPA: Greenhouse Gases Threaten Public Health and the Environment, Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity. http://yosemite.epa.gov/opa/admpress.nsf/0/08D11A451131BCA585257685005BF252.

———. 2016, May 5. Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

Western Regional Climate Center (WRCC). 2016. Western U.S. Historical Summaries – Upland Monitoring Station (Station ID No. 045114). http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9157 (Accessed August 11, 2016).

Appendix A. Air Quality and GHG Modeling Summaries and Assumptions

Appendix

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Regional Construction Emissions Worksheet

Site Preparation							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2016**						
	Fugitive Dust					5.1489	2.8302
	Off-Road	4.3577	49.0764	34.551	0.039	2.379	2.1887
	Total	**4.3577**	**49.0764**	**34.551**	**0.039**	**7.5279**	**5.0189**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0541	0.5382	0.6836	0.00129	0.044	0.0182
	Worker	0.0525	0.0726	0.7659	0.00166	0.135	0.0367
	Total	**0.1066**	**0.6108**	**1.4495**	**0.00295**	**0.179**	**0.055**
TOTAL		***4.4643***	***49.6872***	***36.0005***	***0.0420***	***7.7069***	***5.0739***

Rough Grading							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2016**						
	Fugitive Dust					9.0025	3.2463
	Off-Road	20.0971	245.5345	155.9311	0.204	10.5861	9.7392
	Total	**20.0971**	**245.5345**	**155.9311**	**0.204**	**19.5886**	**12.9856**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.018	0.1794	0.2279	0.00043	0.0147	0.00607
	Worker	0.1414	0.1955	2.0619	0.00448	0.3635	0.0989
	Total	**0.1595**	**0.3749**	**2.2898**	**0.00491**	**0.3782**	**0.105**
TOTAL		***20.2566***	***245.9094***	***158.2209***	***0.2089***	***19.9668***	***13.0906***

Rough Grading Soil Haul							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2016**						
	Fugitive Dust					0.5525	0.0837
	Off-Road	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0.5525**	**0.0837**
Offsite							
	Hauling	8.2078	26.3202	158.1172	0.0292	0.3256	0.1665
	Vendor	0	0	0	0	0	0
	Worker	0	0	0	0	0	0
	Total	**8.2078**	**26.3202**	**158.1172**	**0.0292**	**0.3256**	**0.1665**
TOTAL		***8.2078***	***26.3202***	***158.1172***	***0.0292***	***0.8781***	***0.2502***

Site Prep+Rough Grading+Haul	***32.9287***	***321.9168***	***352.3386***	***0.2801***	***28.5518***	***18.4147***

Rough Grading + Haul	***28.4644***	***272.2296***	***316.3381***	***0.2381***	***20.8449***	***13.3408***

Utility Trenching							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Off-Road		0.679	7.0607	5.8149	0.0084	0.4266	0.3924
Total		**0.679**	**7.0607**	**5.8149**	**0.0084**	**0.4266**	**0.3924**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0179	0.025	0.2638	0.00064	0.0519	0.0141
Total		**0.0179**	**0.025**	**0.2638**	**0.00064**	**0.0519**	**0.0141**
TOTAL		***0.6969***	***7.0857***	***6.0787***	***0.0090***	***0.4785***	***0.4065***

Fine Grading							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Fugitive Dust						1.1334	0.1224
Off-Road		5.1837	58.8011	36.9685	0.0514	2.8916	2.6602
Total		**5.1837**	**58.8011**	**36.9685**	**0.0514**	**4.025**	**2.7826**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.0166	0.163	0.2177	0.00043	0.0144	0.00578
Worker		0.0465	0.0651	0.6858	0.00166	0.135	0.0367
Total		**0.0632**	**0.2281**	**0.9035**	**0.00209**	**0.1493**	**0.0425**
TOTAL		***5.2469***	***59.0292***	***37.8720***	***0.0535***	***4.1743***	***2.8251***

Utility Trenching+Fine Grading	***5.9438***	***66.1149***	***43.9507***	***0.0625***	***4.6528***	***3.2316***

Paving							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Off-Road		0.9819	9.8335	6.8177	0.00976	0.6188	0.5693
Paving		0.8102				0	0
Total		**1.7921**	**9.8335**	**6.8177**	**0.00976**	**0.6188**	**0.5693**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.0666	0.652	0.8707	0.00172	0.0574	0.0231
Worker		0.0286	0.04	0.4221	0.00102	0.0831	0.0226
Total		**0.0952**	**0.6921**	**1.2928**	**0.00274**	**0.1405**	**0.0457**
TOTAL		***1.8873***	***10.5256***	***8.1105***	***0.0125***	***0.7593***	***0.6150***

Fine Grading+Asphalt Paving	***7.1342***	***69.5548***	***45.9825***	***0.0660***	***4.9336***	***3.4401***

Building Construction

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Off-Road		3.1024	26.4057	18.1291	0.0268	1.7812	1.673
	Total		**3.1024**	**26.4057**	**18.1291**	**0.0268**	**1.7812**	**1.673**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.1748	1.7116	2.2856	0.00452	0.1507	0.0607
	Worker		0.3578	0.5004	5.2757	0.0128	1.0383	0.2823
	Total		**0.5325**	**2.212**	**7.5613**	**0.0173**	**1.189**	**0.343**
TOTAL			***3.6349***	***28.6177***	***25.6904***	***0.0441***	***2.9702***	***2.0160***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Off-Road		2.6687	23.2608	17.5327	0.0268	1.4943	1.4048
	Total		**2.6687**	**23.2608**	**17.5327**	**0.0268**	**1.4943**	**1.4048**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.1615	1.5684	2.177	0.00452	0.149	0.0592
	Worker		0.3185	0.4513	4.7537	0.0128	1.0381	0.2822
	Total		**0.48**	**2.0196**	**6.9307**	**0.0173**	**1.1871**	**0.3414**
TOTAL			***3.1487***	***25.2804***	***24.4634***	***0.0441***	***2.6814***	***1.7462***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019**						
	Off-Road		2.3516	20.965	17.1204	0.0268	1.285	1.2083
	Total		**2.3516**	**20.965**	**17.1204**	**0.0268**	**1.285**	**1.2083**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.1532	1.4393	2.1172	0.00448	0.1479	0.0582
	Worker		0.2895	0.411	4.3044	0.0127	1.0379	0.282
	Total		**0.4427**	**1.8503**	**6.4216**	**0.0172**	**1.1859**	**0.3402**
TOTAL			***2.7943***	***22.8153***	***23.5420***	***0.0440***	***2.4709***	***1.5485***

Architectural Coating

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Archit. Coating		14.6296				0	0
	Off-Road		0.2986	2.0058	1.8542	0.00297	0.1506	0.1506
	Total		**14.9282**	**2.0058**	**1.8542**	**0.00297**	**0.1506**	**0.1506**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0637	0.0903	0.9508	0.00256	0.2076	0.0564
	Total		**0.0637**	**0.0903**	**0.9508**	**0.00256**	**0.2076**	**0.0564**
TOTAL			***14.9919***	***2.0961***	***2.8050***	***0.0055***	***0.3582***	***0.2070***

Building Construction+Architectural Coating		***18.1406***	***27.3765***	***27.2684***	***0.0496***	***3.0396***	***1.9532***
Onsite	**2019**						
Archit. Coating		14.6296				0	0
Off-Road		0.2664	1.8354	1.8413	0.00297	0.1288	0.1288
Total		**14.896**	**1.8354**	**1.8413**	**0.00297**	**0.1288**	**0.1288**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0579	0.0822	0.8609	0.00254	0.2076	0.0564
Total		**0.0579**	**0.0822**	**0.8609**	**0.00254**	**0.2076**	**0.0564**
TOTAL		***14.9539***	***1.9176***	***2.7022***	***0.0055***	***0.3364***	***0.1852***
Building Construction+Architectural Coating		***17.7482***	***24.7329***	***26.2442***	***0.0495***	***2.8073***	***1.7337***
MAX DAILY		**32.93**	**321.92**	**352.34**	**0.28**	**28.55**	**18.41**
Regional Thresholds		**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?		No	Yes	No	No	No	No

Regional Construction Emissions Worksheet

Site Preparation		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
	Fugitive Dust			5.1489	2.8302
	Off-Road	49.0414	34.5345	2.3778	2.1876
	Total	**49.0414**	**34.5345**	**7.5267**	**5.0178**
TOTAL		***49.0414***	***34.5345***	***7.5267***	***5.0178***
	2.50-Acre LSTs	***567***	***17,543***	***139***	***103***
	Exceeds LSTs?	***No***	***No***	***No***	***No***

Rough Grading		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
	Fugitive Dust			9.0025	3.2463
	Off-Road	245.4995	155.9146	10.5849	9.7381
	Total	**245.4995**	**155.9146**	**19.5874**	**12.9845**
TOTAL		***245.4995***	***155.9146***	***19.5874***	***12.9845***
	5-Acre LSTs	***650***	***20,752***	***242***	***115***
	Exceeds LSTs?	***No***	***No***	***No***	***No***

Rough Grading Soil Haul		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2016**				
	Fugitive Dust			0.5525	0.0837
	Off-Road	0	0	0	0
	Total	**0**	**0**	**0.5525**	**0.0837**
TOTAL		***0.0000***	***0.0000***	***0.5525***	***0.0837***
Site Prep+Rough Grading+Haul		***294.5409***	***190.4491***	***27.6666***	***18.0860***
	5-Acre LSTs	***650***	***20,752***	***242***	***115***
	Exceeds LSTs?	***No***	***No***	***No***	***No***
Rough Grading + Haul		***245.4995***	***155.9146***	***20.1399***	***13.0682***
	5-Acre LSTs	***650***	***20,752***	***242***	***115***
	Exceeds LSTs?	***No***	***No***	***No***	***No***

Utility Trenching					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2017**				
	Off-Road	7.0685	5.8223	0.4266	0.3925
	Total	**7.0685**	**5.8223**	**0.4266**	**0.3925**
TOTAL		***7.0685***	***5.8223***	***0.4266***	***0.3925***
	0.50-Acre LSTs	***513***	***15,467***	***203***	***93***
	Exceeds LSTs?	***No***	***No***	***No***	***No***

Fine Grading					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2017**				
	Fugitive Dust			1.1334	0.1224
	Off-Road	58.8011	36.9685	2.8916	2.6602
	Total	**58.8011**	**36.9685**	**4.025**	**2.7826**
TOTAL		***58.8011***	***36.9685***	***4.0250***	***2.7826***
Utility Trenching+Fine Grading		***65.8696***	***42.7908***	***4.4516***	***3.1751***
	4-Acre LSTs	***617***	***19,468***	***201***	***110***
	Exceeds LSTs?	***No***	***No***	***No***	***No***

Paving					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2017**				
	Off-Road	9.8335	6.8177	0.6188	0.5693
	Paving			0	0
	Total	**9.8335**	**6.8177**	**0.6188**	**0.5693**
TOTAL		***9.8335***	***6.8177***	***0.6188***	***0.5693***
	<1-Acre LSTs	***513***	***15,467***	***203***	***93***
	Exceeds LSTs?	***No***	***No***	***No***	***No***
Fine Grading+Asphalt Paving		***68.6346***	***43.7862***	***4.6438***	***3.3519***
	3.50-Acre LSTs	***600***	***18,826***	***181***	***108***
	Exceeds LSTs?	***No***	***No***	***No***	***No***

Building Construction					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2017**				
Off-Road		26.4057	18.1291	1.7812	1.673
Total		**26.4057**	**18.1291**	**1.7812**	**1.673**
TOTAL		***26.4057***	***18.1291***	***1.7812***	***1.6730***
	1.31-Acre LSTs	***525***	***15,915***	***176***	***95***
	Exceeds LSTs?	***No***	***No***	***No***	***No***
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2018**				
Off-Road		23.2608	17.5327	1.4943	1.4048
Total		**23.2608**	**17.5327**	**1.4943**	**1.4048**
TOTAL		***23.2608***	***17.5327***	***1.4943***	***1.4048***
	1.31-Acre LSTs	***525***	***15,915***	***176***	***95***
	Exceeds LSTs?	***No***	***No***	***No***	***No***
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2019**				
Off-Road		20.965	17.1204	1.285	1.2083
Total		**20.965**	**17.1204**	**1.285**	**1.2083**
TOTAL		***20.9650***	***17.1204***	***1.2850***	***1.2083***

Architectural Coating					
		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2018**				
Archit. Coating				0	0
Off-Road		2.0058	1.8542	0.1506	0.1506
Total		**2.0058**	**1.8542**	**0.1506**	**0.1506**
TOTAL		***2.0058***	***1.8542***	***0.1506***	***0.1506***
Building Construction+Architectural Coating		***25.2666***	***19.3869***	***1.6449***	***1.5554***
	1.31-Acre LSTs	***525***	***15,915***	***176***	***95***
	Exceeds LSTs?	***No***	***No***	***No***	***No***
Onsite	**2019**				
Archit. Coating				0	0
Off-Road		1.8354	1.8413	0.1288	0.1288
Total		**1.8354**	**1.8413**	**0.1288**	**0.1288**
TOTAL		***1.8354***	***1.8413***	***0.1288***	***0.1288***

Building Construction+Architectural Coating	***22.8004***	***18.9617***	***1.4138***	***1.3371***
1.31-Acre LSTs	***525***	***15,915***	***176***	***95***
Exceeds LSTs?	***No***	***No***	***No***	***No***

Regional Operation Emissions Worksheet

Project

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	8.193	0.169	14.613	0.001	0.316	0.314
Energy	0.113	0.969	0.412	0.006	0.078	0.078
Mobile	3.007	2.965	35.757	0.099	8.074	2.178
Total	**11.314**	**4.103**	**50.783**	**0.106**	**8.469**	**2.570**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	8.193	0.169	14.613	0.001	0.316	0.314
Energy	0.113	0.969	0.412	0.006	0.078	0.078
Mobile	2.832	3.155	31.382	0.091	8.074	2.178
Total	**11.139**	**4.293**	**46.408**	**0.098**	**8.469**	**2.570**

Maximum Emissions

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	8.193	0.169	14.613	0.001	0.316	0.314
Energy	0.113	0.969	0.412	0.006	0.078	0.078
Mobile	3.007	3.155	35.757	0.099	8.074	2.178
Total	**11.314**	**4.293**	**50.783**	**0.106**	**8.469**	**2.570**

Regional Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

GHG Emissions Inventory

Proposed Project Buildout

	MTons Total
Total Construction	1,527

sharing of construction equipment between overlapping construction phases that would

Proposed Project		
Source	**Buildout $MTCO_2e$/Year**	**Percent of Project Total**
Area	46	3%
Energy - New Buildings	520	29%
Mobile[1]	1081	60%
Waste	67	4%
Water	47	3%
Amortized Construction Emissions[2]	51	3%
Total All Sectors	1,811	100%
SCAQMD Bright-Line Screening Threshold	3,000	
Exceed Threshold?	**No**	

[1] Based on year 2019 emission rates.

[2] Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2010, September 28.

CalEEMod Land Use Inputs: Proposed

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Residential	Townhome*	83.00	DU	3.33	144,485
Residential	Single Family	93.00	DU	3.33	178,531
Parking	Surface Parking Lot	0.365	acre	0.37	15,920
Parking	Other Asphalt Surface	3.655	acre	3.65	159,202
Parking	Non-Asphalt Surface	5.922	acre	5.92	257,955
				16.61	**16.61**

**Square footage includes the 1,000 BSF standalone community center building*

Project Location:	San Bernardino County
Climate Zone:	9
Operation Year	2019
Land Use Setting	Urban
Utility Company	SCE
Source Receptor Area:	32

Land Uses/Development

Total Project Site Area: 16.61 acres (67,056 SF)

Proposed Land Uses	Number of Units	BSF Per Unit	Total BSF
Minimum Plan TH	38	1,610	61,180
Maximum Plan TH	45	1,829	82,305
Minimum Plan SFD	38	1,747	66,386
Maximum Plan SFD	55	2,039	112,145
Total			***322,016***

Community Center: 1,000 BSF

Other*

Surface Parking:	15,920	square feet
Other Asphalt Surface:	159,202	square feet
Hardscape:	29,940	square feet
Pool Area:	980	square feet
Landscaping:	227,035	square feet

**Based on information provided by the Applicant.*

Trip Generation

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Land Use Square Feet	Trip Generation Rate (trips/DU)	Total Daily Trips	Internal Capture Reduction (20%)	Adjusted Total Daily Trips
Townhomes	Townhomes/Condo	83	DU	144,485	5.81	482	96	386
Single Family	Single Family	93	DU	178,531	9.52	885	177	708
	TOTAL	**176**	**DU**	**323,016**				

Trip Generation

Land Use Type	Average Daily Trips[1]	Adjusted Weekday Trip Generation[1]	Saturday Trip Generation Rate[2]	Adjusted Saturday Trip Rate[3]	Total Saturday ADT	Sunday Trip Generation Rate[2]	Adjusted Sunday Trip Rate[3]	Total Sunday ADT
Townhomes	386	4.65	5.67	4.54	376	4.84	3.87	321
Single Family	708	7.61	9.91	7.93	737	8.62	6.90	641
	1,094				1,113			962

[1] *Based on information provided by David Evans and Associates, Inc., 2016.*

[2] *Institute of Transportation Engineers. 2012. Trip Generation Manual, 9th Ed.*

[3] *20 percent internal trip capture reduction applied.*

Water Use*

Water Demand*		
Total Annual Water Demand:	43.7	acre-feet per year
Total Annual Water Demand:	14,239,689	gallons per year
Total Annual Outdoor	6,045,717	gallons per year
Total Daily Indoor Water:	8,193,972	gallons per day
Conversion from acre-feet to gal:	*325,851*	*gallons/acre foot*

CalEEMod Input

Land Use	Indoor	Outdoor
Townhomes	3,864,202.56	2,851,105.18
Single Family	4,329,769.14	3,194,611.82
Total	**8,193,972**	**6,045,717**

**PlaceWorks. 2016, July 13. Review of Water Supply Issues for Sycamore Hills, Planning Area 3 Memorandum.*

Solid Waste*

Land Use	Total Solid Waste (tons/yr)
Townhomes	38.18
Single Family	109.06
Total	**147.24**

**CalEEMod default value.*

Electricity (Buildings)

Modeling is conservative because it does not account for additional reductions from the 33% RPS and 50% RPS under Executive Order B-30-15.

2013 Building and Energy Efficiency Standards

Buildings constructed after January 1, 2014 are required to meet the 2013 Building and Energy Efficiency Standards. The 201 3 Standards are 30% more energy efficient for non-residential buildings than the 2008 Building and Energy Efficiency Standards.

Residential Exceed Title 24	25%	Improvement over 2008

2016 Building and Energy Efficiency Standards*

Buildings constructed after January 1, 2017 are required to meet the 2016 Building and Energy Efficiency Standards.

Residential Exceed Title 24	28%	Improvement over 2013[1]
Residential Exceed Title 24	46.0%	Improvement over 2008

Sources:

[1] California Energy Commission. 2015a. 2016 Building Energy Efficiency Standards, Adoption Hearing Presentation. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/ June 10.

Soil Haul*

Rough Grading Soil Export Amount	160,000	cubic yards
Total Haul Trips	16,000	trip ends
1-way haul distance	0.20	mile (average distance to the other planning areas)
Haul truck capacity	20	CY
Haul Duration	14	days
Trips per day	1,143	

**Based in information provuded by the Applicant.*

Architectural Coating

	Townhomes*	Single Family*
Percentage of Exterior Painted:	100%	100%
Percentage of interior Painted:	100%	100%

**Based on information provided by the Applicant.*

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier**	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)**	Total Paintable Exterior Surface Area (BSF)**
Townhome	144,485	2.7	390,110	292,582	97,527
Single Family	178,531	2.7	482,034	361,525	120,508
			Subtotal:	***654,107***	***218,036***
Surface Parking	15,920	0.06	955	716	239
			Total	**654,824**	**218,275**

**Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building and surface parking lot.*

*Residential Interior Paint VOC content:****	50	grams per liter
*Residential Exterior Paint VOC content:****	100	grams per liter
*Non-Residential Interior Paint VOC content:****	100	grams per liter
*Non-Residential Exterior Paint VOC content:****	100	grams per liter

***Based on SCAQMD Rule 1113, Architectural Coatings.*

Changes to the CalEEMod Defaults - Fleet Mix 2019

Commercial Default	LDA		LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.469745	0.065359	0.173284	0.156374	0.056542	0.009056	0.016508	0.042061	0.001112	0.001336	0.004986	0.000686	0.002952	100%
Trips	514	72	190	171	62	10	18	46	1	1	5	1	3	1,094
Percent	71%			16%				13%						100%
Proportion	0.658483	0.091620	0.242908	1.000000	0.434094	0.069526	0.126738	0.322918	0.008537	0.010257	0.006989	0.005267	0.022664	
Assumed Mix	97.00%			2.00%				1.00%						100.00%
adjusted with Assumed	0.638729	0.088871	0.235620	0.020000	0.004341	0.000695	0.001267	0.003229	0.000085	0.000103	0.006780	0.000053	0.000227	100%
Trips	699	97	258	22	5	1	1	4	0	0	7	0	0	1,094
	64%	9%	24%	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	100%
Modified	0.638729	0.088871	0.235620	0.020000	0.004341	0.000695	0.001267	0.000000	0.000000	0.000000	0.006780	0.000000	0.000227	99.7%
Trips	699	97	258	22	5	1	1	0	0	0	7	0	0	1,090
	97%			2%				0.65%						
Updated with Assumed	**0.638729**	**0.088871**	**0.235620**	**0.020000**	**0.006647**	**0.001065**	**0.001941**	**0.000000**	**0.000000**	**0.000000**	**0.006780**	**0.000000**	**0.000347**	**100%**
Percent	97.00%			2.00%				1.00%						

Construction Phasing*

5-Day Work Week

Phase Name	Start Date	End Date	Workdays	Total Days
Site Preparation	10/1/2016	10/15/2016	10	14
Rough Grading	10/15/2016	12/15/2016	44	61
Rough Grading Soil Haul	10/15/2016	11/3/2016	14	19
Utility Trenching	1/2/2017	3/2/2017	44	59
Fine Grading	3/2/2017	3/15/2017	10	13
Asphalt Paving	3/15/2017	4/1/2017	13	17
Building Construction	5/1/2017	5/1/2019	523	730
Architectural Coating	9/3/2018	5/1/2019	173	240

*Based on schedule provided by LStar Communities.

Construction Equipment Mix*

***Based on information provided by LStar Communities**

Commercial - General Office Bldg	Equipment Model*	Pieces of Equipment	Hrs Op	HP	LF**	Worker Trips/ Day	CalEEMod Vendor Trips
Site Preparation						**Default**	**Default+6**
Bulldozer	Caterpillar D8	**2**	8	**312**	**0.40**		
Tractors/loaders/backhoes	Skip loader	**2**	8	**97**	**0.37**		
Tractors/loaders/backhoes	Caterpillar 980	**1**	8	**349**	**0.37**		
Dump trucks		**2**					**4**
Water truck**		**1**					**2**
Rough Grading						**Default**	**Default+2**
Bulldozer		**2**	8	**255**	**0.40**		
Tractors/loaders/backhoes	Skip loader	**2**	8	**97**	**0.37**		
Scraper	Caterpillar 637	**8**	8	**500**	**0.48**		
Grader	Caterpillar 918	**1**	8	**113**	**0.41**		
Tractors/loaders/backhoes	loader	**1**	8	**349**	**0.37**		
Water truck**		**1**					**2**
Utility Trenching						**Default**	**Default**
Excavators		**1**	8	**162**	**0.38**		
Tractors/Loaders/Backhoes		**1**	8	**97**	**0.37**		
Fine Grading						**Default**	**Default+2**
Tractors/loaders/backhoes	skip loader	**2**	8	**97**	**0.37**		
Grader	Caterpillar 918	**1**	8	**113**	**0.41**		
Scraper	Caterpillar 937	**2**	8	**500**	**0.48**		
Water truck**		**1**					**2**
Asphalt Paving						**Default**	**Default+8**
Paver	Paving Machine	**1**	8	**125**	**0.42**		
Roller	Roller	**2**	8	**80**	**0.38**		
Dump trucks		**4**					**8**
Building Construction* **						**Default**	**Default**
Cranes		**1**	7	**226**	**0.29**		
Forklifts		**3**	8	**89**	**0.20**		
Generator Sets		**1**	8	**84**	**0.74**		
Tractors/Loaders/Backhoes		**3**	7	**97**	**0.37**		
Welders		**1**	8	**46**	**0.45**		
Architectural Coating* **						**Default**	**Default**
Air Compressors		**1**	6	**78**	**0.48**		

**Assumes two trips per day for the water truck.

***CalEEMod defaults

Appendix B. CalEEMod Output

Appendix

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Sycamore Hills SP PA 3 - Construction

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.65	Acre	3.65	0.00	0
Other Non-Asphalt Surfaces	5.92	Acre	5.92	0.00	0
Parking Lot	0.37	Acre	0.37	15,920.00	0
Condo/Townhouse	83.00	Dwelling Unit	3.33	144,485.00	237
Single Family Housing	93.00	Dwelling Unit	3.33	178,531.00	266

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	9			**Operational Year**	2014
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based in information provided by Applicant.

Construction Phase - Based on information provided by Applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Placeholder only for hauling emissions.

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Based on information provided by Applicant.

Trips and VMT - Based on information provided by Applicant. Soil would be exported to adjacent PAs. 0.2 mile haul distance is average distance. Dump and water trucks assumes to generate 2 trips/truck.

Grading -

Architectural Coating - Based on SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Per SCAQMD Rules 403 and 1186.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	20.00	173.00
tblConstructionPhase	NumDays	300.00	523.00
tblConstructionPhase	NumDays	30.00	44.00
tblConstructionPhase	NumDays	30.00	14.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	PhaseEndDate	12/30/2019	5/1/2019
tblConstructionPhase	PhaseEndDate	4/3/2019	5/1/2019
tblConstructionPhase	PhaseEndDate	1/4/2017	11/3/2016
tblConstructionPhase	PhaseEndDate	3/16/2017	3/15/2017
tblConstructionPhase	PhaseEndDate	4/3/2017	3/31/2017
tblConstructionPhase	PhaseEndDate	10/14/2016	10/15/2016

tblConstructionPhase	PhaseEndDate	1/4/2017	3/2/2017
tblConstructionPhase	PhaseStartDate	5/2/2019	9/3/2018
tblConstructionPhase	PhaseStartDate	4/1/2017	5/1/2017
tblConstructionPhase	PhaseStartDate	10/16/2016	10/15/2016
tblConstructionPhase	PhaseStartDate	12/16/2016	10/15/2016
tblConstructionPhase	PhaseStartDate	3/3/2017	3/2/2017
tblConstructionPhase	PhaseStartDate	3/16/2017	3/15/2017
tblConstructionPhase	PhaseStartDate	11/4/2016	1/2/2017
tblGrading	MaterialExported	0.00	160,000.00
tblLandUse	LandUseSquareFeet	158,994.00	0.00
tblLandUse	LandUseSquareFeet	257,875.20	0.00
tblLandUse	LandUseSquareFeet	16,117.20	15,920.00
tblLandUse	LandUseSquareFeet	83,000.00	144,485.00
tblLandUse	LandUseSquareFeet	167,400.00	178,531.00
tblLandUse	LotAcreage	5.19	3.33
tblLandUse	LotAcreage	30.19	3.33
tblOffRoadEquipment	HorsePower	174.00	113.00
tblOffRoadEquipment	HorsePower	174.00	113.00
tblOffRoadEquipment	HorsePower	255.00	312.00
tblOffRoadEquipment	HorsePower	361.00	500.00
tblOffRoadEquipment	HorsePower	361.00	500.00
tblOffRoadEquipment	HorsePower	97.00	349.00
tblOffRoadEquipment	HorsePower	97.00	349.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	0.20
tblTripsAndVMT	HaulingTripNumber	20,000.00	16,000.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	32.9286	321.9167	352.3386	0.2800	35.2045	13.0973	48.3019	14.6297	12.0490	26.6787	0.0000	28,634.1772	28,634.1772	7.7202	0.0000	28,796.3014
2017	7.1341	69.5547	45.9825	0.0660	2.9488	3.5250	6.4738	0.3665	3.2430	3.6095	0.0000	6,687.1533	6,687.1533	1.9308	0.0000	6,727.6992
2018	18.1406	27.3765	27.2683	0.0496	1.4732	1.6799	3.1531	0.3934	1.5876	1.9810	0.0000	4,510.0829	4,510.0829	0.7277	0.0000	4,525.3636
2019	17.7482	24.7330	26.2442	0.0495	1.4732	1.4476	2.9208	0.3934	1.3682	1.7616	0.0000	4,421.2012	4,421.2012	0.7092	0.0000	4,436.0941
Total	**75.9515**	**443.5808**	**451.8336**	**0.4452**	**41.0998**	**19.7498**	**60.8496**	**15.7829**	**18.2479**	**34.0308**	**0.0000**	**44,252.6146**	**44,252.6146**	**11.0878**	**0.0000**	**44,485.4583**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	32.9286	321.9167	352.3386	0.2800	15.4545	13.0973	28.5518	6.3655	12.0490	18.4145	0.0000	28,634.1772	28,634.1772	7.7202	0.0000	28,796.3014
2017	7.1341	69.5547	45.9825	0.0660	1.4085	3.5250	4.9335	0.3105	3.2430	3.4401	0.0000	6,687.1533	6,687.1533	1.9308	0.0000	6,727.6992
2018	18.1406	27.3765	27.2683	0.0496	1.3597	1.6799	3.0396	0.3655	1.5876	1.9532	0.0000	4,510.0829	4,510.0829	0.7277	0.0000	4,525.3636
2019	17.7482	24.7330	26.2442	0.0495	1.3597	1.4476	2.8072	0.3655	1.3682	1.7337	0.0000	4,421.2012	4,421.2012	0.7092	0.0000	4,436.0941
Total	**75.9515**	**443.5808**	**451.8336**	**0.4452**	**19.5823**	**19.7498**	**39.3322**	**7.4071**	**18.2479**	**25.5415**	**0.0000**	**44,252.6145**	**44,252.6145**	**11.0878**	**0.0000**	**44,485.4583**

	ROG	NOx	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**	**52.35**	**0.00**	**35.36**	**53.07**	**0.00**	**24.95**	**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	Site Preparation	Site Preparation	10/1/2016	10/15/2016	5	10	
2	Rough Grading	Grading	10/15/2016	12/15/2016	5	44	
3	Rough Grading Haul	Grading	10/15/2016	11/3/2016	5	14	
4	Utility Trenching	Trenching	1/2/2017	3/2/2017	5	44	
5	Fine Grading	Grading	3/2/2017	3/15/2017	5	10	
6	Paving	Paving	3/15/2017	3/31/2017	5	13	
7	Building Construction	Building Construction	5/1/2017	5/1/2019	5	523	
8	Architectural Coating	Architectural Coating	9/3/2018	5/1/2019	5	173	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 654,107; Residential Outdoor: 218,036; Non-Residential Indoor: 716; Non-Residential Outdoor: 239 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	312	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	349	0.37
Rough Grading	Excavators	0	8.00	162	0.38
Rough Grading	Graders	1	8.00	113	0.41

Rough Grading	Rubber Tired Dozers	2	8.00	255	0.40
Rough Grading	Scrapers	8	8.00	500	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Rough Grading	Tractors/Loaders/Backhoes	1	8.00	349	0.37
Rough Grading Haul	Excavators	0	8.00	162	0.38
Rough Grading Haul	Graders	0	8.00	174	0.41
Rough Grading Haul	Rubber Tired Dozers	0	8.00	255	0.40
Rough Grading Haul	Scrapers	0	8.00	361	0.48
Rough Grading Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	162	0.38
Utility Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Excavators	0	8.00	162	0.38
Fine Grading	Graders	1	8.00	113	0.41
Fine Grading	Rubber Tired Dozers	0	8.00	255	0.40
Fine Grading	Scrapers	2	8.00	500	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Site Preparation	5	13.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	14	35.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Haul	0	0.00	0.00	16,000.00	14.70	6.90	0.20	LD_Mix	HDT_Mix	HHDT
Utility Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	5	13.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	100.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	4.3577	49.0764	34.5510	0.0390		2.3790	2.3790		2.1887	2.1887		4,057.7805	4,057.7805	1.2240		4,083.4839

Total	**4.3577**	**49.0764**	**34.5510**	**0.0390**	**12.0442**	**2.3790**	**14.4232**	**6.6205**	**2.1887**	**8.8091**		**4,057.7805**	**4,057.7805**	**1.2240**		**4,083.4839**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0541	0.5382	0.6836	1.2900e-003	0.0377	8.7600e-003	0.0465	0.0108	8.0600e-003	0.0188		129.7277	129.7277	9.7000e-004		129.7480
Worker	0.0525	0.0726	0.7659	1.6600e-003	0.1453	1.0800e-003	0.1464	0.0385	9.9000e-004	0.0395		138.2859	138.2859	7.5400e-003		138.4443
Total	**0.1066**	**0.6108**	**1.4495**	**2.9500e-003**	**0.1830**	**9.8400e-003**	**0.1929**	**0.0493**	**9.0500e-003**	**0.0584**		**268.0136**	**268.0136**	**8.5100e-003**		**268.1924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1489	0.0000	5.1489	2.8302	0.0000	2.8302			0.0000			0.0000
Off-Road	4.3577	49.0764	34.5510	0.0390		2.3790	2.3790		2.1887	2.1887	0.0000	4,057.7805	4,057.7805	1.2240		4,083.4839
Total	**4.3577**	**49.0764**	**34.5510**	**0.0390**	**5.1489**	**2.3790**	**7.5279**	**2.8302**	**2.1887**	**5.0189**	**0.0000**	**4,057.7805**	**4,057.7805**	**1.2240**		**4,083.4839**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0541	0.5382	0.6836	1.2900e-003	0.0352	8.7600e-003	0.0440	0.0102	8.0600e-003	0.0182		129.7277	129.7277	9.7000e-004		129.7480
Worker	0.0525	0.0726	0.7659	1.6600e-003	0.1339	1.0800e-003	0.1350	0.0358	9.9000e-004	0.0367		138.2859	138.2859	7.5400e-003		138.4443

Total	**0.1066**	**0.6108**	**1.4495**	**2.9500e-003**	**0.1692**	**9.8400e-003**	**0.1790**	**0.0459**	**9.0500e-003**	**0.0550**		**268.0136**	**268.0136**	**8.5100e-003**		**268.1924**

3.3 Rough Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.0584	0.0000	21.0584	7.5938	0.0000	7.5938			0.0000			0.0000
Off-Road	20.0971	245.5345	155.9311	0.2040		10.5861	10.5861		9.7392	9.7392		21,202.6389	21,202.6389	6.3955		21,336.9437
Total	**20.0971**	**245.5345**	**155.9311**	**0.2040**	**21.0584**	**10.5861**	**31.6446**	**7.5938**	**9.7392**	**17.3330**		**21,202.6389**	**21,202.6389**	**6.3955**		**21,336.9437**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0180	0.1794	0.2279	4.3000e-004	0.0126	2.9200e-003	0.0155	3.5900e-003	2.6900e-003	6.2700e-003		43.2426	43.2426	3.2000e-004		43.2493
Worker	0.1414	0.1955	2.0619	4.4800e-003	0.3912	2.9000e-003	0.3941	0.1038	2.6700e-003	0.1064		372.3083	372.3083	0.0203		372.7347
Total	**0.1595**	**0.3749**	**2.2898**	**4.9100e-003**	**0.4038**	**5.8200e-003**	**0.4096**	**0.1073**	**5.3600e-003**	**0.1127**		**415.5508**	**415.5508**	**0.0206**		**415.9840**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0025	0.0000	9.0025	3.2463	0.0000	3.2463			0.0000			0.0000
Off-Road	20.0971	245.5345	155.9311	0.2040		10.5861	10.5861		9.7392	9.7392	0.0000	21,202.6389	21,202.6389	6.3955		21,336.9437

Total	**20.0971**	**245.5345**	**155.9311**	**0.2040**	**9.0025**	**10.5861**	**19.5886**	**3.2463**	**9.7392**	**12.9856**	**0.0000**	**21,202.6389**	**21,202.6389**	**6.3955**		**21,336.9437**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0180	0.1794	0.2279	4.3000e-004	0.0117	2.9200e-003	0.0147	3.3900e-003	2.6900e-003	6.0700e-003		43.2426	43.2426	3.2000e-004		43.2493
Worker	0.1414	0.1955	2.0619	4.4800e-003	0.3606	2.9000e-003	0.3635	0.0962	2.6700e-003	0.0989		372.3083	372.3083	0.0203		372.7347
Total	**0.1595**	**0.3749**	**2.2898**	**4.9100e-003**	**0.3724**	**5.8200e-003**	**0.3782**	**0.0996**	**5.3600e-003**	**0.1050**		**415.5508**	**415.5508**	**0.0206**		**415.9840**

3.4 Rough Grading Haul - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2925	0.0000	1.2925	0.1957	0.0000	0.1957			0.0000			0.0000
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
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.2925**	**0.0000**	**1.2925**	**0.1957**	**0.0000**	**0.1957**		**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	lb/day										lb/day					
Hauling	8.2078	26.3202	158.1172	0.0292	0.2227	0.1166	0.3392	0.0631	0.1067	0.1698		2,690.1934	2,690.1934	0.0716		2,691.6974
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**8.2078**	**26.3202**	**158.1172**	**0.0292**	**0.2227**	**0.1166**	**0.3392**	**0.0631**	**0.1067**	**0.1698**		**2,690.1934**	**2,690.1934**	**0.0716**		**2,691.6974**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5525	0.0000	0.5525	0.0837	0.0000	0.0837			0.0000			0.0000
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
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5525**	**0.0000**	**0.5525**	**0.0837**	**0.0000**	**0.0837**	**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	lb/day										lb/day					
Hauling	8.2078	26.3202	158.1172	0.0292	0.2091	0.1166	0.3256	0.0598	0.1067	0.1665		2,690.1934	2,690.1934	0.0716		2,691.6974
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	**8.2078**	**26.3202**	**158.1172**	**0.0292**	**0.2091**	**0.1166**	**0.3256**	**0.0598**	**0.1067**	**0.1665**		**2,690.1934**	**2,690.1934**	**0.0716**		**2,691.6974**

3.5 Utility Trenching - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6790	7.0607	5.8149	8.4000e-003		0.4266	0.4266		0.3924	0.3924		859.5267	859.5267	0.2634		865.0572
Total	**0.6790**	**7.0607**	**5.8149**	**8.4000e-003**		**0.4266**	**0.4266**		**0.3924**	**0.3924**		**859.5267**	**859.5267**	**0.2634**		**865.0572**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0179	0.0250	0.2638	6.4000e-004	0.0559	4.0000e-004	0.0563	0.0148	3.7000e-004	0.0152		51.0933	51.0933	2.6600e-003		51.1491
Total	**0.0179**	**0.0250**	**0.2638**	**6.4000e-004**	**0.0559**	**4.0000e-004**	**0.0563**	**0.0148**	**3.7000e-004**	**0.0152**		**51.0933**	**51.0933**	**2.6600e-003**		**51.1491**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6790	7.0607	5.8149	8.4000e-		0.4266	0.4266		0.3924	0.3924	0.0000	859.5267	859.5267	0.2634		865.0572
Total	**0.6790**	**7.0607**	**5.8149**	**8.4000e-003**		**0.4266**	**0.4266**		**0.3924**	**0.3924**	**0.0000**	**859.5267**	**859.5267**	**0.2634**		**865.0572**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0179	0.0250	0.2638	6.4000e-004	0.0515	4.0000e-004	0.0519	0.0138	3.7000e-004	0.0141		51.0933	51.0933	2.6600e-003		51.1491
Total	**0.0179**	**0.0250**	**0.2638**	**6.4000e-004**	**0.0515**	**4.0000e-004**	**0.0519**	**0.0138**	**3.7000e-004**	**0.0141**		**51.0933**	**51.0933**	**2.6600e-003**		**51.1491**

3.6 Fine Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6513	0.0000	2.6513	0.2863	0.0000	0.2863			0.0000			0.0000
Off-Road	5.1837	58.8011	36.9685	0.0514		2.8916	2.8916		2.6602	2.6602		5,261.5693	5,261.5693	1.6121		5,295.4242
Total	**5.1837**	**58.8011**	**36.9685**	**0.0514**	**2.6513**	**2.8916**	**5.5428**	**0.2863**	**2.6602**	**2.9465**		**5,261.5693**	**5,261.5693**	**1.6121**		**5,295.4242**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0166	0.1630	0.2177	4.3000e-004	0.0126	2.6000e-003	0.0152	3.5900e-003	2.3900e-003	5.9800e-003		42.5301	42.5301	3.1000e-004		42.5366
Worker	0.0465	0.0651	0.6858	1.6600e-003	0.1453	1.0400e-003	0.1464	0.0385	9.6000e-004	0.0395		132.8425	132.8425	6.9100e-003		132.9877
Total	**0.0632**	**0.2281**	**0.9035**	**2.0900e-003**	**0.1579**	**3.6400e-003**	**0.1615**	**0.0421**	**3.3500e-003**	**0.0455**		**175.3725**	**175.3725**	**7.2200e-003**		**175.5243**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1334	0.0000	1.1334	0.1224	0.0000	0.1224			0.0000			0.0000
Off-Road	5.1837	58.8011	36.9685	0.0514		2.8916	2.8916		2.6602	2.6602	0.0000	5,261.5693	5,261.5693	1.6121		5,295.4242
Total	**5.1837**	**58.8011**	**36.9685**	**0.0514**	**1.1334**	**2.8916**	**4.0250**	**0.1224**	**2.6602**	**2.7826**	**0.0000**	**5,261.5693**	**5,261.5693**	**1.6121**		**5,295.4242**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0166	0.1630	0.2177	4.3000e-004	0.0118	2.6000e-003	0.0144	3.3900e-003	2.3900e-003	5.7800e-003		42.5301	42.5301	3.1000e-004		42.5366
Worker	0.0465	0.0651	0.6858	1.6600e-003	0.1339	1.0400e-003	0.1350	0.0358	9.6000e-004	0.0367		132.8425	132.8425	6.9100e-003		132.9877
Total	**0.0632**	**0.2281**	**0.9035**	**2.0900e-003**	**0.1457**	**3.6400e-003**	**0.1493**	**0.0391**	**3.3500e-003**	**0.0425**		**175.3725**	**175.3725**	**7.2200e-003**		**175.5243**

3.7 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9819	9.8335	6.8177	9.7600e-003		0.6188	0.6188		0.5693	0.5693		998.3420	998.3420	0.3059		1,004.7657
Paving	0.8102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7921**	**9.8335**	**6.8177**	**9.7600e-003**		**0.6188**	**0.6188**		**0.5693**	**0.5693**		**998.3420**	**998.3420**	**0.3059**		**1,004.7657**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0666	0.6520	0.8707	1.7200e-003	0.0503	0.0104	0.0607	0.0144	9.5800e-003	0.0239		170.1202	170.1202	1.2500e-003		170.1465
Worker	0.0286	0.0400	0.4221	1.0200e-003	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		81.7492	81.7492	4.2600e-003		81.8386
Total	**0.0952**	**0.6921**	**1.2928**	**2.7400e-003**	**0.1397**	**0.0111**	**0.1507**	**0.0381**	**0.0102**	**0.0482**		**251.8695**	**251.8695**	**5.5100e-003**		**251.9851**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9819	9.8335	6.8177	9.7600e-003		0.6188	0.6188		0.5693	0.5693	0.0000	998.3420	998.3420	0.3059		1,004.7657
Paving	0.8102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7921**	**9.8335**	**6.8177**	**9.7600e-003**		**0.6188**	**0.6188**		**0.5693**	**0.5693**	**0.0000**	**998.3420**	**998.3420**	**0.3059**		**1,004.7657**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0666	0.6520	0.8707	1.7200e-003	0.0470	0.0104	0.0574	0.0136	9.5800e-003	0.0231		170.1202	170.1202	1.2500e-003		170.1465
Worker	0.0286	0.0400	0.4221	1.0200e-003	0.0824	6.4000e-004	0.0831	0.0220	5.9000e-004	0.0226		81.7492	81.7492	4.2600e-003		81.8386
Total	**0.0952**	**0.6921**	**1.2928**	**2.7400e-003**	**0.1294**	**0.0111**	**0.1405**	**0.0356**	**0.0102**	**0.0457**		**251.8695**	**251.8695**	**5.5100e-003**		**251.9851**

3.8 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490

Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1748	1.7116	2.2856	4.5200e-003	0.1320	0.0273	0.1593	0.0377	0.0251	0.0628		446.5656	446.5656	3.2800e-003		446.6346
Worker	0.3578	0.5004	5.2757	0.0128	1.1178	7.9900e-003	1.1258	0.2964	7.3700e-003	0.3038		1,021.8651	1,021.8651	0.0532		1,022.9820
Total	**0.5325**	**2.2120**	**7.5613**	**0.0173**	**1.2497**	**0.0353**	**1.2850**	**0.3341**	**0.0325**	**0.3666**		**1,468.4307**	**1,468.4307**	**0.0565**		**1,469.6166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1748	1.7116	2.2856	4.5200e-003	0.1233	0.0273	0.1507	0.0356	0.0251	0.0607		446.5656	446.5656	3.2800e-003		446.6346
Worker	0.3578	0.5004	5.2757	0.0128	1.0303	7.9900e-003	1.0383	0.2750	7.3700e-003	0.2823		1,021.8651	1,021.8651	0.0532		1,022.9820

Total	**0.5325**	**2.2120**	**7.5613**	**0.0173**	**1.1536**	**0.0353**	**1.1890**	**0.3105**	**0.0325**	**0.3430**		**1,468.4307**	**1,468.4307**	**0.0565**		**1,469.6166**

3.8 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1615	1.5684	2.1770	4.5200e-003	0.1319	0.0257	0.1576	0.0377	0.0237	0.0613		438.9146	438.9146	3.2700e-003		438.9832
Worker	0.3185	0.4513	4.7537	0.0128	1.1178	7.7900e-003	1.1256	0.2964	7.2100e-003	0.3037		983.1507	983.1507	0.0491		984.1822
Total	**0.4800**	**2.0196**	**6.9307**	**0.0173**	**1.2497**	**0.0335**	**1.2832**	**0.3341**	**0.0309**	**0.3650**		**1,422.0653**	**1,422.0653**	**0.0524**		**1,423.1653**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517

Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1615	1.5684	2.1770	4.5200e-003	0.1233	0.0257	0.1490	0.0356	0.0237	0.0592		438.9146	438.9146	3.2700e-003		438.9832
Worker	0.3185	0.4513	4.7537	0.0128	1.0303	7.7900e-003	1.0381	0.2750	7.2100e-003	0.2822		983.1507	983.1507	0.0491		984.1822
Total	**0.4800**	**2.0196**	**6.9307**	**0.0173**	**1.1536**	**0.0335**	**1.1871**	**0.3105**	**0.0309**	**0.3414**		**1,422.0653**	**1,422.0653**	**0.0524**		**1,423.1653**

3.8 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	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1532	1.4393	2.1172	4.4800e-003	0.1319	0.0247	0.1566	0.0377	0.0227	0.0603		428.8484	428.8484	3.1600e-003		428.9148

Worker	0.2895	0.4110	4.3044	0.0127	1.1178	7.6100e-003	1.1254	0.2964	7.0600e-003	0.3035		941.7858	941.7858	0.0453		942.7368
Total	**0.4427**	**1.8503**	**6.4216**	**0.0172**	**1.2497**	**0.0323**	**1.2819**	**0.3341**	**0.0297**	**0.3638**		**1,370.6342**	**1,370.6342**	**0.0485**		**1,371.6516**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1532	1.4393	2.1172	4.4800e-003	0.1233	0.0247	0.1479	0.0355	0.0227	0.0582		428.8484	428.8484	3.1600e-003		428.9148
Worker	0.2895	0.4110	4.3044	0.0127	1.0303	7.6100e-003	1.0379	0.2750	7.0600e-003	0.2820		941.7858	941.7858	0.0453		942.7368
Total	**0.4427**	**1.8503**	**6.4216**	**0.0172**	**1.1536**	**0.0323**	**1.1859**	**0.3105**	**0.0297**	**0.3402**		**1,370.6342**	**1,370.6342**	**0.0485**		**1,371.6516**

3.9 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**14.9282**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0637	0.0903	0.9508	2.5600e-003	0.2236	1.5600e-003	0.2251	0.0593	1.4400e-003	0.0607		196.6301	196.6301	9.8200e-003		196.8364
Total	**0.0637**	**0.0903**	**0.9508**	**2.5600e-003**	**0.2236**	**1.5600e-003**	**0.2251**	**0.0593**	**1.4400e-003**	**0.0607**		**196.6301**	**196.6301**	**9.8200e-003**		**196.8364**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**14.9282**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0637	0.0903	0.9508	2.5600e-003	0.2061	1.5600e-003	0.2076	0.0550	1.4400e-003	0.0564		196.6301	196.6301	9.8200e-003		196.8364
Total	**0.0637**	**0.0903**	**0.9508**	**2.5600e-003**	**0.2061**	**1.5600e-003**	**0.2076**	**0.0550**	**1.4400e-003**	**0.0564**		**196.6301**	**196.6301**	**9.8200e-003**		**196.8364**

3.9 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	14.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473
Total	**14.8960**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**281.9473**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0822	0.8609	2.5400e-003	0.2236	1.5200e-003	0.2251	0.0593	1.4100e-003	0.0607		188.3572	188.3572	9.0600e-003		188.5474
Total	**0.0579**	**0.0822**	**0.8609**	**2.5400e-003**	**0.2236**	**1.5200e-003**	**0.2251**	**0.0593**	**1.4100e-003**	**0.0607**		**188.3572**	**188.3572**	**9.0600e-003**		**188.5474**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		281.9473
Total	**14.8960**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**281.9473**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0822	0.8609	2.5400e-003	0.2061	1.5200e-003	0.2076	0.0550	1.4100e-003	0.0564		188.3572	188.3572	9.0600e-003		188.5474
Total	**0.0579**	**0.0822**	**0.8609**	**2.5400e-003**	**0.2061**	**1.5200e-003**	**0.2076**	**0.0550**	**1.4100e-003**	**0.0564**		**188.3572**	**188.3572**	**9.0600e-003**		**188.5474**

Sycamore Hills SP PA 3 - Construction

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.65	Acre	3.65	0.00	0
Other Non-Asphalt Surfaces	5.92	Acre	5.92	0.00	0
Parking Lot	0.37	Acre	0.37	15,920.00	0
Condo/Townhouse	83.00	Dwelling Unit	3.33	144,485.00	237
Single Family Housing	93.00	Dwelling Unit	3.33	178,531.00	266

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	9			**Operational Year**	2014
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based in information provided by Applicant.

Construction Phase - Based on information provided by Applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Placeholder only for hauling emissions.

Off-road Equipment - Based on information provided by Applicant.

Off-road Equipment - Based on information provided by Applicant.

Trips and VMT - Based on information provided by Applicant. Soil would be exported to adjacent PAs. 0.2 mile haul distance is average distance. Dump and water trucks assumes to generate 2 trips/truck.

Grading -

Architectural Coating - Based on SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Per SCAQMD Rules 403 and 1186.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	20.00	173.00
tblConstructionPhase	NumDays	300.00	523.00
tblConstructionPhase	NumDays	30.00	44.00
tblConstructionPhase	NumDays	30.00	14.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	PhaseEndDate	12/30/2019	5/1/2019
tblConstructionPhase	PhaseEndDate	4/3/2019	5/1/2019
tblConstructionPhase	PhaseEndDate	1/4/2017	11/3/2016
tblConstructionPhase	PhaseEndDate	3/16/2017	3/15/2017
tblConstructionPhase	PhaseEndDate	4/3/2017	3/31/2017
tblConstructionPhase	PhaseEndDate	10/14/2016	10/15/2016

tblConstructionPhase	PhaseEndDate	1/4/2017	3/2/2017
tblConstructionPhase	PhaseStartDate	5/2/2019	9/3/2018
tblConstructionPhase	PhaseStartDate	4/1/2017	5/1/2017
tblConstructionPhase	PhaseStartDate	10/16/2016	10/15/2016
tblConstructionPhase	PhaseStartDate	12/16/2016	10/15/2016
tblConstructionPhase	PhaseStartDate	3/3/2017	3/2/2017
tblConstructionPhase	PhaseStartDate	3/16/2017	3/15/2017
tblConstructionPhase	PhaseStartDate	11/4/2016	1/2/2017
tblGrading	MaterialExported	0.00	160,000.00
tblLandUse	LandUseSquareFeet	158,994.00	0.00
tblLandUse	LandUseSquareFeet	257,875.20	0.00
tblLandUse	LandUseSquareFeet	16,117.20	15,920.00
tblLandUse	LandUseSquareFeet	83,000.00	144,485.00
tblLandUse	LandUseSquareFeet	167,400.00	178,531.00
tblLandUse	LotAcreage	5.19	3.33
tblLandUse	LotAcreage	30.19	3.33
tblOffRoadEquipment	HorsePower	174.00	113.00
tblOffRoadEquipment	HorsePower	174.00	113.00
tblOffRoadEquipment	HorsePower	255.00	312.00
tblOffRoadEquipment	HorsePower	361.00	500.00
tblOffRoadEquipment	HorsePower	361.00	500.00
tblOffRoadEquipment	HorsePower	97.00	349.00
tblOffRoadEquipment	HorsePower	97.00	349.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	0.20
tblTripsAndVMT	HaulingTripNumber	20,000.00	16,000.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00

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	0.5251	5.8479	4.8080	5.0200e-003	0.5437	0.2457	0.7894	0.2045	0.2261	0.4306	0.0000	469.0376	469.0376	0.1341	0.0000	471.8530
2017	0.3702	3.0283	2.6463	4.4300e-003	0.1234	0.1869	0.3103	0.0309	0.1749	0.2059	0.0000	377.7820	377.7820	0.0705	0.0000	379.2634
2018	1.0532	3.3957	3.3440	6.0200e-003	0.1695	0.2059	0.3754	0.0454	0.1939	0.2392	0.0000	498.1668	498.1668	0.0832	0.0000	499.9147
2019	0.7712	1.0780	1.1519	2.1700e-003	0.0629	0.0630	0.1259	0.0168	0.0595	0.0763	0.0000	175.2460	175.2460	0.0280	0.0000	175.8337
Total	**2.7197**	**13.3499**	**11.9501**	**0.0176**	**0.8995**	**0.7015**	**1.6010**	**0.2976**	**0.6544**	**0.9521**	**0.0000**	**1,520.2323**	**1,520.2323**	**0.3158**	**0.0000**	**1,526.8647**

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	0.5251	5.8479	4.8080	5.0200e-003	0.2380	0.2457	0.4837	0.0890	0.2261	0.3150	0.0000	469.0371	469.0371	0.1341	0.0000	471.8525
2017	0.3702	3.0283	2.6463	4.4300e-003	0.1074	0.1869	0.2943	0.0280	0.1749	0.2030	0.0000	377.7817	377.7817	0.0705	0.0000	379.2630
2018	1.0532	3.3957	3.3440	6.0200e-003	0.1565	0.2059	0.3624	0.0422	0.1939	0.2360	0.0000	498.1664	498.1664	0.0832	0.0000	499.9143
2019	0.7712	1.0780	1.1519	2.1700e-003	0.0581	0.0630	0.1210	0.0156	0.0595	0.0751	0.0000	175.2459	175.2459	0.0280	0.0000	175.8335
Total	**2.7197**	**13.3499**	**11.9501**	**0.0176**	**0.5599**	**0.7015**	**1.2614**	**0.1748**	**0.6544**	**0.8292**	**0.0000**	**1,520.2310**	**1,520.2310**	**0.3158**	**0.0000**	**1,526.8634**

	ROG	NOx	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**	**37.75**	**0.00**	**21.21**	**41.28**	**0.00**	**12.91**	**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	Site Preparation	Site Preparation	10/1/2016	10/15/2016	5	10	
2	Rough Grading	Grading	10/15/2016	12/15/2016	5	44	
3	Rough Grading Haul	Grading	10/15/2016	11/3/2016	5	14	
4	Utility Trenching	Trenching	1/2/2017	3/2/2017	5	44	
5	Fine Grading	Grading	3/2/2017	3/15/2017	5	10	
6	Paving	Paving	3/15/2017	3/31/2017	5	13	
7	Building Construction	Building Construction	5/1/2017	5/1/2019	5	523	
8	Architectural Coating	Architectural Coating	9/3/2018	5/1/2019	5	173	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 654,107; Residential Outdoor: 218,036; Non-Residential Indoor: 716; Non-Residential Outdoor: 239 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	312	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	349	0.37
Rough Grading	Excavators	0	8.00	162	0.38
Rough Grading	Graders	1	8.00	113	0.41

Rough Grading	Rubber Tired Dozers	2	8.00	255	0.40
Rough Grading	Scrapers	8	8.00	500	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Rough Grading	Tractors/Loaders/Backhoes	1	8.00	349	0.37
Rough Grading Haul	Excavators	0	8.00	162	0.38
Rough Grading Haul	Graders	0	8.00	174	0.41
Rough Grading Haul	Rubber Tired Dozers	0	8.00	255	0.40
Rough Grading Haul	Scrapers	0	8.00	361	0.48
Rough Grading Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	162	0.38
Utility Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Excavators	0	8.00	162	0.38
Fine Grading	Graders	1	8.00	113	0.41
Fine Grading	Rubber Tired Dozers	0	8.00	255	0.40
Fine Grading	Scrapers	2	8.00	500	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Site Preparation	5	13.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	14	35.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Haul	0	0.00	0.00	16,000.00	14.70	6.90	0.20	LD_Mix	HDT_Mix	HHDT
Utility Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	5	13.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	100.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0602	0.0000	0.0602	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0218	0.2454	0.1728	2.0000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	18.4058	18.4058	5.5500e-003	0.0000	18.5224

Total	**0.0218**	**0.2454**	**0.1728**	**2.0000e-004**	**0.0602**	**0.0119**	**0.0721**	**0.0331**	**0.0109**	**0.0440**	**0.0000**	**18.4058**	**18.4058**	**5.5500e-003**	**0.0000**	**18.5224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	2.7400e-003	3.5000e-003	1.0000e-005	1.9000e-004	4.0000e-005	2.3000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.5913	0.5913	0.0000	0.0000	0.5914
Worker	2.5000e-004	3.8000e-004	3.9700e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6369	0.6369	3.0000e-005	0.0000	0.6377
Total	**5.2000e-004**	**3.1200e-003**	**7.4700e-003**	**2.0000e-005**	**9.0000e-004**	**5.0000e-005**	**9.5000e-004**	**2.4000e-004**	**4.0000e-005**	**2.8000e-004**	**0.0000**	**1.2283**	**1.2283**	**3.0000e-005**	**0.0000**	**1.2291**

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					0.0257	0.0000	0.0257	0.0142	0.0000	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0218	0.2454	0.1728	2.0000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	18.4058	18.4058	5.5500e-003	0.0000	18.5224
Total	**0.0218**	**0.2454**	**0.1728**	**2.0000e-004**	**0.0257**	**0.0119**	**0.0376**	**0.0142**	**0.0109**	**0.0251**	**0.0000**	**18.4058**	**18.4058**	**5.5500e-003**	**0.0000**	**18.5224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	2.7400e-003	3.5000e-003	1.0000e-005	1.7000e-004	4.0000e-005	2.2000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.5913	0.5913	0.0000	0.0000	0.5914
Worker	2.5000e-004	3.8000e-004	3.9700e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6369	0.6369	3.0000e-005	0.0000	0.6377

Total	**5.2000e-004**	**3.1200e-003**	**7.4700e-003**	**2.0000e-005**	**8.3000e-004**	**5.0000e-005**	**8.8000e-004**	**2.3000e-004**	**4.0000e-005**	**2.7000e-004**	**0.0000**	**1.2283**	**1.2283**	**3.0000e-005**	**0.0000**	**1.2291**

3.3 Rough Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4633	0.0000	0.4633	0.1671	0.0000	0.1671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4421	5.4018	3.4305	4.4900e-003		0.2329	0.2329		0.2143	0.2143	0.0000	423.1636	423.1636	0.1276	0.0000	425.8441
Total	**0.4421**	**5.4018**	**3.4305**	**4.4900e-003**	**0.4633**	**0.2329**	**0.6962**	**0.1671**	**0.2143**	**0.3813**	**0.0000**	**423.1636**	**423.1636**	**0.1276**	**0.0000**	**425.8441**

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	3.9000e-004	4.0200e-003	5.1400e-003	1.0000e-005	2.7000e-004	6.0000e-005	3.4000e-004	8.0000e-005	6.0000e-005	1.4000e-004	0.0000	0.8673	0.8673	1.0000e-005	0.0000	0.8674
Worker	2.9600e-003	4.4700e-003	0.0471	1.0000e-004	8.4400e-003	6.0000e-005	8.5100e-003	2.2400e-003	6.0000e-005	2.3000e-003	0.0000	7.5453	7.5453	4.1000e-004	0.0000	7.5538
Total	**3.3500e-003**	**8.4900e-003**	**0.0522**	**1.1000e-004**	**8.7100e-003**	**1.2000e-004**	**8.8500e-003**	**2.3200e-003**	**1.2000e-004**	**2.4400e-003**	**0.0000**	**8.4126**	**8.4126**	**4.2000e-004**	**0.0000**	**8.4212**

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					0.1981	0.0000	0.1981	0.0714	0.0000	0.0714	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4421	5.4018	3.4305	4.4900e-003		0.2329	0.2329		0.2143	0.2143	0.0000	423.1631	423.1631	0.1276	0.0000	425.8436

Total	**0.4421**	**5.4018**	**3.4305**	**4.4900e-003**	**0.1981**	**0.2329**	**0.4309**	**0.0714**	**0.2143**	**0.2857**	**0.0000**	**423.1631**	**423.1631**	**0.1276**	**0.0000**	**425.8436**

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	3.9000e-004	4.0200e-003	5.1400e-003	1.0000e-005	2.5000e-004	6.0000e-005	3.2000e-004	7.0000e-005	6.0000e-005	1.3000e-004	0.0000	0.8673	0.8673	1.0000e-005	0.0000	0.8674
Worker	2.9600e-003	4.4700e-003	0.0471	1.0000e-004	7.7800e-003	6.0000e-005	7.8500e-003	2.0800e-003	6.0000e-005	2.1400e-003	0.0000	7.5453	7.5453	4.1000e-004	0.0000	7.5538
Total	**3.3500e-003**	**8.4900e-003**	**0.0522**	**1.1000e-004**	**8.0300e-003**	**1.2000e-004**	**8.1700e-003**	**2.1500e-003**	**1.2000e-004**	**2.2700e-003**	**0.0000**	**8.4126**	**8.4126**	**4.2000e-004**	**0.0000**	**8.4212**

3.4 Rough Grading Haul - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0500e-003	0.0000	9.0500e-003	1.3700e-003	0.0000	1.3700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**9.0500e-003**	**0.0000**	**9.0500e-003**	**1.3700e-003**	**0.0000**	**1.3700e-003**	**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	0.0573	0.1892	1.1451	2.1000e-004	1.5400e-003	7.7000e-004	2.3000e-003	4.4000e-004	7.0000e-004	1.1400e-003	0.0000	17.8273	17.8273	4.3000e-004	0.0000	17.8362
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	**0.0573**	**0.1892**	**1.1451**	**2.1000e-004**	**1.5400e-003**	**7.7000e-004**	**2.3000e-003**	**4.4000e-004**	**7.0000e-004**	**1.1400e-003**	**0.0000**	**17.8273**	**17.8273**	**4.3000e-004**	**0.0000**	**17.8362**

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					3.8700e-003	0.0000	3.8700e-003	5.9000e-004	0.0000	5.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.8700e-003**	**0.0000**	**3.8700e-003**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**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	0.0573	0.1892	1.1451	2.1000e-004	1.4400e-003	7.7000e-004	2.2100e-003	4.1000e-004	7.0000e-004	1.1200e-003	0.0000	17.8273	17.8273	4.3000e-004	0.0000	17.8362
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	**0.0573**	**0.1892**	**1.1451**	**2.1000e-004**	**1.4400e-003**	**7.7000e-004**	**2.2100e-003**	**4.1000e-004**	**7.0000e-004**	**1.1200e-003**	**0.0000**	**17.8273**	**17.8273**	**4.3000e-004**	**0.0000**	**17.8362**

3.5 Utility Trenching - 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	0.0149	0.1553	0.1279	1.8000e-004		9.3800e-003	9.3800e-003		8.6300e-003	8.6300e-003	0.0000	17.1545	17.1545	5.2600e-003	0.0000	17.2649
Total	**0.0149**	**0.1553**	**0.1279**	**1.8000e-004**		**9.3800e-003**	**9.3800e-003**		**8.6300e-003**	**8.6300e-003**	**0.0000**	**17.1545**	**17.1545**	**5.2600e-003**	**0.0000**	**17.2649**

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	3.7000e-004	5.7000e-004	6.0200e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0355	1.0355	5.0000e-005	0.0000	1.0366
Total	**3.7000e-004**	**5.7000e-004**	**6.0200e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0355**	**1.0355**	**5.0000e-005**	**0.0000**	**1.0366**

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	0.0149	0.1553	0.1279	1.8000e-004		9.3800e-003	9.3800e-003		8.6300e-003	8.6300e-003	0.0000	17.1545	17.1545	5.2600e-003	0.0000	17.2649
Total	**0.0149**	**0.1553**	**0.1279**	**1.8000e-004**		**9.3800e-003**	**9.3800e-003**		**8.6300e-003**	**8.6300e-003**	**0.0000**	**17.1545**	**17.1545**	**5.2600e-003**	**0.0000**	**17.2649**

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	3.7000e-004	5.7000e-004	6.0200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0355	1.0355	5.0000e-005	0.0000	1.0366
Total	**3.7000e-004**	**5.7000e-004**	**6.0200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**1.0355**	**1.0355**	**5.0000e-005**	**0.0000**	**1.0366**

3.6 Fine Grading - 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					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2940	0.1848	2.6000e-004		0.0145	0.0145		0.0133	0.0133	0.0000	23.8661	23.8661	7.3100e-003	0.0000	24.0196
Total	**0.0259**	**0.2940**	**0.1848**	**2.6000e-004**	**0.0133**	**0.0145**	**0.0277**	**1.4300e-003**	**0.0133**	**0.0147**	**0.0000**	**23.8661**	**23.8661**	**7.3100e-003**	**0.0000**	**24.0196**

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	8.0000e-005	8.3000e-004	1.1100e-003	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1939	0.1939	0.0000	0.0000	0.1939
Worker	2.2000e-004	3.4000e-004	3.5600e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6119	0.6119	3.0000e-005	0.0000	0.6125
Total	**3.0000e-004**	**1.1700e-003**	**4.6700e-003**	**1.0000e-005**	**7.7000e-004**	**2.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.8058**	**0.8058**	**3.0000e-005**	**0.0000**	**0.8064**

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					5.6700e-003	0.0000	5.6700e-003	6.1000e-004	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2940	0.1848	2.6000e-004		0.0145	0.0145		0.0133	0.0133	0.0000	23.8661	23.8661	7.3100e-003	0.0000	24.0196
Total	**0.0259**	**0.2940**	**0.1848**	**2.6000e-004**	**5.6700e-003**	**0.0145**	**0.0201**	**6.1000e-004**	**0.0133**	**0.0139**	**0.0000**	**23.8661**	**23.8661**	**7.3100e-003**	**0.0000**	**24.0196**

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	8.0000e-005	8.3000e-004	1.1100e-003	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1939	0.1939	0.0000	0.0000	0.1939
Worker	2.2000e-004	3.4000e-004	3.5600e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6119	0.6119	3.0000e-005	0.0000	0.6125
Total	**3.0000e-004**	**1.1700e-003**	**4.6700e-003**	**1.0000e-005**	**7.2000e-004**	**2.0000e-005**	**7.3000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.8058**	**0.8058**	**3.0000e-005**	**0.0000**	**0.8064**

3.7 Paving - 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	6.3800e-003	0.0639	0.0443	6.0000e-005		4.0200e-003	4.0200e-003		3.7000e-003	3.7000e-003	0.0000	5.8869	5.8869	1.8000e-003	0.0000	5.9248
Paving	5.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0117**	**0.0639**	**0.0443**	**6.0000e-005**		**4.0200e-003**	**4.0200e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**5.8869**	**5.8869**	**1.8000e-003**	**0.0000**	**5.9248**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	4.3200e-003	5.7900e-003	1.0000e-005	3.2000e-004	7.0000e-005	3.9000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	1.0081	1.0081	1.0000e-005	0.0000	1.0082
Worker	1.8000e-004	2.7000e-004	2.8500e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4895	0.4895	3.0000e-005	0.0000	0.4900
Total	**6.1000e-004**	**4.5900e-003**	**8.6400e-003**	**2.0000e-005**	**8.9000e-004**	**7.0000e-005**	**9.6000e-004**	**2.4000e-004**	**6.0000e-005**	**3.1000e-004**	**0.0000**	**1.4976**	**1.4976**	**4.0000e-005**	**0.0000**	**1.4983**

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	6.3800e-003	0.0639	0.0443	6.0000e-005		4.0200e-003	4.0200e-003		3.7000e-003	3.7000e-003	0.0000	5.8869	5.8869	1.8000e-003	0.0000	5.9248
Paving	5.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0117**	**0.0639**	**0.0443**	**6.0000e-005**		**4.0200e-003**	**4.0200e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**5.8869**	**5.8869**	**1.8000e-003**	**0.0000**	**5.9248**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	4.3200e-003	5.7900e-003	1.0000e-005	3.0000e-004	7.0000e-005	3.7000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	1.0081	1.0081	1.0000e-005	0.0000	1.0082
Worker	1.8000e-004	2.7000e-004	2.8500e-003	1.0000e-005	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4895	0.4895	3.0000e-005	0.0000	0.4900
Total	**6.1000e-004**	**4.5900e-003**	**8.6400e-003**	**2.0000e-005**	**8.3000e-004**	**7.0000e-005**	**9.0000e-004**	**2.3000e-004**	**6.0000e-005**	**2.9000e-004**	**0.0000**	**1.4976**	**1.4976**	**4.0000e-005**	**0.0000**	**1.4983**

3.8 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2715	2.3105	1.5863	2.3500e-003		0.1559	0.1559		0.1464	0.1464	0.0000	209.5442	209.5442	0.0516	0.0000	210.6272
Total	**0.2715**	**2.3105**	**1.5863**	**2.3500e-003**		**0.1559**	**0.1559**		**0.1464**	**0.1464**	**0.0000**	**209.5442**	**209.5442**	**0.0516**	**0.0000**	**210.6272**

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	0.0152	0.1527	0.2047	4.0000e-004	0.0114	2.3800e-003	0.0137	3.2500e-003	2.1900e-003	5.4400e-003	0.0000	35.6221	35.6221	2.6000e-004	0.0000	35.6275
Worker	0.0298	0.0455	0.4788	1.1400e-003	0.0959	7.0000e-004	0.0966	0.0255	6.4000e-004	0.0261	0.0000	82.3693	82.3693	4.2200e-003	0.0000	82.4580
Total	**0.0450**	**0.1982**	**0.6836**	**1.5400e-003**	**0.1073**	**3.0800e-003**	**0.1104**	**0.0287**	**2.8300e-003**	**0.0316**	**0.0000**	**117.9914**	**117.9914**	**4.4800e-003**	**0.0000**	**118.0855**

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	0.2715	2.3105	1.5863	2.3500e-003		0.1559	0.1559		0.1464	0.1464	0.0000	209.5440	209.5440	0.0516	0.0000	210.6270
Total	**0.2715**	**2.3105**	**1.5863**	**2.3500e-003**		**0.1559**	**0.1559**		**0.1464**	**0.1464**	**0.0000**	**209.5440**	**209.5440**	**0.0516**	**0.0000**	**210.6270**

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	0.0152	0.1527	0.2047	4.0000e-004	0.0106	2.3800e-003	0.0130	3.0700e-003	2.1900e-003	5.2600e-003	0.0000	35.6221	35.6221	2.6000e-004	0.0000	35.6275
Worker	0.0298	0.0455	0.4788	1.1400e-003	0.0885	7.0000e-004	0.0892	0.0236	6.4000e-004	0.0243	0.0000	82.3693	82.3693	4.2200e-003	0.0000	82.4580
Total	**0.0450**	**0.1982**	**0.6836**	**1.5400e-003**	**0.0991**	**3.0800e-003**	**0.1022**	**0.0267**	**2.8300e-003**	**0.0296**	**0.0000**	**117.9914**	**117.9914**	**4.4800e-003**	**0.0000**	**118.0855**

3.8 Building Construction - 2018

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9844	308.9844	0.0756	0.0000	310.5723
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9844**	**308.9844**	**0.0756**	**0.0000**	**310.5723**

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	0.0209	0.2086	0.2905	5.9000e-004	0.0169	3.3400e-003	0.0203	4.8500e-003	3.0700e-003	7.9200e-003	0.0000	52.2183	52.2183	3.8000e-004	0.0000	52.2262
Worker	0.0394	0.0613	0.6434	1.6900e-003	0.1431	1.0200e-003	0.1441	0.0380	9.4000e-004	0.0389	0.0000	118.1959	118.1959	5.8100e-003	0.0000	118.3180
Total	**0.0604**	**0.2699**	**0.9338**	**2.2800e-003**	**0.1600**	**4.3600e-003**	**0.1644**	**0.0429**	**4.0100e-003**	**0.0469**	**0.0000**	**170.4142**	**170.4142**	**6.1900e-003**	**0.0000**	**170.5443**

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9841	308.9841	0.0756	0.0000	310.5720
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9841**	**308.9841**	**0.0756**	**0.0000**	**310.5720**

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	0.0209	0.2086	0.2905	5.9000e-004	0.0158	3.3400e-003	0.0192	4.5800e-003	3.0700e-003	7.6500e-003	0.0000	52.2183	52.2183	3.8000e-004	0.0000	52.2262
Worker	0.0394	0.0613	0.6434	1.6900e-003	0.1319	1.0200e-003	0.1329	0.0353	9.4000e-004	0.0362	0.0000	118.1959	118.1959	5.8100e-003	0.0000	118.3180
Total	**0.0604**	**0.2699**	**0.9338**	**2.2800e-003**	**0.1478**	**4.3600e-003**	**0.1521**	**0.0398**	**4.0100e-003**	**0.0439**	**0.0000**	**170.4142**	**170.4142**	**6.1900e-003**	**0.0000**	**170.5443**

3.8 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	0.1023	0.9120	0.7447	1.1700e-003		0.0559	0.0559		0.0526	0.0526	0.0000	101.8434	101.8434	0.0248	0.0000	102.3638
Total	**0.1023**	**0.9120**	**0.7447**	**1.1700e-003**		**0.0559**	**0.0559**		**0.0526**	**0.0526**	**0.0000**	**101.8434**	**101.8434**	**0.0248**	**0.0000**	**102.3638**

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	6.6100e-003	0.0638	0.0941	2.0000e-004	5.6500e-003	1.0700e-003	6.7100e-003	1.6200e-003	9.8000e-004	2.6000e-003	0.0000	17.0076	17.0076	1.2000e-004	0.0000	17.0101
Worker	0.0119	0.0186	0.1942	5.6000e-004	0.0477	3.3000e-004	0.0480	0.0127	3.1000e-004	0.0130	0.0000	37.7403	37.7403	1.7900e-003	0.0000	37.7778
Total	**0.0185**	**0.0824**	**0.2882**	**7.6000e-004**	**0.0534**	**1.4000e-003**	**0.0547**	**0.0143**	**1.2900e-003**	**0.0156**	**0.0000**	**54.7479**	**54.7479**	**1.9100e-003**	**0.0000**	**54.7880**

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	0.1023	0.9120	0.7447	1.1700e-003		0.0559	0.0559		0.0526	0.0526	0.0000	101.8433	101.8433	0.0248	0.0000	102.3636
Total	**0.1023**	**0.9120**	**0.7447**	**1.1700e-003**		**0.0559**	**0.0559**		**0.0526**	**0.0526**	**0.0000**	**101.8433**	**101.8433**	**0.0248**	**0.0000**	**102.3636**

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	6.6100e-003	0.0638	0.0941	2.0000e-004	5.2800e-003	1.0700e-003	6.3500e-003	1.5300e-003	9.8000e-004	2.5100e-003	0.0000	17.0076	17.0076	1.2000e-004	0.0000	17.0101
Worker	0.0119	0.0186	0.1942	5.6000e-004	0.0440	3.3000e-004	0.0443	0.0118	3.1000e-004	0.0121	0.0000	37.7403	37.7403	1.7900e-003	0.0000	37.7778
Total	**0.0185**	**0.0824**	**0.2882**	**7.6000e-004**	**0.0493**	**1.4000e-003**	**0.0507**	**0.0133**	**1.2900e-003**	**0.0146**	**0.0000**	**54.7479**	**54.7479**	**1.9100e-003**	**0.0000**	**54.7880**

3.9 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6291					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.0863	0.0797	1.3000e-004		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	10.9790	10.9790	1.0400e-003	0.0000	11.0009

Total	**0.6419**	**0.0863**	**0.0797**	**1.3000e-004**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**10.9790**	**10.9790**	**1.0400e-003**	**0.0000**	**11.0009**

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	2.6000e-003	4.0400e-003	0.0424	1.1000e-004	9.4300e-003	7.0000e-005	9.5000e-003	2.5000e-003	6.0000e-005	2.5700e-003	0.0000	7.7892	7.7892	3.8000e-004	0.0000	7.7972
Total	**2.6000e-003**	**4.0400e-003**	**0.0424**	**1.1000e-004**	**9.4300e-003**	**7.0000e-005**	**9.5000e-003**	**2.5000e-003**	**6.0000e-005**	**2.5700e-003**	**0.0000**	**7.7892**	**7.7892**	**3.8000e-004**	**0.0000**	**7.7972**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6291					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.0863	0.0797	1.3000e-004		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	10.9790	10.9790	1.0400e-003	0.0000	11.0009
Total	**0.6419**	**0.0863**	**0.0797**	**1.3000e-004**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**10.9790**	**10.9790**	**1.0400e-003**	**0.0000**	**11.0009**

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	2.6000e-003	4.0400e-003	0.0424	1.1000e-004	8.6900e-003	7.0000e-005	8.7600e-003	2.3200e-003	6.0000e-005	2.3900e-003	0.0000	7.7892	7.7892	3.8000e-004	0.0000	7.7972
Total	**2.6000e-003**	**4.0400e-003**	**0.0424**	**1.1000e-004**	**8.6900e-003**	**7.0000e-005**	**8.7600e-003**	**2.3200e-003**	**6.0000e-005**	**2.3900e-003**	**0.0000**	**7.7892**	**7.7892**	**3.8000e-004**	**0.0000**	**7.7972**

3.9 Architectural Coating - 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					
Archit. Coating	0.6364					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0116	0.0798	0.0801	1.3000e-004		5.6000e-003	5.6000e-003		5.6000e-003	5.6000e-003	0.0000	11.1067	11.1067	9.4000e-004	0.0000	11.1264
Total	**0.6480**	**0.0798**	**0.0801**	**1.3000e-004**		**5.6000e-003**	**5.6000e-003**		**5.6000e-003**	**5.6000e-003**	**0.0000**	**11.1067**	**11.1067**	**9.4000e-004**	**0.0000**	**11.1264**

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	2.3900e-003	3.7200e-003	0.0388	1.1000e-004	9.5400e-003	7.0000e-005	9.6100e-003	2.5300e-003	6.0000e-005	2.5900e-003	0.0000	7.5481	7.5481	3.6000e-004	0.0000	7.5556
Total	**2.3900e-003**	**3.7200e-003**	**0.0388**	**1.1000e-004**	**9.5400e-003**	**7.0000e-005**	**9.6100e-003**	**2.5300e-003**	**6.0000e-005**	**2.5900e-003**	**0.0000**	**7.5481**	**7.5481**	**3.6000e-004**	**0.0000**	**7.5556**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6364					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0116	0.0798	0.0801	1.3000e-004		5.6000e-003	5.6000e-003		5.6000e-003	5.6000e-003	0.0000	11.1066	11.1066	9.4000e-004	0.0000	11.1263
Total	**0.6480**	**0.0798**	**0.0801**	**1.3000e-004**		**5.6000e-003**	**5.6000e-003**		**5.6000e-003**	**5.6000e-003**	**0.0000**	**11.1066**	**11.1066**	**9.4000e-004**	**0.0000**	**11.1263**

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	2.3900e-003	3.7200e-003	0.0388	1.1000e-004	8.8000e-003	7.0000e-005	8.8600e-003	2.3500e-003	6.0000e-005	2.4100e-003	0.0000	7.5481	7.5481	3.6000e-004	0.0000	7.5556
Total	**2.3900e-003**	**3.7200e-003**	**0.0388**	**1.1000e-004**	**8.8000e-003**	**7.0000e-005**	**8.8600e-003**	**2.3500e-003**	**6.0000e-005**	**2.4100e-003**	**0.0000**	**7.5481**	**7.5481**	**3.6000e-004**	**0.0000**	**7.5556**

Sycamore Hills SP PA 3 - Construction

San Bernardino-South Coast County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rough Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rough Grading Haul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility Trenching	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	1	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	2	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	0	No Change	0.00

Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Scrapers	Diesel	No Change	0	10	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	12	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.44300E-002	1.66090E-001	1.59830E-001	2.60000E-004	1.20800E-002	1.20800E-002	0.00000E+000	2.20857E+001	2.20857E+001	1.98000E-003	0.00000E+000	2.21273E+001
Cranes	1.32140E-001	1.57468E+000	5.78150E-001	1.29000E-003	6.87200E-002	6.32200E-002	0.00000E+000	1.18231E+002	1.18231E+002	3.67100E-002	0.00000E+000	1.19002E+002
Excavators	7.97000E-003	8.83700E-002	7.52600E-002	1.20000E-004	4.35000E-003	4.00000E-003	0.00000E+000	1.08025E+001	1.08025E+001	3.31000E-003	0.00000E+000	1.08720E+001
Forklifts	1.45990E-001	1.28224E+000	9.57930E-001	1.20000E-003	1.03190E-001	9.49300E-002	0.00000E+000	1.09744E+002	1.09744E+002	3.40700E-002	0.00000E+000	1.10460E+002
Generator Sets	1.35150E-001	1.09175E+000	9.81150E-001	1.72000E-003	7.03000E-002	7.03000E-002	0.00000E+000	1.47802E+002	1.47802E+002	1.08800E-002	0.00000E+000	1.48030E+002
Graders	2.62000E-002	2.06800E-001	1.06470E-001	1.10000E-004	1.71200E-002	1.57500E-002	0.00000E+000	1.00437E+001	1.00437E+001	3.04000E-003	0.00000E+000	1.01075E+001
Pavers	2.34000E-003	2.62000E-002	1.84300E-002	3.00000E-005	1.29000E-003	1.19000E-003	0.00000E+000	2.72436E+000	2.72436E+000	8.30000E-004	0.00000E+000	2.74189E+000
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	4.04000E-003	3.77200E-002	2.58800E-002	3.00000E-005	2.73000E-003	2.51000E-003	0.00000E+000	3.16256E+000	3.16256E+000	9.70000E-004	0.00000E+000	3.18291E+000
Rubber Tired Dozers	6.96300E-002	7.80020E-001	5.89620E-001	5.00000E-004	3.62900E-002	3.33900E-002	0.00000E+000	4.71096E+001	4.71096E+001	1.42100E-002	0.00000E+000	4.74080E+001
Scrapers	3.54990E-001	4.51527E+000	2.82792E+000	3.84000E-003	1.81950E-001	1.67400E-001	0.00000E+000	3.61353E+002	3.61353E+002	1.09090E-001	0.00000E+000	3.63643E+002
Tractors/Loaders/Backhoes	2.36490E-001	2.37290E+000	1.92998E+000	2.70000E-003	1.63130E-001	1.50080E-001	0.00000E+000	2.48657E+002	2.48657E+002	7.67700E-002	0.00000E+000	2.50269E+002
Welders	1.18230E-001	4.42460E-001	4.88570E-001	6.70000E-004	3.03300E-002	3.03300E-002	0.00000E+000	4.92197E+001	4.92197E+001	9.64000E-003	0.00000E+000	4.94222E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	2.44300E-002	1.66090E-001	1.59830E-001	2.60000E-004	1.20800E-002	1.20800E-002	0.00000E+000	2.20856E+001	2.20856E+001	1.98000E-003	0.00000E+000	2.21273E+001
Cranes	1.32140E-001	1.57468E+000	5.78150E-001	1.29000E-003	6.87200E-002	6.32200E-002	0.00000E+000	1.18231E+002	1.18231E+002	3.67100E-002	0.00000E+000	1.19002E+002
Excavators	7.97000E-003	8.83700E-002	7.52600E-002	1.20000E-004	4.35000E-003	4.00000E-003	0.00000E+000	1.08025E+001	1.08025E+001	3.31000E-003	0.00000E+000	1.08720E+001
Forklifts	1.45990E-001	1.28224E+000	9.57930E-001	1.20000E-003	1.03190E-001	9.49300E-002	0.00000E+000	1.09744E+002	1.09744E+002	3.40700E-002	0.00000E+000	1.10459E+002
Generator Sets	1.35150E-001	1.09175E+000	9.81150E-001	1.72000E-003	7.03000E-002	7.03000E-002	0.00000E+000	1.47802E+002	1.47802E+002	1.08800E-002	0.00000E+000	1.48030E+002

Graders	2.62000E-002	2.06800E-001	1.06470E-001	1.10000E-004	1.71200E-002	1.57500E-002	0.00000E+000	1.00437E+001	1.00437E+001	3.04000E-003	0.00000E+000	1.01075E+001
Pavers	2.34000E-003	2.62000E-002	1.84300E-002	3.00000E-005	1.29000E-003	1.19000E-003	0.00000E+000	2.72436E+000	2.72436E+000	8.30000E-004	0.00000E+000	2.74189E+000
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	4.04000E-003	3.77200E-002	2.58800E-002	3.00000E-005	2.73000E-003	2.51000E-003	0.00000E+000	3.16256E+000	3.16256E+000	9.70000E-004	0.00000E+000	3.18291E+000
Rubber Tired Dozers	6.96300E-002	7.80020E-001	5.89620E-001	5.00000E-004	3.62900E-002	3.33900E-002	0.00000E+000	4.71096E+001	4.71096E+001	1.42100E-002	0.00000E+000	4.74080E+001
Scrapers	3.54990E-001	4.51526E+000	2.82791E+000	3.84000E-003	1.81950E-001	1.67400E-001	0.00000E+000	3.61352E+002	3.61352E+002	1.09090E-001	0.00000E+000	3.63643E+002
Tractors/Loaders/Backhoes	2.36490E-001	2.37290E+000	1.92998E+000	2.70000E-003	1.63130E-001	1.50080E-001	0.00000E+000	2.48656E+002	2.48656E+002	7.67700E-002	0.00000E+000	2.50269E+002
Welders	1.18230E-001	4.42460E-001	4.88570E-001	6.70000E-004	3.03300E-002	3.03300E-002	0.00000E+000	4.92196E+001	4.92196E+001	9.64000E-003	0.00000E+000	4.94222E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.05565E-007	9.05565E-007	0.00000E+000	0.00000E+000	9.03862E-007
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18412E-006	1.18412E-006	0.00000E+000	0.00000E+000	1.17645E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.85142E-006	1.85142E-006	0.00000E+000	0.00000E+000	9.19791E-007
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18458E-006	1.18458E-006	0.00000E+000	0.00000E+000	1.17690E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21785E-006	1.21785E-006	0.00000E+000	0.00000E+000	1.21597E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.95648E-007	9.95648E-007	0.00000E+000	0.00000E+000	9.89363E-007
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.27362E-006	1.27362E-006	0.00000E+000	0.00000E+000	1.05467E-006
Scrapers	0.00000E+000	2.21471E-006	3.53617E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18997E-006	1.18997E-006	0.00000E+000	0.00000E+000	1.20998E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20648E-006	1.20648E-006	0.00000E+000	0.00000E+000	1.19871E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.01585E-006	1.01585E-006	0.00000E+000	0.00000E+000	1.21403E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Replace Ground Cover of Area Disturbed	PM10 Reduction	5.00	PM2.5 Reduction	5.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	9.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.02	0.01	0.02	0.00	0.08	0.07
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.32	0.09	0.30	0.08	0.08	0.07
Fine Grading	Fugitive Dust	0.01	0.00	0.01	0.00	0.57	0.57
Fine Grading	Roads	0.00	0.00	0.00	0.00	0.06	0.05
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.07	0.04
Rough Grading	Fugitive Dust	0.46	0.17	0.20	0.07	0.57	0.57
Rough Grading	Roads	0.01	0.00	0.01	0.00	0.08	0.07
Rough Grading Haul	Fugitive Dust	0.01	0.00	0.00	0.00	0.57	0.57
Rough Grading Haul	Roads	0.00	0.00	0.00	0.00	0.06	0.07
Site Preparation	Fugitive Dust	0.06	0.03	0.03	0.01	0.57	0.57
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.08	0.04
Utility Trenching	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Utility Trenching	Roads	0.00	0.00	0.00	0.00	0.08	0.06

Operation

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.65	Acre	3.65	0.00	0
Other Non-Asphalt Surfaces	5.92	Acre	5.92	0.00	0
Parking Lot	15.92	1000sqft	0.37	15,920.00	0
Condo/Townhouse	83.00	Dwelling Unit	3.33	144,485.00	237
Single Family Housing	93.00	Dwelling Unit	3.33	178,531.00	266

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on information provided.

Construction Phase -

Vehicle Trips - Based on information provided by David Evans and Associates and rates from the 9th Edition ITE Handbook.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices).

Area Coating - Change Non-Residential Interior VOC content from 250 g/L to 100 g/L per SCAQMD Rule 1113.

Area Mitigation - Change Non-Residential Interior VOC content from 250 g/L to 100 g/L per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Water And Wastewater - Based on information compiled by PlaceWorks.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblFireplaces	NumberGas	70.55	83.00
tblFireplaces	NumberGas	79.05	93.00
tblFireplaces	NumberNoFireplace	8.30	0.00
tblFireplaces	NumberNoFireplace	9.30	0.00
tblFireplaces	NumberWood	4.15	0.00
tblFireplaces	NumberWood	4.65	0.00
tblLandUse	LandUseSquareFeet	158,994.00	0.00
tblLandUse	LandUseSquareFeet	257,875.20	0.00
tblLandUse	LandUseSquareFeet	83,000.00	144,485.00
tblLandUse	LandUseSquareFeet	167,400.00	178,531.00
tblLandUse	LotAcreage	5.19	3.33
tblLandUse	LotAcreage	30.19	3.33
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.00

tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MHD	0.02	1.9410e-003

tblVehicleEF	MHD	0.02	1.9410e-003
tblVehicleEF	MHD	0.02	1.9410e-003
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleTrips	ST_TR	7.16	4.54
tblVehicleTrips	ST_TR	10.08	7.93
tblVehicleTrips	SU_TR	6.07	3.87
tblVehicleTrips	SU_TR	8.77	6.90
tblVehicleTrips	WD_TR	6.59	4.65
tblVehicleTrips	WD_TR	9.57	7.61
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	5,407,784.13	3,864,202.56
tblWater	IndoorWaterUseRate	6,059,324.38	4,329,769.14
tblWater	OutdoorWaterUseRate	3,409,255.21	2,851,105.18
tblWater	OutdoorWaterUseRate	3,820,008.85	3,194,611.82
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWoodstoves	NumberCatalytic	4.15	0.00
tblWoodstoves	NumberCatalytic	4.65	0.00
tblWoodstoves	NumberNoncatalytic	4.15	0.00
tblWoodstoves	NumberNoncatalytic	4.65	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.1943	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311
Energy	0.1433	1.2247	0.5212	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.4432	1,563.4432	0.0300	0.0287	1,572.9581
Mobile	3.0073	2.9650	35.7573	0.0993	8.0192	0.0550	8.0742	2.1268	0.0510	2.1778		7,366.9289	7,366.9289	0.2924		7,373.0696
Total	**11.3449**	**4.3588**	**50.8919**	**0.1079**	**8.0192**	**0.4700**	**8.4893**	**2.1268**	**0.4635**	**2.5904**	**0.0000**	**12,683.5817**	**12,683.5817**	**0.4195**	**0.0970**	**12,722.4588**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.1929	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311
Energy	0.1134	0.9689	0.4123	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.9092	1,236.9092	0.0237	0.0227	1,244.4369
Mobile	3.0073	2.9650	35.7573	0.0993	8.0192	0.0550	8.0742	2.1268	0.0510	2.1778		7,366.928	7,366.928	0.2924		7,373.069
Total	**11.3136**	**4.1030**	**50.7830**	**0.1063**	**8.0192**	**0.4494**	**8.4686**	**2.1268**	**0.4428**	**2.5697**	**0.0000**	**12,357.0478**	**12,357.0478**	**0.4132**	**0.0910**	**12,393.9376**

	ROG	NOx	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	**0.28**	**5.87**	**0.21**	**1.52**	**0.00**	**4.40**	**0.24**	**0.00**	**4.46**	**0.80**	**0.00**	**2.57**	**2.57**	**1.49**	**6.17**	**2.58**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0073	2.9650	35.7573	0.0993	8.0192	0.0550	8.0742	2.1268	0.0510	2.1778		7,366.928	7,366.928	0.2924		7,373.069
Unmitigated	3.0073	2.9650	35.7573	0.0993	8.0192	0.0550	8.0742	2.1268	0.0510	2.1778		7,366.928	7,366.928	0.2924		7,373.069

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	385.95	376.82	321.21	1,282,789	1,282,789
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	707.73	737.49	641.70	2,400,715	2,400,715
Total	1,093.68	1,114.31	962.91	3,683,504	3,683,504

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH

0.638729	0.088871	0.235620	0.020000	0.006647	0.001065	0.001941	0.000000	0.000000	0.000000	0.006780	0.000000	0.000347

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1134	0.9689	0.4123	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.9092	1,236.9092	0.0237	0.0227	1,244.4369
NaturalGas Unmitigated	0.1433	1.2247	0.5212	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.4432	1,563.4432	0.0300	0.0287	1,572.9581

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Single Family Housing	8603.63	0.0928	0.7929	0.3374	5.0600e-003		0.0641	0.0641		0.0641	0.0641		1,012.1913	1,012.1913	0.0194	0.0186	1,018.3513
Condo/Townhouse	4685.64	0.0505	0.4318	0.1838	2.7600e-003		0.0349	0.0349		0.0349	0.0349		551.2519	551.2519	0.0106	0.0101	554.6067
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1433**	**1.2247**	**0.5212**	**7.8200e-003**		**0.0990**	**0.0990**		**0.0990**	**0.0990**		**1,563.4432**	**1,563.4432**	**0.0300**	**0.0287**	**1,572.9581**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Single Family Housing	6.83174	0.0737	0.6296	0.2679	4.0200e-003		0.0509	0.0509		0.0509	0.0509		803.7336	803.7336	0.0154	0.0147	808.6250
Condo/Townhouse	3.68199	0.0397	0.3393	0.1444	2.1700e-003		0.0274	0.0274		0.0274	0.0274		433.1757	433.1757	8.3000e-003	7.9400e-003	435.8119
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1134**	**0.9689**	**0.4123**	**6.1900e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.9092**	**1,236.9092**	**0.0237**	**0.0227**	**1,244.4369**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.1929	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311
Unmitigated	8.1943	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3417	2.0000e-005	0.0186	0.0000		0.2361	0.2361		0.2336	0.2336	0.0000	3,727.0588	3,727.0588	0.0714	0.0683	3,749.7411
Landscaping	0.4469	0.1690	14.5948	7.7000e-004		0.0800	0.0800		0.0800	0.0800		26.1508	26.1508	0.0257		26.6900
Total	**8.1943**	**0.1691**	**14.6134**	**7.7000e-004**		**0.3160**	**0.3160**		**0.3135**	**0.3135**	**0.0000**	**3,753.2096**	**3,753.2096**	**0.0971**	**0.0683**	**3,776.4311**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6934					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3417	2.0000e-005	0.0186	0.0000		0.2361	0.2361		0.2336	0.2336	0.0000	3,727.0588	3,727.0588	0.0714	0.0683	3,749.7411
Landscaping	0.4469	0.1690	14.5948	7.7000e-004		0.0800	0.0800		0.0800	0.0800		26.1508	26.1508	0.0257		26.6900
Total	**8.1929**	**0.1691**	**14.6134**	**7.7000e-004**		**0.3160**	**0.3160**		**0.3135**	**0.3135**	**0.0000**	**3,753.2096**	**3,753.2096**	**0.0971**	**0.0683**	**3,776.4311**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Operation

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.65	Acre	3.65	0.00	0
Other Non-Asphalt Surfaces	5.92	Acre	5.92	0.00	0
Parking Lot	15.92	1000sqft	0.37	15,920.00	0
Condo/Townhouse	83.00	Dwelling Unit	3.33	144,485.00	237
Single Family Housing	93.00	Dwelling Unit	3.33	178,531.00	266

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on information provided.

Construction Phase -

Vehicle Trips - Based on information provided by David Evans and Associates and rates from the 9th Edition ITE Handbook.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices).

Area Coating - Change Non-Residential Interior VOC content from 250 g/L to 100 g/L per SCAQMD Rule 1113.

Area Mitigation - Change Non-Residential Interior VOC content from 250 g/L to 100 g/L per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Water And Wastewater - Based on information compiled by PlaceWorks.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblFireplaces	NumberGas	70.55	83.00
tblFireplaces	NumberGas	79.05	93.00
tblFireplaces	NumberNoFireplace	8.30	0.00
tblFireplaces	NumberNoFireplace	9.30	0.00
tblFireplaces	NumberWood	4.15	0.00
tblFireplaces	NumberWood	4.65	0.00
tblLandUse	LandUseSquareFeet	158,994.00	0.00
tblLandUse	LandUseSquareFeet	257,875.20	0.00
tblLandUse	LandUseSquareFeet	83,000.00	144,485.00
tblLandUse	LandUseSquareFeet	167,400.00	178,531.00
tblLandUse	LotAcreage	5.19	3.33
tblLandUse	LotAcreage	30.19	3.33
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.00

tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MHD	0.02	1.9410e-003

tblVehicleEF	MHD	0.02	1.9410e-003
tblVehicleEF	MHD	0.02	1.9410e-003
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleTrips	ST_TR	7.16	4.54
tblVehicleTrips	ST_TR	10.08	7.93
tblVehicleTrips	SU_TR	6.07	3.87
tblVehicleTrips	SU_TR	8.77	6.90
tblVehicleTrips	WD_TR	6.59	4.65
tblVehicleTrips	WD_TR	9.57	7.61
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	5,407,784.13	3,864,202.56
tblWater	IndoorWaterUseRate	6,059,324.38	4,329,769.14
tblWater	OutdoorWaterUseRate	3,409,255.21	2,851,105.18
tblWater	OutdoorWaterUseRate	3,820,008.85	3,194,611.82
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWoodstoves	NumberCatalytic	4.15	0.00
tblWoodstoves	NumberCatalytic	4.65	0.00
tblWoodstoves	NumberNoncatalytic	4.15	0.00
tblWoodstoves	NumberNoncatalytic	4.65	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.1943	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311
Energy	0.1433	1.2247	0.5212	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.4432	1,563.4432	0.0300	0.0287	1,572.9581
Mobile	2.8322	3.1554	31.3818	0.0905	8.0192	0.0550	8.0743	2.1268	0.0510	2.1778		6,723.0290	6,723.0290	0.2924		6,729.1698
Total	**11.1698**	**4.5491**	**46.5163**	**0.0991**	**8.0192**	**0.4701**	**8.4893**	**2.1268**	**0.4635**	**2.5904**	**0.0000**	**12,039.6818**	**12,039.6818**	**0.4195**	**0.0970**	**12,078.5590**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.1929	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311
Energy	0.1134	0.9689	0.4123	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.9092	1,236.9092	0.0237	0.0227	1,244.4369
Mobile	2.8322	3.1554	31.3818	0.0905	8.0192	0.0550	8.0743	2.1268	0.0510	2.1778		6,723.0290	6,723.0290	0.2924		6,729.1698
Total	**11.1385**	**4.2934**	**46.4075**	**0.0975**	**8.0192**	**0.4494**	**8.4686**	**2.1268**	**0.4429**	**2.5697**	**0.0000**	**11,713.1478**	**11,713.1478**	**0.4132**	**0.0910**	**11,750.0378**

	ROG	NOx	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	**0.28**	**5.62**	**0.23**	**1.65**	**0.00**	**4.40**	**0.24**	**0.00**	**4.46**	**0.80**	**0.00**	**2.71**	**2.71**	**1.49**	**6.17**	**2.72**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8322	3.1554	31.3818	0.0905	8.0192	0.0550	8.0743	2.1268	0.0510	2.1778		6,723.0290	6,723.0290	0.2924		6,729.1698
Unmitigated	2.8322	3.1554	31.3818	0.0905	8.0192	0.0550	8.0743	2.1268	0.0510	2.1778		6,723.0290	6,723.0290	0.2924		6,729.1698

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	385.95	376.82	321.21	1,282,789	1,282,789
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	707.73	737.49	641.70	2,400,715	2,400,715
Total	1,093.68	1,114.31	962.91	3,683,504	3,683,504

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
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.638729	0.088871	0.235620	0.020000	0.006647	0.001065	0.001941	0.000000	0.000000	0.000000	0.006780	0.000000	0.000347

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1134	0.9689	0.4123	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.9092	1,236.9092	0.0237	0.0227	1,244.4369
NaturalGas Unmitigated	0.1433	1.2247	0.5212	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.4432	1,563.4432	0.0300	0.0287	1,572.9581

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Single Family Housing	8603.63	0.0928	0.7929	0.3374	5.0600e-003		0.0641	0.0641		0.0641	0.0641		1,012.1913	1,012.1913	0.0194	0.0186	1,018.3513
Condo/Townhouse	4685.64	0.0505	0.4318	0.1838	2.7600e-003		0.0349	0.0349		0.0349	0.0349		551.2519	551.2519	0.0106	0.0101	554.6067
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1433**	**1.2247**	**0.5212**	**7.8200e-003**		**0.0990**	**0.0990**		**0.0990**	**0.0990**		**1,563.4432**	**1,563.4432**	**0.0300**	**0.0287**	**1,572.9581**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Single Family Housing	6.83174	0.0737	0.6296	0.2679	4.0200e-003		0.0509	0.0509		0.0509	0.0509		803.7336	803.7336	0.0154	0.0147	808.6250
Condo/Townhouse	3.68199	0.0397	0.3393	0.1444	2.1700e-003		0.0274	0.0274		0.0274	0.0274		433.1757	433.1757	8.3000e-003	7.9400e-003	435.8119
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1134**	**0.9689**	**0.4123**	**6.1900e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.9092**	**1,236.9092**	**0.0237**	**0.0227**	**1,244.4369**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.1929	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311
Unmitigated	8.1943	0.1691	14.6134	7.7000e-004		0.3160	0.3160		0.3135	0.3135	0.0000	3,753.2096	3,753.2096	0.0971	0.0683	3,776.4311

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3417	2.0000e-005	0.0186	0.0000		0.2361	0.2361		0.2336	0.2336	0.0000	3,727.0588	3,727.0588	0.0714	0.0683	3,749.7411
Landscaping	0.4469	0.1690	14.5948	7.7000e-004		0.0800	0.0800		0.0800	0.0800		26.1508	26.1508	0.0257		26.6900
Total	**8.1943**	**0.1691**	**14.6134**	**7.7000e-004**		**0.3160**	**0.3160**		**0.3135**	**0.3135**	**0.0000**	**3,753.2096**	**3,753.2096**	**0.0971**	**0.0683**	**3,776.4311**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6934					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3417	2.0000e-005	0.0186	0.0000		0.2361	0.2361		0.2336	0.2336	0.0000	3,727.0588	3,727.0588	0.0714	0.0683	3,749.7411
Landscaping	0.4469	0.1690	14.5948	7.7000e-004		0.0800	0.0800		0.0800	0.0800		26.1508	26.1508	0.0257		26.6900
Total	**8.1929**	**0.1691**	**14.6134**	**7.7000e-004**		**0.3160**	**0.3160**		**0.3135**	**0.3135**	**0.0000**	**3,753.2096**	**3,753.2096**	**0.0971**	**0.0683**	**3,776.4311**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Operation

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.65	Acre	3.65	0.00	0
Other Non-Asphalt Surfaces	5.92	Acre	5.92	0.00	0
Parking Lot	15.92	1000sqft	0.37	15,920.00	0
Condo/Townhouse	83.00	Dwelling Unit	3.33	144,485.00	237
Single Family Housing	93.00	Dwelling Unit	3.33	178,531.00	266

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on information provided.

Construction Phase -

Vehicle Trips - Based on information provided by David Evans and Associates and rates from the 9th Edition ITE Handbook.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Vechicle Emission Factors - Based on a LDV/MTD/HDT ratio of 97/2/1.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices).

Area Coating - Change Non-Residential Interior VOC content from 250 g/L to 100 g/L per SCAQMD Rule 1113.

Area Mitigation - Change Non-Residential Interior VOC content from 250 g/L to 100 g/L per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Water And Wastewater - Based on information compiled by PlaceWorks.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblFireplaces	NumberGas	70.55	83.00
tblFireplaces	NumberGas	79.05	93.00
tblFireplaces	NumberNoFireplace	8.30	0.00
tblFireplaces	NumberNoFireplace	9.30	0.00
tblFireplaces	NumberWood	4.15	0.00
tblFireplaces	NumberWood	4.65	0.00
tblLandUse	LandUseSquareFeet	158,994.00	0.00
tblLandUse	LandUseSquareFeet	257,875.20	0.00
tblLandUse	LandUseSquareFeet	83,000.00	144,485.00
tblLandUse	LandUseSquareFeet	167,400.00	178,531.00
tblLandUse	LotAcreage	5.19	3.33
tblLandUse	LotAcreage	30.19	3.33
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.00

tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDA	0.47	0.64
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD1	0.06	6.6470e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	LHD2	9.0560e-003	1.0650e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MCY	4.9860e-003	6.7800e-003
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MDV	0.16	0.02
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MH	2.9520e-003	3.4700e-004
tblVehicleEF	MHD	0.02	1.9410e-003

tblVehicleEF	MHD	0.02	1.9410e-003
tblVehicleEF	MHD	0.02	1.9410e-003
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	OBUS	1.1120e-003	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	SBUS	6.8600e-004	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleEF	UBUS	1.3360e-003	0.00
tblVehicleTrips	ST_TR	7.16	4.54
tblVehicleTrips	ST_TR	10.08	7.93
tblVehicleTrips	SU_TR	6.07	3.87
tblVehicleTrips	SU_TR	8.77	6.90
tblVehicleTrips	WD_TR	6.59	4.65
tblVehicleTrips	WD_TR	9.57	7.61
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	5,407,784.13	3,864,202.56
tblWater	IndoorWaterUseRate	6,059,324.38	4,329,769.14
tblWater	OutdoorWaterUseRate	3,409,255.21	2,851,105.18
tblWater	OutdoorWaterUseRate	3,820,008.85	3,194,611.82
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWoodstoves	NumberCatalytic	4.15	0.00
tblWoodstoves	NumberCatalytic	4.65	0.00
tblWoodstoves	NumberNoncatalytic	4.15	0.00
tblWoodstoves	NumberNoncatalytic	4.65	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4117	0.0211	1.8246	1.0000e- 		0.0130	0.0130		0.0129	0.0129	0.0000	45.2296	45.2296	3.7200e- 	7.7000e- 	45.5480
Energy	0.0262	0.2235	0.0951	1.4300e- 003		0.0181	0.0181		0.0181	0.0181	0.0000	583.0628	583.0628	0.0199	7.8300e- 003	585.9069
Mobile	0.4723	0.5700	5.6629	0.0160	1.3737	9.6000e- 003	1.3833	0.3649	8.8900e- 003	0.3738	0.0000	1,079.902 0	1,079.902 0	0.0463	0.0000	1,080.873 7
Waste						0.0000	0.0000		0.0000	0.0000	29.8884	0.0000	29.8884	1.7664	0.0000	66.9818
Water						0.0000	0.0000		0.0000	0.0000	2.8990	49.7534	52.6525	0.0123	6.7800e- 003	55.0111
Total	**1.9101**	**0.8147**	**7.5826**	**0.0176**	**1.3737**	**0.0406**	**1.4143**	**0.3649**	**0.0399**	**0.4047**	**32.7874**	**1,757.947 9**	**1,790.735 3**	**1.8485**	**0.0154**	**1,834.321 5**

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	1.4114	0.0211	1.8246	1.0000e- 004		0.0130	0.0130		0.0129	0.0129	0.0000	45.2296	45.2296	3.7200e- 003	7.7000e- 004	45.5480
Energy	0.0207	0.1768	0.0753	1.1300e- 003		0.0143	0.0143		0.0143	0.0143	0.0000	518.0238	518.0238	0.0183	6.7300e- 003	520.4959
Mobile	0.4723	0.5700	5.6629	0.0160	1.3737	9.6000e- 003	1.3833	0.3649	8.8900e- 003	0.3738	0.0000	1,079.902 0	1,079.902 0	0.0463	0.0000	1,080.873 7
Waste						0.0000	0.0000		0.0000	0.0000	29.8884	0.0000	29.8884	1.7664	0.0000	66.9818
Water						0.0000	0.0000		0.0000	0.0000	2.3192	42.4745	44.7937	9.8900e- 003	5.4400e- 003	46.6874
Total	**1.9044**	**0.7680**	**7.5628**	**0.0173**	**1.3737**	**0.0369**	**1.4106**	**0.3649**	**0.0361**	**0.4010**	**32.2076**	**1,685.629 9**	**1,717.837 5**	**1.8446**	**0.0129**	**1,760.586 8**

	ROG	NOx	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	**0.30**	**5.73**	**0.26**	**1.71**	**0.00**	**9.28**	**0.27**	**0.00**	**9.45**	**0.93**	**1.77**	**4.11**	**4.07**	**0.21**	**15.86**	**4.02**

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	0.4723	0.5700	5.6629	0.0160	1.3737	9.6000e-003	1.3833	0.3649	8.8900e-003	0.3738	0.0000	1,079.9020	1,079.9020	0.0463	0.0000	1,080.8737
Unmitigated	0.4723	0.5700	5.6629	0.0160	1.3737	9.6000e-003	1.3833	0.3649	8.8900e-003	0.3738	0.0000	1,079.9020	1,079.9020	0.0463	0.0000	1,080.8737

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	385.95	376.82	321.21	1,282,789	1,282,789
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	707.73	737.49	641.70	2,400,715	2,400,715
Total	1,093.68	1,114.31	962.91	3,683,504	3,683,504

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
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.638729	0.088871	0.235620	0.020000	0.006647	0.001065	0.001941	0.000000	0.000000	0.000000	0.006780	0.000000	0.000347

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	313.2396	313.2396	0.0144	2.9800e-003	314.4654
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	324.2173	324.2173	0.0149	3.0800e-003	325.4861
NaturalGas Mitigated	0.0207	0.1768	0.0753	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.7842	204.7842	3.9300e-003	3.7500e-003	206.0305
NaturalGas Unmitigated	0.0262	0.2235	0.0951	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.8456	258.8456	4.9600e-003	4.7500e-003	260.4209

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					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Single Family Housing	3.14032e+006	0.0169	0.1447	0.0616	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	167.5796	167.5796	3.2100e-003	3.0700e-003	168.5995
Condo/Townhouse	1.71026e+006	9.2200e-003	0.0788	0.0335	5.0000e-004		6.3700e-003	6.3700e-003		6.3700e-003	6.3700e-003	0.0000	91.2659	91.2659	1.7500e-003	1.6700e-003	91.8214
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0262**	**0.2235**	**0.0951**	**1.4200e-003**		**0.0181**	**0.0181**		**0.0181**	**0.0181**	**0.0000**	**258.8456**	**258.8456**	**4.9600e-003**	**4.7400e-003**	**260.4209**

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					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Single Family Housing	2.49358e+006	0.0135	0.1149	0.0489	7.3000e-004		9.2900e-003	9.2900e-003		9.2900e-003	9.2900e-003	0.0000	133.0671	133.0671	2.5500e-003	2.4400e-003	133.8769
Condo/Townhouse	1.34393e+006	7.2500e-003	0.0619	0.0264	4.0000e-004		5.0100e-003	5.0100e-003		5.0100e-003	5.0100e-003	0.0000	71.7171	71.7171	1.3700e-003	1.3100e-003	72.1536
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0207**	**0.1768**	**0.0752**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**204.7842**	**204.7842**	**3.9200e-003**	**3.7500e-003**	**206.0305**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	404750	115.8259	5.3200e-003	1.1000e-003	116.2792
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	14009.6	4.0091	1.8000e-004	4.0000e-005	4.0248
Single Family Housing	714207	204.3823	9.3900e-003	1.9400e-003	205.1821
Total		**324.2173**	**0.0149**	**3.0800e-003**	**325.4861**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	389196	111.3751	5.1200e-003	1.0600e-003	111.8110
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	14009.6	4.0091	1.8000e-004	4.0000e-005	4.0248
Single Family Housing	691399	197.8554	9.0900e-003	1.8800e-003	198.6297
Total		**313.2396**	**0.0144**	**2.9800e-003**	**314.4654**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive 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	1.4114	0.0211	1.8246	1.0000e-004		0.0130	0.0130		0.0129	0.0129	0.0000	45.2296	45.2296	3.7200e-003	7.7000e-004	45.5480
Unmitigated	1.4117	0.0211	1.8246	1.0000e-004		0.0130	0.0130		0.0129	0.0129	0.0000	45.2296	45.2296	3.7200e-003	7.7000e-004	45.5480

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	0.1268					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2248					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.2700e-003	0.0000	2.3000e-004	0.0000		2.9500e-003	2.9500e-003		2.9200e-003	2.9200e-003	0.0000	42.2641	42.2641	8.1000e-004	7.7000e-004	42.5214
Landscaping	0.0559	0.0211	1.8244	1.0000e-004		0.0100	0.0100		0.0100	0.0100	0.0000	2.9655	2.9655	2.9100e-003	0.0000	3.0266
Total	**1.4117**	**0.0211**	**1.8246**	**1.0000e-004**		**0.0130**	**0.0130**		**0.0129**	**0.0129**	**0.0000**	**45.2296**	**45.2296**	**3.7200e-003**	**7.7000e-004**	**45.5480**

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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2248					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.2700e-003	0.0000	2.3000e-004	0.0000		2.9500e-003	2.9500e-003		2.9200e-003	2.9200e-003	0.0000	42.2641	42.2641	8.1000e-004	7.7000e-004	42.5214
Landscaping	0.0559	0.0211	1.8244	1.0000e-004		0.0100	0.0100		0.0100	0.0100	0.0000	2.9655	2.9655	2.9100e-003	0.0000	3.0266
Total	**1.4114**	**0.0211**	**1.8246**	**1.0000e-004**		**0.0130**	**0.0130**		**0.0129**	**0.0129**	**0.0000**	**45.2296**	**45.2296**	**3.7200e-003**	**7.7000e-004**	**45.5480**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	44.7937	9.8900e-003	5.4400e-003	46.6874
Unmitigated	52.6525	0.0123	6.7800e-003	55.0111

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.8642 / 2.85111	24.8304	5.7800e-003	3.2000e-003	25.9427
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.32977 / 3.19461	27.8221	6.4800e-003	3.5800e-003	29.0684
Total		**52.6525**	**0.0123**	**6.7800e-003**	**55.0111**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.09136 / 2.67719	21.1243	4.6600e-003	2.5600e-003	22.0174
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	3.46382 / 2.99974	23.6694	5.2300e-003	2.8700e-003	24.6701
Total		**44.7937**	**9.8900e-003**	**5.4300e-003**	**46.6874**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	29.8884	1.7664	0.0000	66.9818
Mitigated	29.8884	1.7664	0.0000	66.9818

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	38.18	7.7502	0.4580	0.0000	17.3687
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	109.06	22.1382	1.3083	0.0000	49.6131

Total		**29.8884**	**1.7664**	**0.0000**	**66.9818**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	38.18	7.7502	0.4580	0.0000	17.3687
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	109.06	22.1382	1.3083	0.0000	49.6131
Total		**29.8884**	**1.7664**	**0.0000**	**66.9818**

9.0 Operational Offroad

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

10.0 Vegetation

Operation

San Bernardino-South Coast County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.39	3.39	3.36	3.25	3.39
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	20.84	20.88	20.88	20.42	20.86	20.86	0.00	20.89	20.89	20.97	20.89	20.89
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	14.63	14.93	19.33	19.91	15.13
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.21	0.49		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			

	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
Yes	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	25.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services	
Percent Reduction in Waste Disposed	

Appendix C. LSTs and Meteorological Data

Appendix

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Construction Localized Significance Thresholds: Site Preparation

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	2.50	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	3	8	1.5
NOx	**567**	Graders	0.5	0.0625	0	0	0
CO	**17,543**	Dozers	0.5	0.0625	2	8	1
PM10	**139**	Scrapers	1	0.125	0	0	0
PM2.5	**103**					**Acres**	2.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	170	200	263	378	684
	3	203	234	301	414	715
		187	217	282	396	700
CO	2	1232	1877	3218	6778	24768
	3	1552	2244	3875	7722	26315
		1392	2061	3546	7250	25542
PM10	2	6	19	34	66	160
	3	9	29	49	91	214
		8	24	42	78	187
PM2.5	2	5	8	14	36	150
	3	6	9	16	39	157
		6	9	15	38	153

Northwest San Bernardino Valley

2.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	187	217	282	396	700
CO	1392	2061	3546	7250	25542
PM10	8	24	42	78	187
PM2.5	6	9	15	38	153

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	2	32	3
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Site Preparation, Rough Grading, and Soil Haul

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	5.00	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	6	8	3.00
NOx	**650**	Tractors	0.5	0.0625			0.00
CO	**20,752**	Graders	0.5	0.0625	1	8	0.50
PM10	**242**	Dozers	0.5	0.0625	4	8	2.00
PM2.5	**115**	Scrapers	1	0.125	8	8	8.00
						Acres	13.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	270	303	378	486	778
	5	270	303	378	486	778
		270	303	378	486	778
CO	5	2193	2978	5188	9611	29410
	5	2193	2978	5188	9611	29410
		2193	2978	5188	9611	29410
PM10	5	16	50	80	140	322
	5	16	50	80	140	322
		16	50	80	140	322
PM2.5	5	9	12	21	45	170
	5	9	12	21	45	170
		9	12	21	45	170

Northwest San Bernardino Valley

5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	270	303	378	486	778
CO	2193	2978	5188	9611	29410
PM10	16	50	80	140	322
PM2.5	9	12	21	45	170

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	5	32	5
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Rough Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	5.00	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	3	8	1.5
NOx	**650**	Graders	0.5	0.0625	1	8	0.5
CO	**20,752**	Dozers	0.5	0.0625	2	8	1
PM10	**242**	Scrapers	1	0.125	8	8	8
PM2.5	**115**					**Acres**	11.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	270	303	378	486	778
	5	270	303	378	486	778
		270	303	378	486	778
CO	5	2193	2978	5188	9611	29410
	5	2193	2978	5188	9611	29410
		2193	2978	5188	9611	29410
PM10	5	16	50	80	140	322
	5	16	50	80	140	322
		16	50	80	140	322
PM2.5	5	9	12	21	45	170
	5	9	12	21	45	170
		9	12	21	45	170

Northwest San Bernardino Valley

5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	270	303	378	486	778
CO	2193	2978	5188	9611	29410
PM10	16	50	80	140	322
PM2.5	9	12	21	45	170

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	5	32	5
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Rough Grading and Soil Haul

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	5.00	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	3	8	1.50
NOx	**650**	Graders	0.5	0.0625	1	8	0.50
CO	**20,752**	Dozers	0.5	0.0625	2	8	1.00
PM10	**242**	Scrapers	1	0.125	8	8	8.00
PM2.5	**115**					**Acres**	11.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	270	303	378	486	778
	5	270	303	378	486	778
		270	303	378	486	778
CO	5	2193	2978	5188	9611	29410
	5	2193	2978	5188	9611	29410
		2193	2978	5188	9611	29410
PM10	5	16	50	80	140	322
	5	16	50	80	140	322
		16	50	80	140	322
PM2.5	5	9	12	21	45	170
	5	9	12	21	45	170
		9	12	21	45	170

Northwest San Bernardino Valley

5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	270	303	378	486	778
CO	2193	2978	5188	9611	29410
PM10	16	50	80	140	322
PM2.5	9	12	21	45	170

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	5	32	5
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Utility Trenching

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	0.50	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	1	8	0.50
NOx	**513**	Graders	0.5	0.0625	0	0	0.00
CO	**15,467**	Dozers	0.5	0.0625	0	0	0.00
PM10	**203**	Scrapers	1	0.125	0	0	0.00
PM2.5	**93**					**Acres**	0.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	118	148	211	334	652
	1	118	148	211	334	652
		118	148	211	334	652
CO	1	863	1328	2423	5691	23065
	1	863	1328	2423	5691	23065
		863	1328	2423	5691	23065
PM10	1	5	14	44	103	280
	1	5	14	44	103	280
		5	14	44	103	280
PM2.5	1	4	6	12	32	141
	1	4	6	12	32	141
		4	6	12	32	141

Northwest San Bernardino Valley

0.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	118	148	211	334	652
CO	863	1328	2423	5691	23065
PM10	5	14	44	103	280
PM2.5	4	6	12	32	141

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	1	32	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Utility Trenching and Fine Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	4.00	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	3	8	1.50
NOx	**617**	Graders	0.5	0.0625	1	8	0.50
CO	**19,468**	Dozers	0.5	0.0625	0	0	0.00
PM10	**201**	Scrapers	1	0.125	2	8	2.00
PM2.5	**110**					**Acres**	4.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	4	237	269	340	450	747
	4	237	269	340	450	747
		237	269	340	450	747
CO	4	1873	2611	4531	8667	27863
	4	1873	2611	4531	8667	27863
		1873	2611	4531	8667	27863
PM10	4	13	40	65	115	268
	4	13	40	65	115	268
		13	40	65	115	268
PM2.5	4	8	11	19	42	163
	4	8	11	19	42	163
		8	11	19	42	163

Northwest San Bernardino Valley

4.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	237	269	340	450	747
CO	1873	2611	4531	8667	27863
PM10	13	40	65	115	268
PM2.5	8	11	19	42	163

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	4	32	4
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Paving and Fine Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	3.50	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	2	8	1
NOx	**600**	Graders	0.5	0.0625	1	8	1
CO	**18,826**	Dozers	0.5	0.0625	0	0	0
PM10	**181**	Scrapers	1	0.125	2	8	2
PM2.5	**108**					**Acres**	3.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	3	203	234	301	414	715
	4	237	269	340	450	747
		220	252	321	432	731
CO	3	1552	2244	3875	7722	26315
	4	1873	2611	4531	8667	27863
		1713	2428	4203	8195	27089
PM10	3	9	29	49	91	214
	4	13	40	65	115	268
		11	35	57	103	241
PM2.5	3	6	9	16	39	157
	4	8	11	19	42	163
		7	10	18	41	160

Northwest San Bernardino Valley

3.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	220	252	321	432	731
CO	1713	2428	4203	8195	27089
PM10	11	35	57	103	241
PM2.5	7	10	18	41	160

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	3	32	4
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Asphalt Paving

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	0.00	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	0	0	0
NOx	**513**	Graders	0.5	0.0625	0	0	0
CO	**15,467**	Dozers	0.5	0.0625	0	0	0
PM10	**203**	Scrapers	1	0.125	0	0	0
PM2.5	**93**					**Acres**	0.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	118	148	211	334	652
	1	118	148	211	334	652
		118	148	211	334	652
CO	1	863	1328	2423	5691	23065
	1	863	1328	2423	5691	23065
		863	1328	2423	5691	23065
PM10	1	5	14	44	103	280
	1	5	14	44	103	280
		5	14	44	103	280
PM2.5	1	4	6	12	32	141
	1	4	6	12	32	141
		4	6	12	32	141

Northwest San Bernardino Valley

0.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	118	148	211	334	652
CO	863	1328	2423	5691	23065
PM10	5	14	44	103	280
PM2.5	4	6	12	32	141

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	1	32	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	1.31	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	3	7	1
NOx	**525**	Graders	0.5	0.0625	0	0	0
CO	**15,915**	Dozers	0.5	0.0625	0	0	0
PM10	**176**	Scrapers	1	0.125	0	0	0
PM2.5	**95**					**Acres**	1.31

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	118	148	211	334	652
	2	170	200	263	378	684
		134	164	227	348	662
CO	1	863	1328	2423	5691	23065
	2	1232	1877	3218	6778	24768
		978	1500	2671	6031	23597
PM10	1	5	14	44	103	280
	2	6	19	34	66	160
		5	16	41	91	243
PM2.5	1	4	6	12	32	141
	2	5	8	14	36	150
		4	7	13	33	144

Northwest San Bernardino Valley

1.31 Acres

	25	**50**	**100**	**200**	**500**
NOx	134	164	227	348	662
CO	978	1500	2671	6031	23597
PM10	5	16	41	91	243
PM2.5	4	7	13	33	144

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	1	32	2
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction and Architectural Coating

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	1.31	369	1,210

Source Receptor	Northwest San Bernardino Valley	Equipment	Acres/8-hr Day	Acres/Hr	Equipment Used	Number of Hrs	Acres
Distance (meters)	369	Tractors	0.5	0.0625	3	7	1
NOx	**525**	Graders	0.5	0.0625	0	0	0
CO	**15,915**	Dozers	0.5	0.0625	0	0	0
PM10	**176**	Scrapers	1	0.125	0	0	0
PM2.5	**95**					**Acres**	1.31

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	118	148	211	334	652
	2	170	200	263	378	684
		134	164	227	348	662
CO	1	863	1328	2423	5691	23065
	2	1232	1877	3218	6778	24768
		978	1500	2671	6031	23597
PM10	1	5	14	44	103	280
	2	6	19	34	66	160
		5	16	41	91	243
PM2.5	1	4	6	12	32	141
	2	5	8	14	36	150
		4	7	13	33	144

Northwest San Bernardino Valley

1.31 Acres

	25	**50**	**100**	**200**	**500**
NOx	134	164	227	348	662
CO	978	1500	2671	6031	23597
PM10	5	16	41	91	243
PM2.5	4	7	13	33	144

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	1	32	2
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Operation Localized Significance Thresholds: PA 3, Sycamore Hills SP

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
32	5.00	369	1210

Source Receptor **Northwest San Bernardino Valley**
Distance (meters) 369
NOx **650**
CO **20,752**
PM10 **58.76**
PM2.5 **27.88**

	Acres	25	50	100	200	500
NOx	5	270	303	378	486	778
	5	270	303	378	486	778
		270	303	378	486	778
CO	5	2193	2978	5188	9611	29410
	5	2193	2978	5188	9611	29410
		2193	2978	5188	9611	29410
PM10	5	4	12	20	34	78
	5	4	12	20	34	78
		4	12	20	34	78
PM2.5	5	2	3	5	11	41
	5	2	3	5	11	41
		2	3	5	11	41

Northwest San Bernardino Valley
5.00 Acres

	25	50	100	200	500
NOx	270	303	378	486	778
CO	2193	2978	5188	9611	29410
PM10	4	12	20	34	78
PM2.5	2	3	5	11	41

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
32	5	32	5
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2010 - Table C-1. 2006 – 2008

Back to:

State Map | Western U.S. map | Home Page

NOTE:
To print data frame (right side), click on right frame before printing.

1981 - 2010

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1981-2010 Normals (~3 KB)

1971 - 2000

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1971-2000 Normals (~3 KB)

1961 - 1990

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1961-1990 Normals (~3 KB)

Period of Record

- Station Metadata
- Station Metadata Graphics

General Climate Summary Tables

- Temperature
- Precipitation
- Heating Degree Days
- Cooling Degree Days
- Growing Degree Days

Temperature

- Daily Extremes and Averages
- Spring 'Freeze' Probabilities

UPLAND, CALIFORNIA (049157)

Period of Record Monthly Climate Summary

Period of Record : 01/01/1903 to 09/30/1959

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	De
Average Max. Temperature (F)	61.8	63.7	65.9	70.3	73.9	81.4	89.6	89.2	87.2	79.2	70.2	64.
Average Min. Temperature (F)	39.9	41.1	42.7	45.6	48.0	51.8	57.3	57.7	56.7	51.1	45.6	41.
Average Total Precipitation (in.)	4.93	4.32	3.89	1.80	0.59	0.11	0.02	0.09	0.33	0.98	1.24	4.1
Average Total SnowFall (in.)	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	

Percent of possible observations for period of record.
Max. Temp.: 98% Min. Temp.: 99.1% Precipitation: 99.6% Snowfall: 99.6% Snow Depth: 99.1%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

Attachment B.
Burrowing Owl Letter and Survey

Attachments

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RCA
ASSOCIATES, INC
EST. 1990

15555 Main Street, #D4-235
Hesperia, CA 92345
(760) 956-9212
rca1213@aol.com
www.rcaassociatesinc.com

November 29, 2017

Mr. Joe Cebina,
Division President Raleigh & Satellite Operations
LStar Management
516 N. West Street
Raleigh, NC 27603

Re: 30-day, Pre-clearance burrowing owl survey for Sycamore Hills Project, Upland, California. RCA#2016-16A

Dear Mr. Cebina:

As requested in the City of Upland Plan Check (dated September 13, 2017), we conducted an updated 30-day preconstruction for the burrowing owl (*Athene cunicularia*) within Planning Area 3 (see attached Exhibit). Biologists from RCA Associates, LLC (Randy Arnold) visited the property on November 22, 2017 during which Planning Area 3 was evaluated for the presence of owls. The survey was conducted as required by California Department of Fish and Wildlife (CDFW). Planning Area 3 has been disturbed by past grading activities and supports very marginal habitat for the burrowing owl; although, the species is sometimes found in disturbed areas.

Burrowing Owl Biology

Burrowing owls are classified by California Department of Fish and Wildlife as a "species of special concern." Population levels of this bird species have declined over the last several decades due to conversion of grasslands and pasture lands to agriculture use and to residential and commercial developments. Destruction of ground squirrel colonies and other areas which may provide suitable burrows has also been a factor in the species' decline (CDFG, 1990). The burrowing owl occurs throughout western North America and the species occurs in a variety of habitats including annual and perennial grasslands, open desert shru communities, and scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrowing owls do not have the capability to excavate burrows; therefore, they are dependent upon

burrows which have been excavated and then abandoned by other species (mainly mammals). Burrows, both natural and artificial burrows, provide protection, shelter, and nests for burrowing owls (CDFG, 1990). Burrowing owls typically use burrows excavated by fossorial mammals, especially those of ground squirrels, coyotes, foxes, and dogs. Owls may also occasionally use man-made structure such as culverts, and cavities created by debris piles (CDFG, 1990). The presence of burrowing owls on a site can be verified by the observation of owls, molted feathers, cast pellets, excrement, prey remains, or eggshell fragments at or near a burrow entrance.

Methodologies

Survey protocol for burrowing owls requires surveys to be performed at sunrise and/or sunset in areas that provide suitable habitat for the species. Therefore, surveys were conducted at sunrise on November 22, 2017. The survey was conducted to comply with CDFW requirements for preconstruction surveys, and was intended to detect the presence of burrowing owls on a project to avoid impacting the species. The focus of the survey was on the detection of burrowing owls; however, any natural or artificial (man-made) burrows suitable for use by the burrowing owl were also evaluated for owls and owl sign as the survey was conducted. Weather conditions during the survey included clear skies and a temperature range of 55 to 70 degrees (°F) with wind ranging from 2 to 5 MPH (approximate). No rainfall was recorded during the field investigations.

Results

No burrowing owls or owl sign were observed within the boundaries of Planning Area 3, nor were any owls observed in adjacent areas. Based on the results of the burrowing owl surveys, Planning Area 3 does not support populations of the burrowing owl. In addition, the area is not expected to support owls in the future.

If you have any questions or would like to discuss the survey results presented in this report, please contact me at (760) 596-0017 or via email at rca123@aol.com.

Sincerely,

Randall C. Arnold, Jr.
President & Principal Biologist

References

Atwood, J.L.
1993. California gnatcatchers and coastal sage scrub: the biological basis for endangered species. Pages 149-169 in Keeley, J.E. Interface between ecology and l and development in California. Southern California Academy of Sciences, Los Angeles.

Atwood, J. and D. Bontrager.
2001. California Gnatcatcher (*Polioptila californicus*). The Birds of North America, No. 574. (A. Poole and F. Gills eds.)

California Department of Fish and Game
1990. California's Wildlife, Volumes 1, 2, and 3. Sacramento.

California Department of Fish and Game
1995. Staff Report on Burrowing Owl Mitigation

California Department of Fish and Wildlife
March 7, 2012. Staff Report on Burrowing Owl Mitigation. 33 pp.

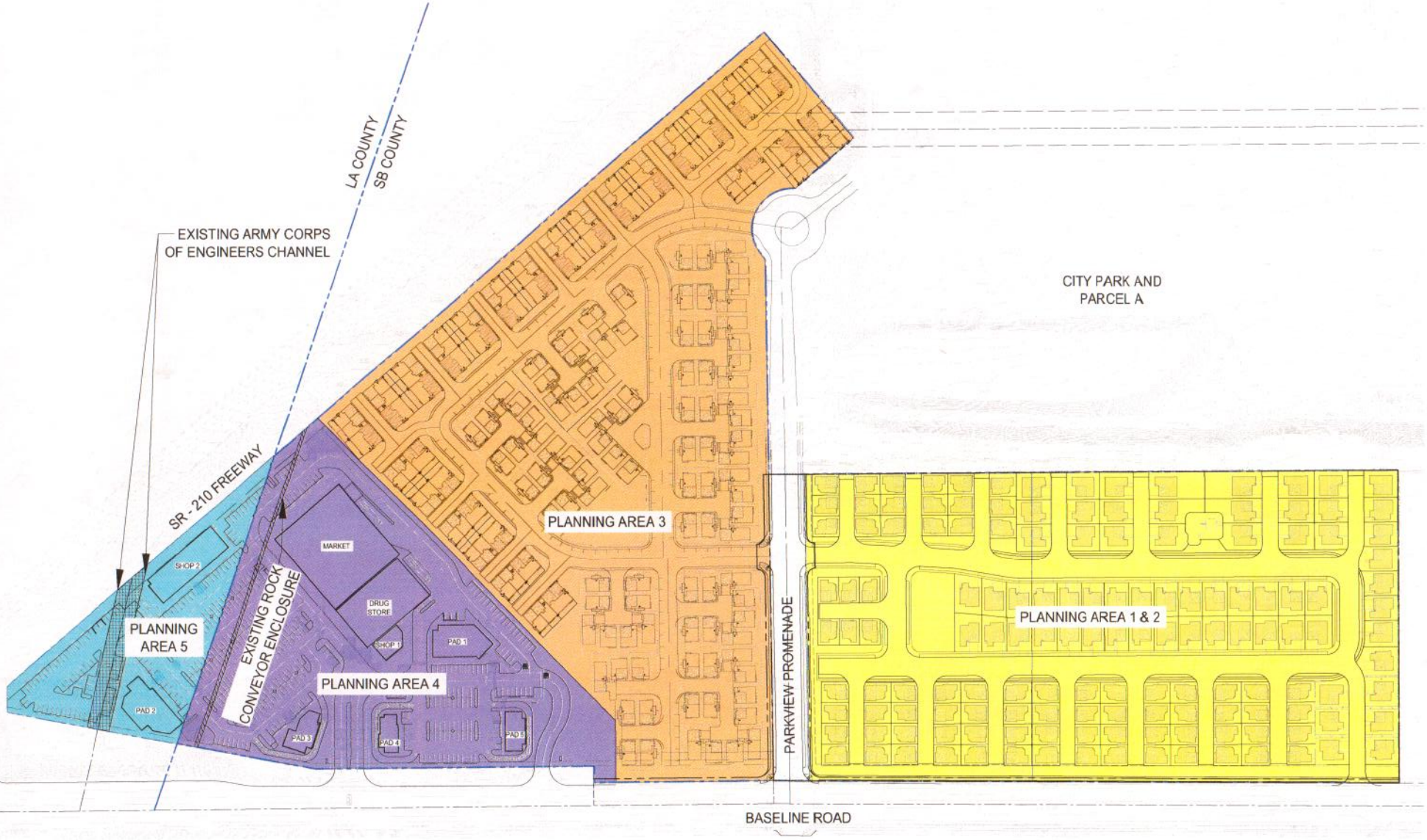
California Department of Fish and Game
2017. Natural Diversity Data Base. Sacrament, CA.

Zarn, M.
1974. Burrowing Owl: U.S. Department of Interior, Bureau of Land Management. Technical Note T-N 250, Denver, Colorado. 25 pp.

Appendix A

Exhibits

SYCAMORE HILLS



DAVID EVANS AND ASSOCIATES INC.
4200 Concours Suite 150
Ontario, California 91764
Phone: 909.481.5750

January 2016

BURROWING OWL SURVEY

SYCAMORE HILLS CITY PARK

UPLAND, CALIFORNIA

Owner/Applicant

LStar Communities
516 N. West Street
Raleigh, NC 27603

Prepared by:

RCA Associates, LLC
15555 Main Street, #D4-235
Hesperia, California 92345
Principal Investigators
Randall C. Arnold, Jr.
&
Parker Smith
(760) 956-9212
Report prepared by: Randall Arnold

Project No: RCA#2016-16BO#2

November 29, 2017

Table of Contents

EXECUTIVE SUMMARY

A focused burrowing owl (*Athene cunicularia*) survey was performed on a parcel located in the City of Upland, California (Township 1 North, Range 7 West, Section 35) (USGS Ontario, California Quadrangle, 1954) (Figure 1). The property is approximately 105-acres in size and is located at the junction of Baseline Road and Interstate 210 (Figures 1 and 2). Approximately 40-acres of the southern portion of the site has been recently cleared and graded as part of on-going approved construction activities. The remaining approximate 60-acres currently supports an undisturbed sage scrub community. This report covers the 60-acre portion of the site which is currently undisturbed.

It was determined during an initial assessment that the site supports potential habitat for burrowing owls. Therefore, focused surveys were required to be completed prior to the start of any construction activities within the approximately 60-acre area. Three site visits were completed between April 2016 and May 2016 during which transects were walked throughout the site to determine the presence or absence of suitable (i.e., occupiable) burrows and/or burrowing owls. The survey was performed as per the requirements of the California Department of Fish and Wildlife (CDFW) survey protocol (March 7, 2012).

No burrowing owls or owl sign were observed during the surveys and no suitable burrows were identified. In addition, the approximate 40-acre area of the site directly south is currently being graded to prepare for the construction of tract homes as part of this project, therefore; ambient noise levels on the site and in the surrounding area are relatively high. Based on these factors and lack of suitable prime habitat, there is very little potential for the property to support populations of the burrowing owl in the future. The following sections provide a discussion of the survey results which are valid for 30-days as per CDFW requirements. If owls are observed on the property in the future, the owls should not be removed, harassed, or in

any way disturbed regardless of the results of this survey. To do so may constitute a violation of State and City regulations. If owls are encountered during future development activities, all activities should cease and CDFW and the City of Upland should be notified.

1.0 PROJECT AND PROPERTY DESCRIPTION

The property is located at the junction of Baseline Road and Interstate 210 and is approximately 105 acres in size (Figures 1 and 2). This report covers approximately 60-acres of the northern portion of the site, the remaining acreage (~40-acres) is currently being cleared and graded as part of approved construction activities. The site shows signs of past human disturbance and according to historic imagery and background review, the site previously supported a mining operation within the last ten years (Figure 3). Although the site has been disturbed in the past, it currently supports a mostly native sage scrub community, with only a few small signs of human disturbance. The site is bordered to the north, south, and west by major roadways and existing development, and is bordered to the east by an existing residential development. The elevation of the site is approximately 1300-1500 feet (MSL). The project proponent is proposing to develop a large city park on this (~60-acre) section of the property as part of the tract housing development currently being constructed directly to the south (~40-acres). The Ontario USGS quadrangle (1954) does not show any blueline channels or other sensitive habitats (wetlands, vernal pools, etc.) on the property.

A total of four (4) focused burrowing owl surveys were performed on April 12th, May 2nd, May 18th, and June 8th of 2016 during which meandering 30-meter transects were walked throughout the site to determine the presence/absence of burrowing owls, active owl burrows, and/or owl sign (excrement, casting, etc.). Weather conditions during the 2016 surveys consisted of winds ranging from 0 to 5 mph, temperatures in the mid 70's (AM, °F) to mid 80's (AM, °F) with approximately 5-25 percent cloud coverage.

2.0 LITERATURE AND RECORD REVIEW - BURROWING OWL

As part of the environmental process, CDFW and U.S. Fish and Wildlife Service (USFWS) data sources were reviewed prior to initiation of field surveys to determine if burrowing owls have been documented on the site or in the area surrounding the property. In addition, burrowing owls are a covered species under the MSHCP; therefore, mitigation and survey requirements outlined in the MSHCP apply to the project in the event burrowing owls may occur on the site in the future. Based on the literature review and evaluation of the CNDDB database for the area, it was determined that the property is located within the general distribution of the burrowing owl. In addition, nine documented occurrences of burrowing owls have been identified in the surrounding area according to CNDDB (2016) (Appendix A). However, owls have not been previously identified on the site, and the nearest documented owl observation is about two miles east of the property (CNDDB, 2016).

The burrowing owl is a year-long resident of open, dry grassland and desert habitats. The species was formerly common throughout central and southern California; however, the species has seen a significant reduction over the last few decades due to development activities; farming activities, predation by dogs and cats, and habitat destruction (Zeiner 1990). Conversions of grassland and desert habitats to agricultural fields and residential developments have contributed to the greatest amount of habitat destruction in recent decades. The reduction in population levels was noted as early as the 1940s. Burrowing owls primarily prey upon insects; although, small mammals, lizards, birds, and carrion make up a portion of the owl's diet (Zeiner 1990). Burrowing owls typically utilize abandoned California ground squirrel burrows for roosting and nesting.

3.0 METHODOLOGY

An initial assessment of the site by biologists from RCA Associates LLC (Randy Arnold and Parker Smith) determined that suitable owl habitat was present on the property. Burrowing owls are typically found in a wide variety of habitats including disturbed grasslands, agricultural areas, and developed areas. Therefore, focused surveys were performed on April 12th, May 2nd, May 18th, and June 8th of 2016 to determine if any owls, owl sign, or suitable burrows are currently present on the site.

As required by survey protocol, 30 meter, parallel belt transects were walked in a north-south direction until the site had been checked for owls and/or owl sign (burrows, tracks, scats, etc.). The survey protocol also requires that zone of influence (ZOI) surveys be conducted, where possible, in the surrounding area out to a distance of 500-feet as required by CDFW, as defined in the "Staff Report on Burrowing Owl Mitigation" (CDFW, March 7, 2012). ZOI surveys were performed where possible; however, there are existing developments, major roadways, and private property which limited the amount of ZOI surveys performed. All transects were walked at a pace that allowed careful observations along the transect routes and in the immediate vicinity. Field notes were recorded regarding native plant assemblages, wildlife sign, and human affects in order to determine the presence or absence of suitable owl habitat. Each survey was performed from about 0700 to 1000 hours.

Focused surveys combined with identification of the habitat on the site and in the surrounding area will provide data on the potential presence or absence of burrowing owls. Temperatures during the surveys were in the mid 70's - mid 80's (°F) wind speeds of about 0 to 5 mph, and cloud coverage at 5-25 percent. No precipitation was recorded during the surveys.

Limitations:

The results of this report do not constitute authorization for the "take" (impact) of burrowing owls or any other listed or sensitive wildlife species. The authorization to impact the burrowing owl can only be granted by CDFW.

4.0 GENERAL BIOLOGICAL SURVEY RESULTS

The site has been disturbed by past mining activities, however; the site currently supports mostly native vegetation (Figures 2 & 3). Plants observed included scalebroom (*Lepidosparium squamatum*), yerba santa (*Eriodictyon trichocalyx*), castor bean (*Ricinus communis*), and California sagebrush (*Artemisia californnica*). The central portion of the site is devoid of most vegetation with the west-central area dominated by California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Low-lying areas in the western portion of the site is dominated by castor bean and brittlebush (*Encelia farinosa*). The northwestern portion of the site is dominated by yerba santa, laurel sumac, scalebroom, and California sagebrush. (Figure 2). Other species noted are included in table 1 which provides a compendium of plants observed on the property and in the surrounding area (Appendix A).

Wildlife species that were identified during the field investigations conducted on April 12th, May 2nd, May 18th, and June 8th of 2016. Birds observed included mourning doves (*Zenaida macroura*), and ravens (*Corvus corax*), and the only mammals observed were desert cottontails (*Sylvilagus audubonii*), and California ground squirrels (*Spermophilus beecheyi*). Other species which have been observed in the area included Brewer's blackbirds (*Euphagus cyanocephalus*) song sparrows (*Melospiza melodia*), western kingbirds (*Tyrannus verticalis*), and white-crowned sparrows (*Zonotrichia leucophrys*). No reptiles were observed during the survey; although, side-blotched lizards (*Uta stansburiana*) and western whiptail lizards (*Cnemidophorus tigris*) are relatively common in the area and may occur on the property. No wildlife corridors were identified on the site or in the immediate surrounding area, and no breeding activities were observed among any of the wildlife species. Table 2 (Appendix A) provides a compendium of wildlife species observed on the site and other species known to occur in the region.

5.0 RESULTS – BURROWING OWL

The focused surveys for the burrowing owl conducted on April 12th, May 2nd, May 18th, and June 8th of 2016 did not identify any owls or owl sign (i.e., whitewash, castings, etc.). In addition, no occupiable burrows were observed on the site reducing the likelihood the species will inhabit the site in the future given the fact burrowing owls rely upon abandoned burrows which have been excavated by other animals (i.e., coyotes, foxes, dogs, etc.). Therefore, no additional surveys (i.e., owl surveys, census, and mapping) are deemed necessary as per the survey protocol outlined in the "Staff Report on Burrowing Owl Mitigation" prepared by CDFW (March 7, 2012) and in the MSHCP (2002).

6.0 IMPACTS AND RECOMMENDATIONS

Future development of the site is not expected to have any direct or indirect impacts on burrowing owls or occupied owl habitat based on the results of the focused surveys conducted on April 12th, May 2nd, May 18th, and June 8th of 2016. No additional investigations are recommended at this time. However, as per CDFW requirements the survey results are only good for 30-days, and surveys may be required to determine if the species has moved onto the site since the 2016 surveys.

7.0 REFERENCES

Baldwin, Bruce G, et. al.
2002. The Jepson Desert Manual. Vascular Plants of Southeastern California. University of California Press, Berkeley, CA.

California Department of Fish and Game
1990. California Wildlife: Volume 1 (Amphibians and Reptiles), Volume II (Birds), and Volume III (Mammals).

California Department of Fish and Game
1990 California's Wildlife, Volumes 1, 2, and 3. Sacramento.

California Department of Fish and Game
1995. Staff Report on Burrowing Owl Mitigation.

California Department of Fish and Game
March 7, 2012 (a). Staff Report on Burrowing Owl Mitigation. 34 pp.

California Department of Fish and Game
2015 Natural Diversity Data Base (b). Sacramento

Dudek & Associates.
2002. Western Riverside County Multiple Species Habitat Conservation Plan.

Ehrlich, P., Dobkin., Wheye, D.
Birder's Handbook. A Field Guide to the Natural History of North American Birds. Simon & Schuster Building Rockefeller Center 1230 Avenue of the Americas. New York, New York 10020.

Munz, Philip A.
1974. A Flora of Southern California. University of California Press, Berkeley, California. 1086 pp.

Sibley, David Allen.
National Audubon Society. The Sibley guide to Birds. Alfred A Knopf, Inc. 2000.

Stebbins, Robert C.
A Field Guide to Western Reptiles and Amphibians. Houghton Mifflin Company. 2003.

FIGURES

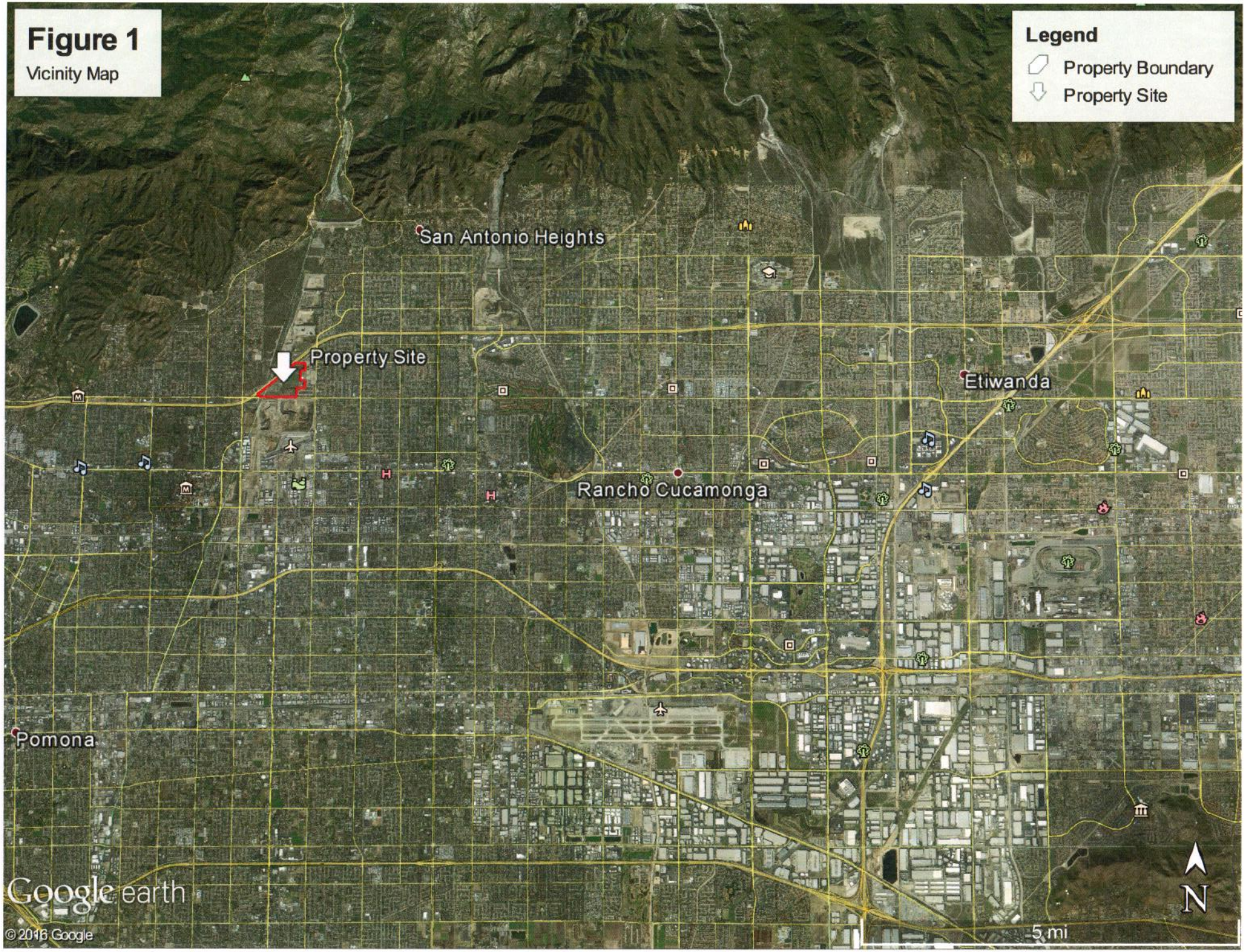


Figure 1
Vicinity Map
Legend
Property Boundary
Property Site
San Antonio Heights
Property Site
Etiwanda
Rancho Cucamonga
Pomona
Google earth
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Figure 2
Aerial View
Legend
Property Boundary
Property Site
Property Site
W Ponderosa Way
N Sweet Dr
Sun River St
W 18th St
Stony Brook Ct
Moab Dr
Montana Ln
W Clark St
W 17th St
N Rocky Rd
Hazel Ct
Bridget Ct
210
Foothill Fwy
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E Baseline Rd
W 16th St
Google earth
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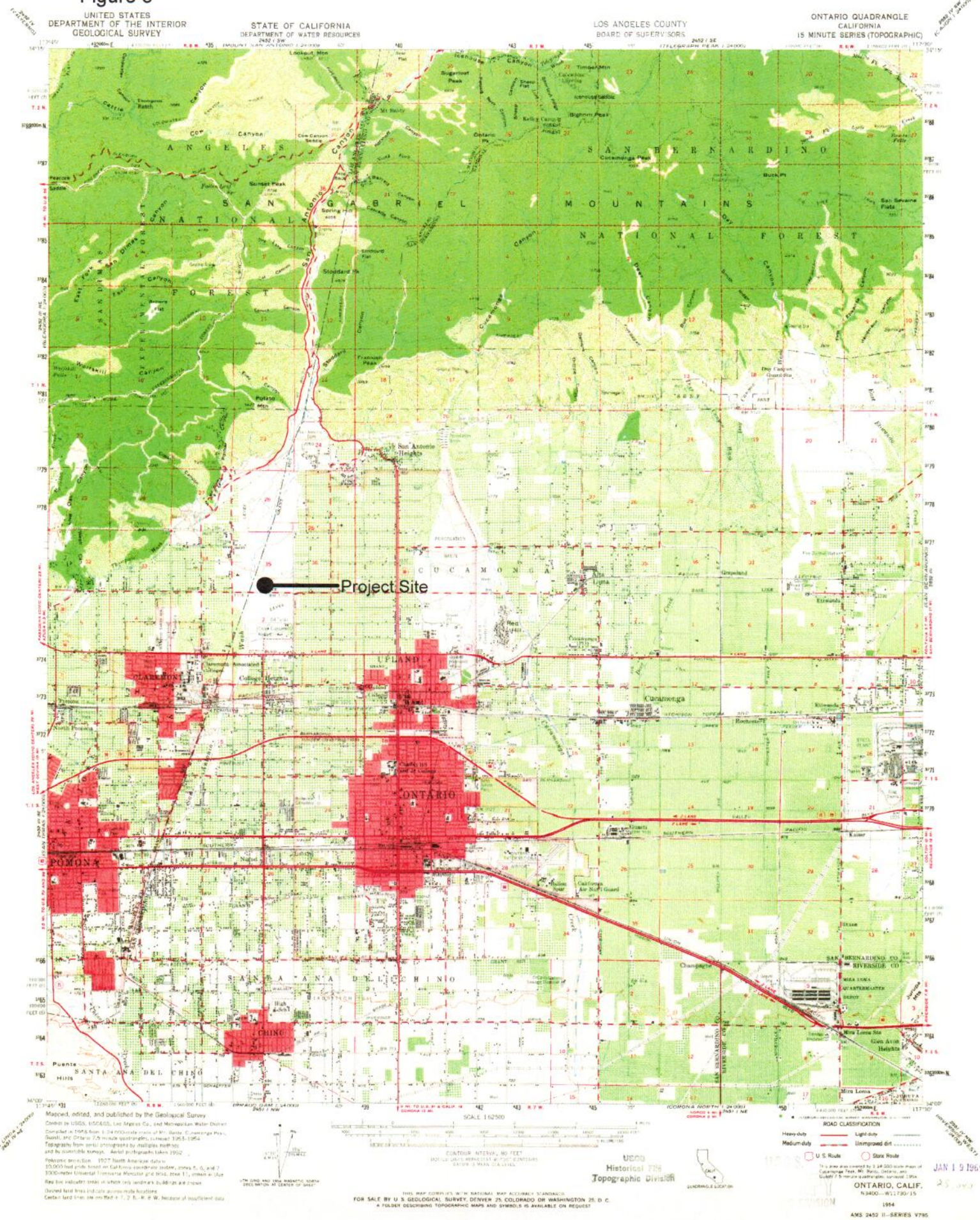
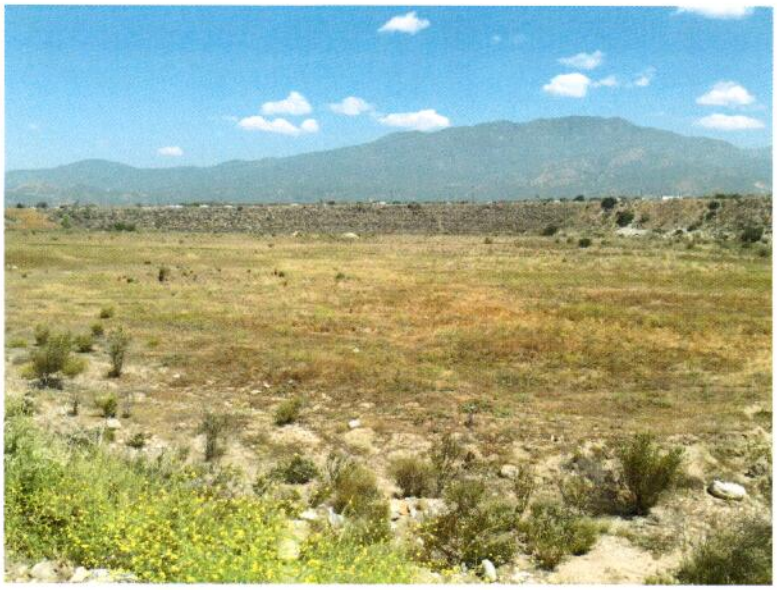
Figure 3


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
LOS ANGELES COUNTY
BOARD OF SUPERVISORS
ONTARIO QUADRANGLE
CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)
Project Site
ONTARIO, CALIF.
1954



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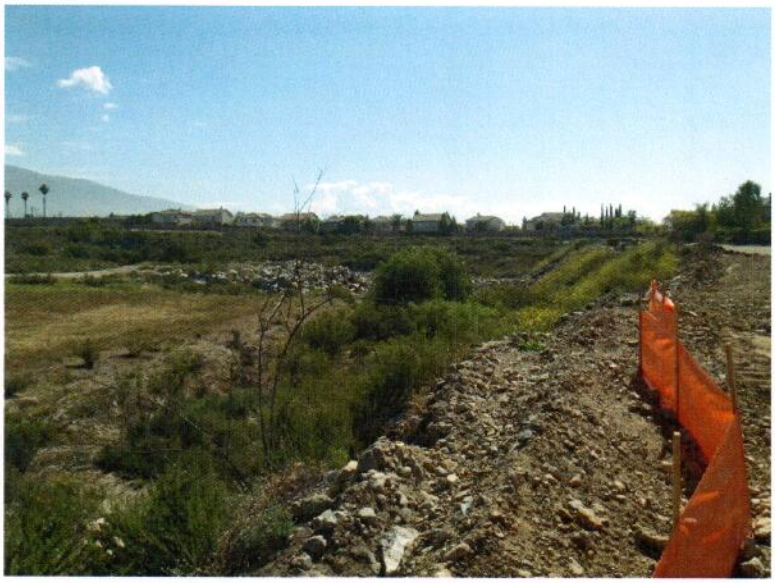
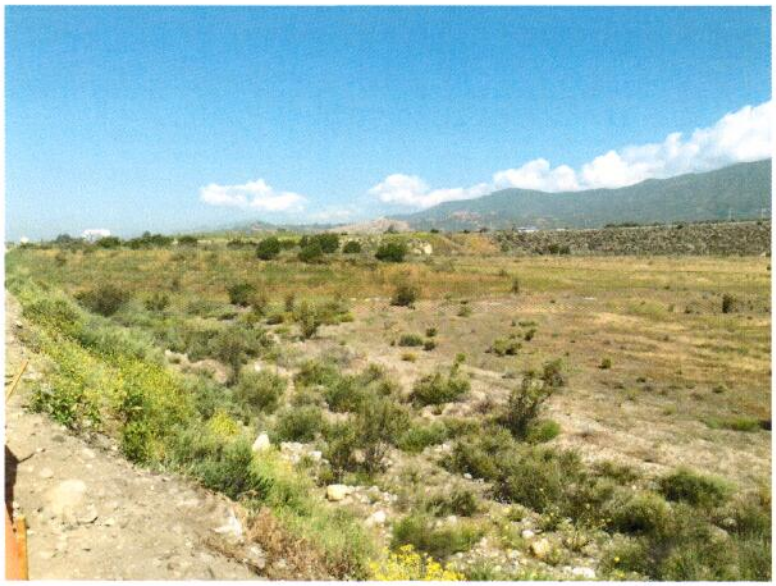


CENTER LOOKING EAST

FIGURE 4
SITE PHOTOS



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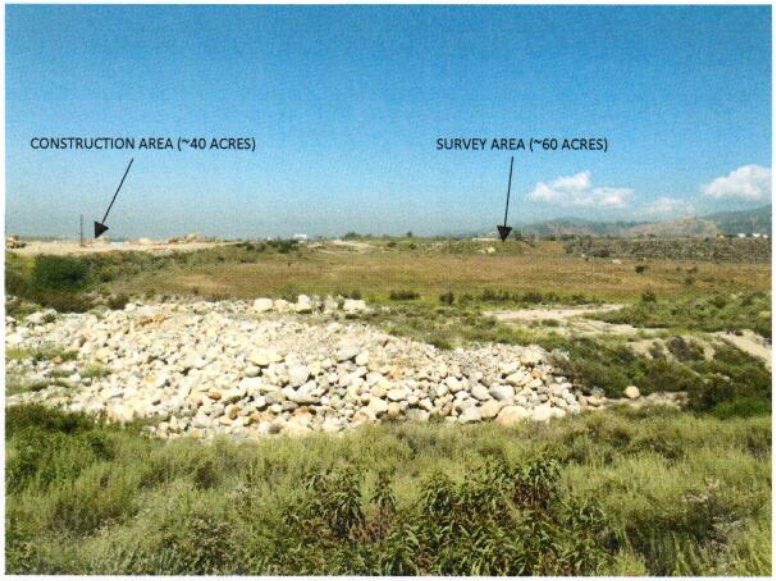

WEST BOUNDARY LOOKING EAST

FIGURE 4 CONT.
SITE PHOTOS

APPENDIX A

Burrowing Owl Occurrences

Burrowing Owl occurrences within the region based on the California Diversity Data Base (2015). (SC = Species of special concern)

Name	Listing Status	Habitat Requirements	Presence/Absence	Comments (Other owl colonies in the region.)
Burrowing owl (*Athene cuniculuria*)	CDFW: SC	Various: desert scrub, agricultural lands, disturbed areas	Site does not support suitable habitat for the species and no burrowing owls or sign observed on site.	Five (5) documented occurrences within approximately 10 miles of the property (CNDDB, 2016)

APPENDIX B

Flora and Fauna Compendia

Table 1 - Plants observed on the site.

Common Name	Scientific Name	Location
Scalebroom	*Lepidosparium squamatum*	On-site
Yerba santa	*Eriodictyon trichocalyx*	"
Castor bean	*Ricinus communis*	"
California sagebrush	*Artemisia californnica*	"
Tree tobacco	*Nicotiana glauca*	"
Laurel sumac	*Malosma laurina*	"
Brittlebush	*Encelia farinose*	"
Schismus	*Schismus barbatus*	"
Buckwheat	*E. fasciculatum*	"
Brome grass	*Bromus sp.*	"
Russian thistle	*Salsola tragus*	"
Wild oat	*Avena fatua*	"

Table 2 - Wildlife observed on the site and those species expected to occur in surrounding area.

Common Name	Scientific Name	Location
Common raven	*Corvus corax*	Observed on-site.
Mourning dove	*Zenaida macroura*	"
Desert cottontail	*Sylvilagus auduboni*	"
Western kingbird	*Tyrannus verticalis*	Occurs in area.
Brewer's blackbird	*Euphahus cyanocephalus*	"
White-crowned sparrow	*Zonotrichia leucophys*	"
Fence lizard	*Sceloporus occidentalis*	"
California ground squirrel	*Spermophilus beecheyi*	"
Western whiptail lizard	*Cnemidophorus tigris*	"
Side-blotched lizard	*Uta stansburiana*	"
Horned lark	*Eremophila alpestris*	"

Note: The above Tables are not comprehensive lists of every plant or animal species which may occur on the site or in adjacent areas, but are a list of those common species which have been identified on the site or in the region by biologists from RCA Associates, LLC, or which are common species in the region.

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits, present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Date: 11-29-2017 Signed: _____
Report Author

Field Work Performed By: Randall Arnold
Senior Biologist

Field Work Performed By: Parker Smith
Biological Technician

Attachment C.
California Gnatcatcher Letter

Attachments

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LEATHERMAN BIOCONSULTING, INC.
Biological Surveys, Management & Monitoring

December 1, 2017

Mr. Randy Arnold
RCA Associates, LLC
via email: rca123@aol.com

Subject: Results of a Habitat Assessment on the Sycamore Hills Development in the City of Upland, San Bernardino County

Dear Mr. Arnold:

The purpose of this brief letter report is to address concerns identified by the City of Upland in their Plan Check dated September 13, 2017 for the Sycamore Hills development project. Specifically, this addresses item number 12 regarding the need to conduct a survey for the California gnatcatcher in Planning Area 3 because it was not included in the area surveyed in the spring of 2016.

The need to conduct a California gnatcatcher (*Polioptila californica*) survey on the site is to comply with a mitigation measure that requires focused protocol-level surveys for the California gnatcatcher within one year of site development. Focused surveys for the California gnatcatcher on the 42-acre mixed use portion of the site were originally conducted in the winter of 2003-2004 (White & Leatherman BioServices 2004); however, develop was not initiated at that time. Focused surveys were subsequently conducted for the California gnatcatcher on the same 42-acre area in the winter of 2012-2013 (Leatherman BioConsulting, Inc. 2013). No California gnatcatchers were observed or detected on the site during either of the surveys and it was my understanding that the site was graded shortly after I finished the surveys in 2013.

On March 23, 2014, I re-visited the Sycamore Hills development site. I confirmed that the 42-acre mixed use portion of the site (excluding the City Park area) had been disturbed by clearing and grubbing activities and leveled off. Although the site was not graded completely flat, all irregular surface features, steep slopes, small embankments, and low spots were cleared of vegetation and graded in preparation for site development.

In the spring of 2016, I was contracted to conduct focused surveys for the California gnatcatcher on the 57-acre City Park portion of the site. No California gnatcatchers were observed or detected in the City Park portion of the site at that time. The remainder of the site was under development while I conducted those surveys, and therefore not surveyed.

The Plan Check correctly states that the California gnatcatcher survey conducted in 2016 included the 57-acre City Park site only. Surveys within Planning Area 3 were conducted in 2004 and 2013, and the site was cleared of vegetation and graded following the survey in 2013, thus completing the requirement in the mitigation measure to conduct a survey within one year of the start of construction. Therefore, surveys were not conducted in Planning Area 3 in 2016 because habitat in that area had already been removed during previous and ongoing construction activities.

To verify that no suitable habitat occurs in Planning Area 3, I visited the site on December 1, 2017. The southern third of the site and the portion along Interstate 216 were rough graded and had no vegetation. The central portion of the site was being used to store boulders and other rock removed from the site as construction proceeds. One small area of the site near the retail center does not appear to have been disturbed since the site was graded in 2014 and supported castor bean (*Ricinus communis*) and tree tobacco (*Nicotiana glauca*). Both of these plants are non-native and do not provide suitable habitat for the California gnatcatcher. The north end of the site also does not appear to have been disturbed since the site was graded in 2014 and supports non-native ruderal vegetation, primarily dead mustards (*Brassica* spp.), tree tobacco, castor bean and a few scale broom (*Lepidospartum squamatum*). None of this area supports suitable habitat for the California gnatcatcher. Representative photographs of each of these areas are attached to this letter report.

The survey conducted in 2016 would not be appropriate for Planning Area 3 because the survey area was restricted to the City Park site. Similarly, the surveys in 2004 and 2013 in Planning Area 3 would not be valid in 2018 because they have to be conducted within a year of development. However, Planning Area 3 was cleared and graded following the survey in 2013 to comply with the mitigation measure, and the site visit conducted on December 1, 2017 verified that the site does not support vegetation that could be used by the California gnatcatcher. Therefore, focused surveys are not recommended or required.

If you have any questions regarding the information provided herein, please contact by phone at (714) 701-0863 or by email at bleathermanwlb@aol.com.

Sincerely,

LEATHERMAN BIOCONSULTING, INC.

Brian Leatherman
Principal Biologist

Attachment

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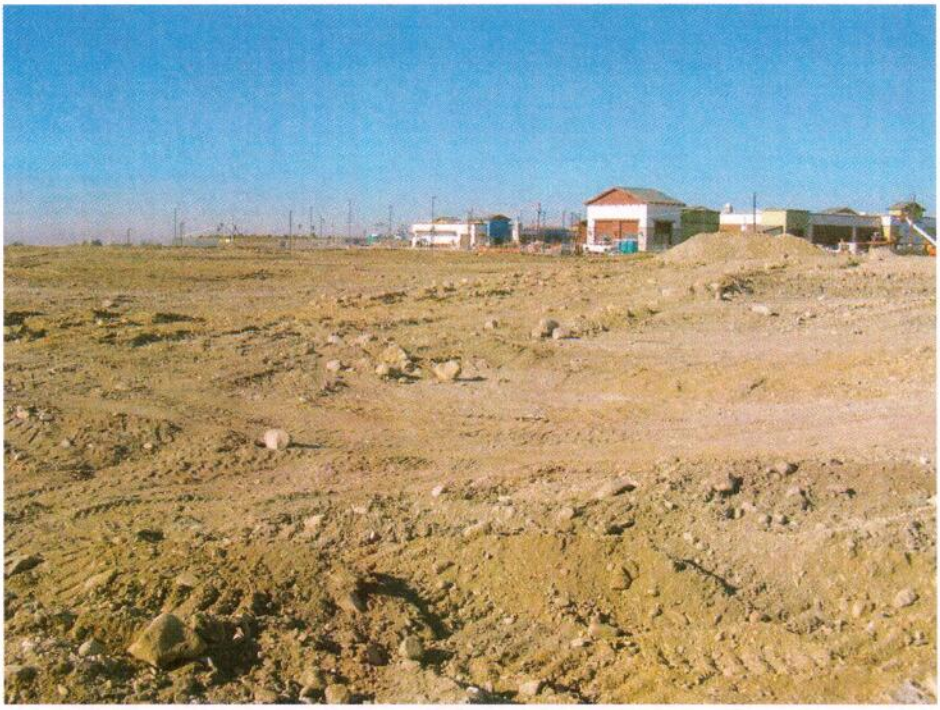
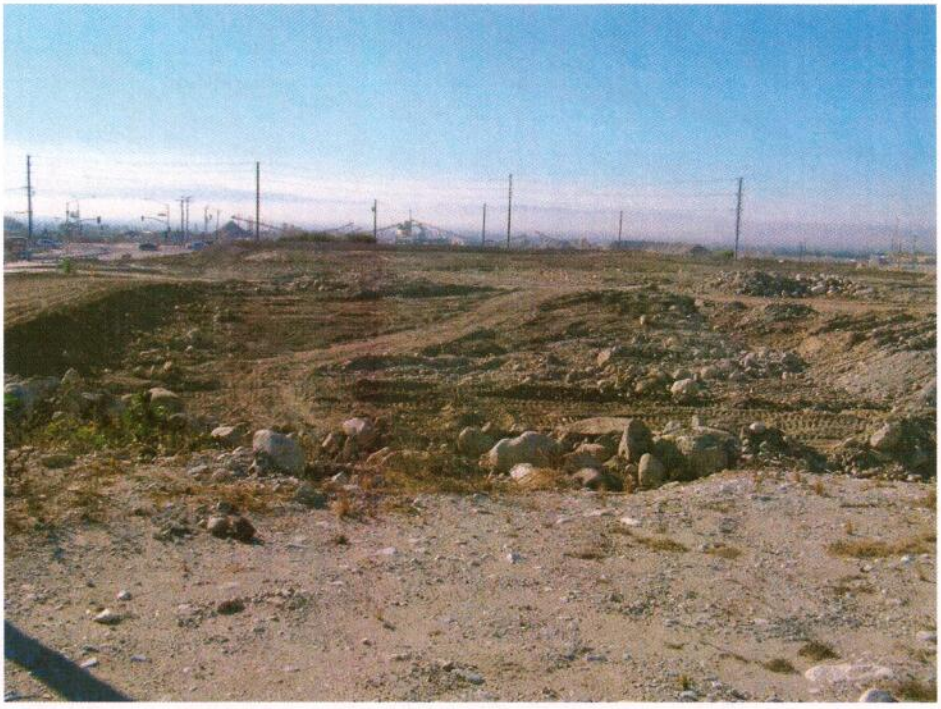
REPRESENTATIVE PHOTOGRAPHS

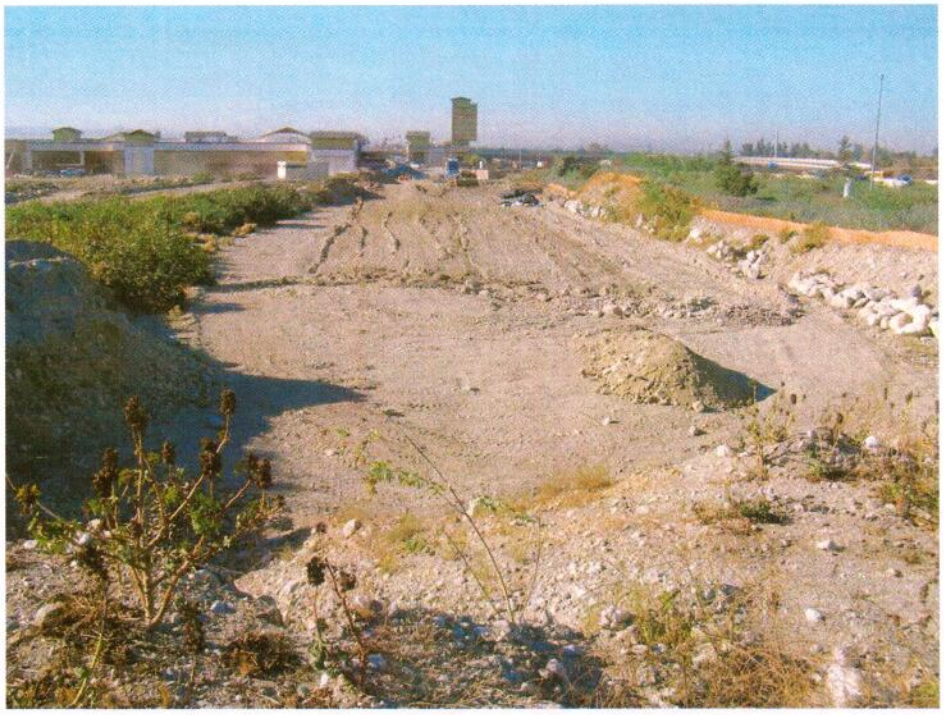
(December 1, 2017)



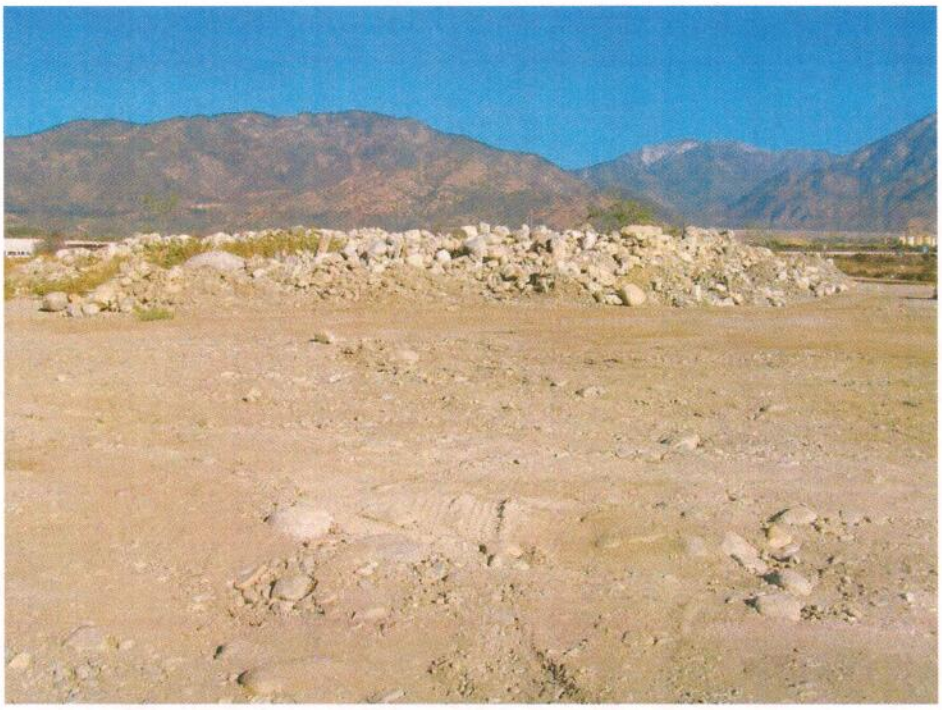
West-facing view of graded area in southern third of Planning Area 3.



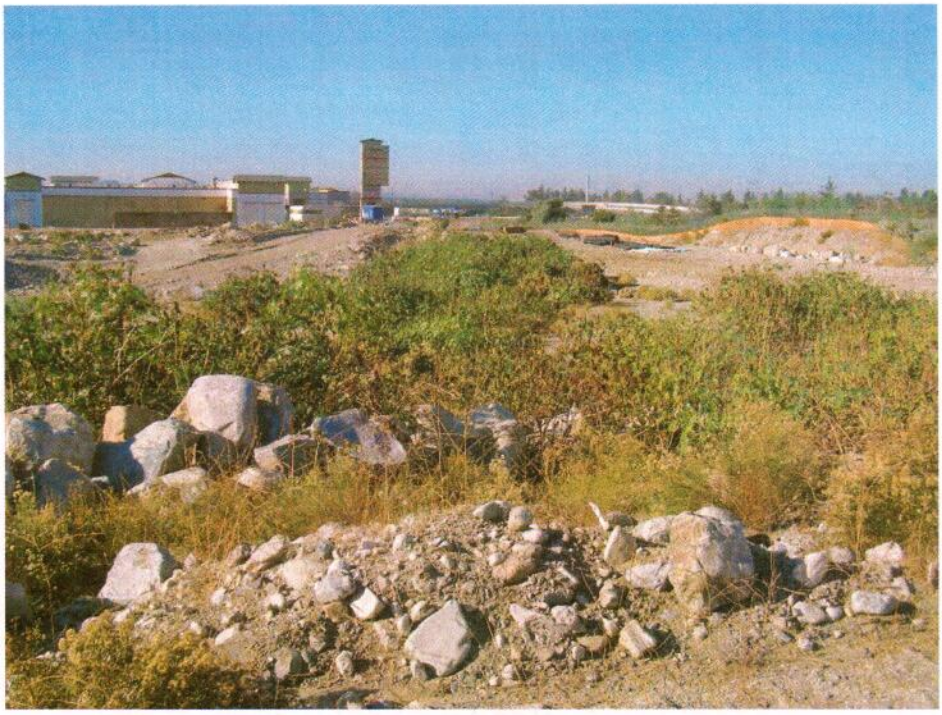
South-facing view of graded area in the southern third of Planning Area 3.



South-facing view of graded area at west end of Planning Area 3 along State Route 210.



North-facing view of boulder pile and disturbed area on eastern side of Planning Area 3.



South-facing view of tree tobacco and castor bean north of retail area. This non-native vegetation is not of the type or extent used by the California gnatcatcher and is not suitable.

South-facing view of ruderal vegetation at north end of Planning Area 3. This sparse non-native vegetation is not suitable for the California gnatcatcher.

Attachment D.
Water Supply Assessment Memorandum

Attachments

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PLACEWORKS

MEMORANDUM

DATE July 13, 2016 (revised December 12, 2017)

TO Allen Matkins

FROM Cathy Fitzgerald, P.E.

SUBJECT Review of Water Supply Issues for Sycamore Hills, Planning Area 3

This technical memorandum evaluates whether there is an adequate water supply for the proposed residential development in Planning Area 3. This evaluation relied on the following references:

- Certified Environmental Impact Report (SCH No. 2006011124) for the Baseline Road Master Plan Encompassing the Park View Specific Plan and the City Sports Park, December 2007
- Park View Specific Plan, City of Upland, March 10, 2008
- 2010 Urban Water Management Plan, City of Upland, June 2011
- Program Environmental Impact Report, General Plan Update (GPU 08-03), Zoning Code Update (ZCU 08-03), Climate Action Plan, and Cable Airport Land Use Compatibility Plan Update, City of Upland, Public Review Draft, March 2015.
- 2015 Adopted Urban Water Management Plan, City of Upland, June 2016
- California's Residential Indoor Water Use, Codes and Standards Research Report. Prepared by ConSol for California Homebuilding Foundation, 2nd Edition, May 8, 2015.
- Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, California Department of Water Resources, October 1, 2010.

Regulatory Requirements

Senate Bill (SB) 610 established the primary legal standards for assessing the sufficiency of water supplies for new development projects. The statute requires, as part of the environmental review conducted for a qualifying project pursuant to the California Environmental Quality Act (CEQA), that the public water supplier or land use agency prepares a "water supply assessment" (WSA). The WSA determines the reliability of water supplies for the project, considering normal, single dry, and multiple dry years over a 20-year horizon. Development projects must meet certain thresholds to trigger preparation of a WSA. For residential projects, the threshold is more than 500 dwelling units. Since the proposed project for Planning Area 3 will include only 176 units, a WSA is not required.

The City of Upland's Water Division would provide water service to the project and also services most residents, businesses, and other users within the City limits. The City has prepared the adopted 2015 Urban Water Quality Management Plan (URMP) that supercedes the adopted 2010 UWMP. In

compliance with the Urban Water Management Planning Act, the UWMP describes and evaluates demand projections, sources of water supply, supply reliability, water use efficiency, and demand management measures. It also demonstrates that the City's water supplies are sufficient to meet projected usage for normal year, dry year, and multiple dry year scenarios extending to the year 2035. The water demand for proposed and future projects, as well as population increases, are accounted for in the adopted URMP. Since the Environmental Impact Report (EIR) for the Park View Specific Plan, which includes the project site, was certified in 2007, the water demand for this project was incorporated into the 2010 UWMP and subsequent 2015 UWMP. Both the 2010 and 2015 UWMPs indicate that the projected water supplies are sufficient to satisfy demands for current and future projects within the City for both normal year, dry year, and multiple dry years.

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11) (CalGreen Code) requires the use of green building principles and practices in site planning and building design to promote energy and water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The voluntary and mandatory standards in the code apply to the planning, design, operation, construction, use and occupancy of new low-rise and high-rise residential buildings. The proposed project would be subject to these requirements, which include the installation of water efficient showerheads, faucets, toilets, and clothes washers, and would result in water conservation savings.

Assembly Bill (AB) 1881 requires cities and counties to adopt landscape water ordinances by January 31, 2010 or adopt a different ordinance that is at least as efficient in conserving water as the updated Model Water Efficient Landscape Ordinance (MWELO). In accordance with AB 1881, the City of Upland adopted its MWELO in February 2010, as specified in Chapter 17.26 of the Municipal Code, *Landscaping.* Implementation of these requirements will also result in a reduced water demand for the project.

Project Description

The proposed project for Planning Area 3 includes 176 residential units on 16.61 acres of land near the intersection of the Interstate 210 (I-210) freeway and West 16th Street in the City of Upland. The project called Sycamore Hills will include 93 two-story detached cluster homes and 83 three- and four-bedroom conventional townhome units. The density would be 10.6 homes per acre and includes 227,102 square feet of open space, including a central recreational area and linear buffer park, private rear yards, and ancillary open space. A site plan of the proposed Sycamore Hills development is attached.

Previous Project Water Supply Evaluations

An EIR prepared in 2007 for the Park View Specific Plan evaluated water supply in the Public Utilities and Infrastructure section. It was determined that a water supply assessment (WSA) was not necessary because the proposed project would not exceed the residential development threshold of more than 500 units (a total of 400 units was proposed) or a shopping center that would employ more than 1,000 people or have more than 500,000 square feet of floor space. Using the residential water usage rate provided in the certified EIR, which was 450 gallons/day/unit, and a total of 176 residential units now proposed in Planning Area 3, the estimated water demand would be 79,200 gallons/day or 88.7 acre-feet/year. The EIR stated that water for the Park View Specific Plan would be supplied by the City of Upland and West End Consolidated Water Company and there were sufficient water supplies to meet the demand of the project. Construction of a new 12-inch water main in Baseline Road would serve the project, and would be extended to the north to Park View Promenade and then loop through to 17th Street and back to Benson Avenue, providing two points of water supply. The EIR concluded that the water demand was less than significant and the EIR was certified in 2008.

Subsequent to certification of the Park View Specific Plan EIR, the City of Upland included this project in the General Plan Update (2015). The Program EIR evaluated water supply in Chapter 5.15 and stated that with additional planned development and increases in the City's population and business, there would be an overall increase in total water demand. However, based on the Upland 2010 Urban Water Management Plan (UWMP), there would be sufficient water supplies and water shortage contingency plans to support the increased development for normal, single-dry, and multiple dry years through the year 2035. The adopted 2015 UWMP, which is dated June 2016, also shows that the water supply would not exceed the water demand for normal, single-dry, and multiple-dry years through 2035. The expansion of the groundwater recharge facilities in 2008, the recent delivery of recycled water to City customers, water conservation measures, and compliance with CalGreen building standards will ensure that there are adequate water supplies for the proposed project and additional development within the City.

Additional Project Water Supply Evaluations

Since the water demand for the Park View Specific Plan was calculated in 2007, new regulations and water conservation efforts have resulted in reduced water demands for new development projects. In 2014, Governor Jerry Brown issued an executive order declaring a drought emergency in California and imposing restrictions on urban water suppliers to achieve a statewide 25 percent reduction in water use through February 2016 (the executive order was subsequently renewed). The proposed conservation reduction for the City of Upland was 36%, based on an average per capita water usage of 235 gallons/person/day for the period of June-August 2014. According to the 2015 UWMP, the water

usage in the City was 214 gallons per capita per day (GPCD). However, it does not appear that this number reflects current water conservation efforts by the City. According to the State Water Resources Control Board (SWRCB), which maintains statistics on water usage of cities and counties throughout California, the average per capita residential water usage in Upland for the period from June 2015 through May 2016 was 132.6 GPCD. This meets the reduction goal of 36%, since the water use decreased by 37.69 percent. Note that in April 2017, Governor Brown signed an executive order lifting the drought emergency designation for most of the state, including San Bernardino County.

Water demand calculations for the proposed project were also developed, assuming an average of 133 GPCD for residential use and an average of 2.75 people per household in Upland, based on the latest census data. Using these assumptions, the calculated water demand for Planning Area 3 would be approximately 72.1 acre-feet per year, as compared to the previous estimate of 88.7 acre-feet per year. However, this number also overestimates actual water demand for the project, since the residential per capita water use includes older single-family residences with large yards and less efficient plumbing fixtures. The project will be required to comply with recent CalGreen building standards, which results in water savings, as well as the City's landscape ordinance, which would reduce water demand for irrigation. Therefore, an additional water demand calculation was performed that reflects the incorporation of building and landscaping water conservation efforts. The calculations are provided in the attachment and the results show a calculated water demand of 43.7 acre-feet/year for the proposed project.

In summary, the previously calculated water demand of 88.7 acre-feet/year for Planning Area 3 of the proposed project, as reported in the 2007 certified EIR and accounted for in the 2010 and 2015 UWMPs, overestimated the actual water demand, because it didn't account for regulatory compliance with the CalGreen building code and City's landscaping ordinance, which will result in water conservation savings. Water demand calculations accounting for these requirements estimate the proposed project would use approximately 43.7 acre/feet/year, which is a 47 percent reduction from the previous estimate. Because the project was previously approved in the certified EIR and accounted for in the 2010 and 2015 UWMPs, and the actual water demand will be much less than the previous estimate, the proposed project would not create a significant water demand and water supplies for the City of Upland, including the proposed project, are available for this project.

Respectfully submitted,

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