



CITY OF CAMPBELL
Community Development Department

**SECOND ADDENDUM TO A MITIGATED NEGATIVE
DECLARATION AND INFILL ENVIRONMENTAL CHECKLIST**

**Dillon Avenue Townhomes and Apartments (aka "Madison")
500 Sam Cava Ave. (Bld. 19)**

Pursuant to Section 15164 of the CEQA Guidelines, the City of Campbell has prepared a Second Addendum to an Infill Environmental Checklist/Mitigated Negative Declaration because minor changes made to the project that are described below do not raise important new issues about the significant impacts on the environment.

PROJECT NAME, APPLICATION FILE NUMBERS, AND LOCATION

Project Title: Dillon Avenue Townhomes and Apartments (aka "Madison")
500 Sam Cava Ave. (Bld. 19)

File Number(s): PLN2016-233 (Planned Development Permit) | PLN2016-234
(Tentative Vesting Subdivision Map) | PLN2016-303 (Minor
Modification) | PLN2016-235 (Parking Modification Permit)

Project Address: 500 Sam Cava Ln. (Subject Parcel) | Lottie Lane (Overall Project)

PROJECT DESCRIPTION

The residential infill project was initially approved by the Campbell City Council on October 21, 2014 for 100 units, including 81 townhomes and 19 apartments ("original project"). At that meeting, the City Council adopted a Mitigated Negative Declaration (MND) based on preparation of an Infill Environmental Checklist Form prepared in compliance with CEQA Guidelines Sec. 15183.3. The project proponent subsequently secured additional property and submitted applications to expand the project scope. On November 17, 2015, the Campbell City Council approved the expanded project ("approved project") to now include 118 units, consisting of 90 townhomes and 28 apartments units. At that meeting, the City Council adopted an (first) Addendum to the previously adopted Mitigated Negative Declaration, pursuant to CEQA Guidelines Sec. 15164, as based on a supplemental environmental analysis of the expanded project.

The current expansion proposal ("revised project") would incorporate one additional parcel ("subject parcel") into the project, allowing construction of an additional townhome row with six units, bringing the total unit count to 124 (96 townhomes and 28 apartment units). The proposal would also modify the parking configuration along the private roadway around the existing site.

The revised project will require consideration of a Planned Development Permit (PLN2016-233) for the proposed six-unit townhome building; a Tentative Vesting Subdivision Map (PLN2016-234) for creation of six private lots, two common lots, reconfiguration of existing common area lots, and vacation of excess City right-of-way; a Parking Modification Permit (PLN2016-235) to allow consideration of private driveways as guest parking; and a Minor Modification (PLN2016-303) to a previously approved and modified Planned Development Permit (PLN2015-170/PLN2015-48/PLN2013-337) to allow reconfiguration of parking stalls within a common lot of the 'Madison' townhome project.

The adopted Infill Environmental Checklist/Mitigated Negative Declaration evaluated the environmental impacts that might reasonably be anticipated to result from the implementation of the project. This Second Addendum was prepared to evaluate the environmental impacts that may result from revised project as described above and confirm whether any new significant impacts or a substantial increase in the severity of previously identified impacts would result from the revised project. Specifically, the following impacts were reviewed and found to be adequately considered by the Infill Environmental Checklist/Mitigated Negative Declaration:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Aesthetics | <input checked="" type="checkbox"/> Agricultural Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards/Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality |
| <input checked="" type="checkbox"/> Land Use/Planning | <input checked="" type="checkbox"/> Mineral/Energy Resources | <input checked="" type="checkbox"/> Noise |
| <input checked="" type="checkbox"/> Population/Housing | <input checked="" type="checkbox"/> Public Services | <input checked="" type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Circulation | <input checked="" type="checkbox"/> Utilities/Service Systems | |

ANALYSIS

The California Environmental Quality Act (CEQA) recognizes that between the date an environmental document is completed and the date the project is fully implemented, one or more of the following changes may occur: 1) the project may change; 2) the environmental setting in which the project is located may change; 3) laws, regulations, or policies may change in ways that impact the environment; and/or 4) previously unknown information can arise. Before proceeding with a project, CEQA requires the Lead Agency to evaluate these changes to determine whether or not they affect the conclusions in the environmental document.

The purpose of this Second Addendum is to evaluate the environmental impacts of the revised project, which would allow for the development of an additional six townhome units for a total 124 units (96 townhomes and 28 apartment units), and associated site work, including grading, landscaping, and private roadway improvements.

The CEQA Guidelines §15162 state that when a negative declaration has been adopted for a project, no subsequent EIR or negative declaration shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which 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;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken, which 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; or
3. 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 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 shown 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 proponents decline to adopt the mitigation measure or alternative; or
 - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR or negative declaration would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines §15164(b) state that 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 §15162 calling for the preparation of a subsequent Environmental Impact Report or negative declaration have occurred.

Based on the proposed revised project description, the environmental review prepared for the Infill Environmental Checklist/Mitigated Negative Declaration, and the attached supplemental analysis, the City has concluded that the proposed revised project would not result in any new significant impacts not previously disclosed in the adopted Infill Environmental Checklist/Mitigated Negative Declaration nor would it result in a substantial increase in the magnitude of any significant environmental impact previously identified in the Infill Environmental Checklist/Mitigated Negative Declaration.

For these reasons, a Second addendum to the adopted Infill Environmental Checklist/Mitigated Negative Declaration for the revised Dillon Avenue Townhomes and Apartments Project (aka "Madison") has been prepared and a supplemental or subsequent Environmental Impact Report or Infill Environmental Checklist/Mitigated Negative Declaration is not required for the proposed revised project. This addendum will not be circulated for public review, but will be attached to the final Infill Environmental Checklist/Mitigated Negative Declaration for the Dillon Avenue Townhomes and Apartments Project, pursuant to CEQA Guidelines §15164(c) and posted on the City's website. All documents referenced in this Addendum are available for public review in the Campbell Community Development Department at Campbell City Hall, 70 N. First Street, during normal business hours and online on the City's 'Environmental Notices' webpage (<http://www.cityofcampbell.com/Archive.aspx?AMID=49>).



Daniel Fama, Senior Planner
Community Development Department

March 10, 2017

Date



CITY OF CAMPBELL
Community Development Department

SUPPLEMENTAL ANALYSIS

**SECOND ADDENDUM TO A MITIGATED NEGATIVE DECLARATION
(MND) AND INFILL ENVIRONMENTAL CHECKLIST**

- Project Title:** Dillon Avenue Townhomes and Apartments (aka "Madison")
500 Sam Cava Ave. (Bld. 19)
- File Number(s):** PLN2016-233 (Planned Development Permit) | PLN2016-234 (Tentative Vesting Subdivision Map) | PLN2016-303 (Minor Modification) | PLN2016-235 (Parking Modification Permit)
- Project Address:** 500 Sam Cava Ln. (Subject Parcel) | Lottie Lane (Overall Project)
- Project Sponsor:** Madison Park of Campbell, LLC
2185 The Alameda
Santa Jose, CA 95126
- Zoning District:** P-D (Planned Development)
- General Plan** *Commercial/Med.-High Density Residential (14-27 units/gr. acre)*
- Lead Agency:** City of Campbell, Community Development Department
70 N. First Street, Campbell, CA 95008
- Contact Person:** Daniel Fama, Senior Planner
(408) 866-2193 | danielf@cityofcampbell.com
- Date Prepared:** March 10, 2017

Project Setting and Surrounding Land Use: The overall project site is approximately 5-acres, and is generally located at the southeast intersection of Sam Cava Lane and Dillon Avenue. The majority of the project site perimeter (80%) is adjacent to existing commercial, industrial, and/or residential uses. The site is currently in active construction pursuant to land use entitlements granted by the City of Campbell for an infill residential project as discussed below. The overall project site is within the Planned Development (P-D) Zoning District and straddles two General Plan Land Use districts; *High Density Residential* and *Commercial/Medium-High Density Residential*. Additionally, much of the site is also within the South of Campbell Avenue (SOCA) Plan area. The subject parcel, 500 Sam Cava Lane, is developed with a dilapidated and unoccupied duplex, and is currently being used for construction staging activity for the approved project.

Project Background: The project was initially approved by the Campbell City Council on October 21, 2014 for 100 units, including 81 townhomes and 19 apartments ("original project"). At that meeting, the City Council adopted a Mitigated Negative Declaration (MND) based on preparation of an Infill Environmental Checklist Form prepared in compliance with CEQA Guidelines Sec. 15183.3. The project proponent subsequently secured additional property and submitted applications to expand the project scope. On November 17, 2015, the Campbell City Council approved the expanded project ("approved project") to now include 118 units, consisting of 90 townhomes and 28 apartment units. At that meeting, the City Council adopted an (first) Addendum to the previously adopted Mitigated Negative Declaration, pursuant to CEQA Guidelines Sec. 15164, as based on a supplemental environmental analysis of the expanded project.

The original Infill Environmental Checklist Form and associated Mitigated Negative Declaration (MND) may be viewed at this [link](#). The (first) Addendum to the previously adopted Mitigated Negative Declaration and associated supplemental environmental analysis may be viewed at this [link](#). Alternatively, these materials may be viewed online on the City of Campbell 'Environmental Notices' webpage at: <http://www.cityofcampbell.com/Archive.aspx?AMID=48>

Revised Project Description: The expansion proposal ("revised project") would incorporate one additional parcel ("subject parcel") into the project, allowing construction of an additional townhome row with six units, bringing the total unit count to 124 (96 townhomes and 28 apartment units). The proposal would also modify the parking configuration along the private roadway around the existing site.

Additional Project Data:

Net Lot Area:	0.21 acre	
Zoning:	P-D (Planned Development)	
General Plan:	<i>Commercial/Med.-High Density Residential (14-27 units/gr. acre) and High Density Residential (21-27 units/gr. acre)</i>	
Proposed Units:	6 units	
Unit Sizes:	2,400-2,500 sq. ft. ±	
Building Height:	42 feet	
Parking Required:	<u>Provided</u>	<u>Minimum Required</u>
Resident Spaces:	12 spaces	12 spaces
Guest Spaces:	6 spaces	3 spaces

Revised Project Site Configuration: The proposed townhome building would be situated in a noticeable gap in the project site, located along Sam Cava Lane as the roadway turns to become Gilman Avenue (highlighted in orange on the location map on the following page). Given the extent of the development currently underway and the limited scope of the proposal, the overall site layout would remain unchanged. However, as depicted in the project plans, the parking area around the subject parcel would be modified to convert some parallel parking spaces to perpendicular spaces and to allow new driveways into the rear of the proposed townhome building. The proposal would also

eliminate parking spaces that are currently approved at this corner (this area would be replaced with landscaping and walkways as it would now be located in front of the proposed townhome building).

Revised Project Parking: Since the project is located within a ¼ mile of the Downtown Light Rail Station, it is considered a transit-oriented development (TOD), subject to the parking standard of 2 stalls/unit plus ½ stall guest/unit for a total of 15 stalls (12 resident + 3 guest) for the six units. The townhomes would provide two stalls per unit in each tandem garage. The use of all tandem parking for the proposed building allows for narrower units and maximization of the property's development potential. However, this configuration differs from the overall of project, in which townhome units with tandem garages (30 of 90 units) were interspersed among units with standard side-by-side garages.

The reconfiguration of Lottie Lane from parallel to perpendicular parking would provide one additional stall, which would partially offset the loss of the three parking stalls at the corner (as identified in orange on the site plan), but still result in a deficit of two guest parking stalls. As a result, the project also includes a Parking Modification Permit to allow consideration of the new driveways as guest parking.

As compared to the rest of the project, which includes only shallow driveway aprons, the proposed townhome building would have full length driveways that would satisfy both the dimension and backup distance requirements for residential parking stalls. These six "driveway stalls" would result in a surplus of four spaces. Although these stalls would bring extra parking capacity to the project, they would function as restricted guest parking since their use must be restricted to the owners of the respective townhome units. However, the project's CC&Rs would restrict their use for guests of these owners so that the stalls do not simply become resident parking. Moreover, since these stalls would also be positioned behind two tandem stalls in the garages, restriction of their use as guest parking would minimize maneuvering activity occurring at the entrance of the project.

Architectural Design: The proposed townhome building would incorporate an architectural design consistent with the rest of the project, particularly the adjacent townhome building along Sam Cava Lane with use of red brick and siding as shown by the photo simulation (new) and photograph (existing), below:



Location Map



Site Photographs



VIEW OF THE SITE LOOKING NORTHERLY



VIEW OF THE SITE LOOKING EASTERLY

1. AESTHETICS

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-c) – Less Impact than "Approved Project": The addition of one parcel to the approved project will not result in any appreciable impact to scenic resources. To the contrary, the removal of a dilapidated residence would result in an aesthetic improvement.

Additional and/or Revised Mitigation Measures Required: None required

(d) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): As with the approved project, site lighting will include down-lit fixtures for new residences and freestanding lighting fixtures along the new public pathway and internal roadways. However, light and glare associated with new site lighting would be substantially mitigated by the Lighting Design Standards (CMC Sec. 21.18.090), which requires lighting to be designed and installed so that light rays are not emitted across property lines. This standard will be implemented through requirement of a photometric plan during building permit plan check.

Additional and/or Revised Mitigation Measures Required: None required

2. AGRICULTURAL RESOURCES

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
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 Programs of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land or timberland zoned Timberland Production?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-e) – No Impact (Same as Approved Project): The overall project site, including the subject parcel, is not currently used for, nor zoned for, farmland or other agricultural or horticultural purpose. Neither the project site (including the subject parcel) nor surrounding properties contain farmland or support agricultural activity that could be impacted by the revised project.

Additional and/or Revised Mitigation Measures Required: None required

3. AIR QUALITY

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-e) – Less than Significant with Mitigation (Same as Approved Project): Direct responses to issues (a) through (e) as they pertain to the revised project have been provided on pages 5-14 of the attached *Air Quality, Greenhouses Gas, and Health Risk Assessment* (reference **Attachment 1**), prepared by ESA, dated November 2016. As discussed in the assessment, the mitigation measures previously incorporated into the adopted Mitigated Negative Declaration remain sufficient for the revised project.

Additional and/or Revised Mitigation Measures Required: None required

4. BIOLOGICAL RESOURCES

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?					

(a-b, d-e) – Less Impact than "Approved Project": The subject parcel to be included within the approved project is void of any natural resources (flora or fauna) and does not directly abut the Los Gatos Creek riparian corridor, and would therefore have a lesser impact (i.e., no impact) than the approved project.

Additional and/or Revised Mitigation Measures Required: None required.

(c) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): The revised project will require additional grading and excavation, comparable to the approved project. The applicant is required to comply with standard erosion control measures, including preparation of an erosion control plan that employ best management practices (BMPs), develop a Storm Water Pollution Prevention Plan (SWPPP) per State Water Quality Control Board Stormwater Permit, conform with City’s stormwater and grading requirements (CMC Sec. 20.80.020 and 21.16.100), and obtain all necessary permits. As a result, potential impacts to downstream waters from erosion and polluted stormwater runoff, that could also affect riparian habitats, will continue to be substantially mitigated.

Additional and/or Revised Mitigation Measures Required: None required

(f) – No Impact (Same as Approved Project): No adopted Habitat Conservation Plan, Natural Community Conservation Plan or approved local, regional or state habitat conservation plans apply to the revised project or the project site.

Additional and/or Revised Mitigation Measures Required: None required

5. CULTURAL RESOURCES

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): The subject parcel for the revised project does not contain known historical resources as defined in §15064.5 of the CEQA Guidelines nor is any property within the project site identified as historically significant or potentially historical significantly by the Campbell Historic Resource Inventory (HRI).

Additional and/or Revised Mitigation Measures Required: None required

(b-c) – Analyzed in Prior EIR (Same as Approved Project): The Campbell General Plan EIR recognized that construction activity could result in the exposure of undocumented paleontological and archaeological resources (Impact CULT-1, Pg. 150). This potential impact was mitigated to a less than a significant level through incorporation of the General Plan Strategy CNR-1.1b. The requirement to properly handle any discovered archeological or paleontological resources was incorporated in the approved project's conditions of approval, which will be carried over to the revised project.

Additional and/or Revised Mitigation Measures Required: None required

(d) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): No human remains are known to exist on the project site. However, should human remains be discovered during excavation or construction for the revised project, such remains shall be handled pursuant to § 7050.5 of the California Health and Safety Code and § 5097.94 of the California Public Resources Code.

Additional and/or Revised Mitigation Measures Required: None required

6. GEOLOGY AND SOILS

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a,c-d) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): The overall project site is located within the seismically active San Francisco Bay Area. According to maps prepared under the Alquist-Priolo Earthquake Fault Zone Act, there are no zoned active faults within the City of Campbell. Therefore, ground rupture is not likely to occur at the site. According to the State Seismic Hazard Zones Map, the project site is not located in any hazard zone and therefore does not have the potential for liquefaction or earthquake-induced landslides. However, the nearest major earthquake faults are the Monte Vista Shannon Fault, San Andreas Fault, the Hayward-Rogers Creek Fault and the Calaveras Fault, all of which pose the greatest earthquake threat because of their high quake potential. The project will likely be subjected to at least one moderate to severe earthquake that will cause moderate to severe ground shaking during the useful life of the proposed residential buildings. Ground shaking on the site could damage buildings, roads and utilities.

As required by the CMC Sec. 21.18.130 the revised project shall conform to the California Building Code provisions regarding engineering and geotechnical analysis. This project will require preparation of a geotechnical report, the conclusions and recommendations of which shall become the standards for review of the construction drawings for a building permit. A geotechnical report was prepared for the approved project and a supplemental geotechnical letter regarding the revised project (subject parcel) has also been prepared (reference **Attachment 2**). Conformance with the recommendations of the geotechnical report and supplemental letter will substantially mitigate the potential for seismic damage and geologic instability and risk to future occupants.

Additional and/or Revised Mitigation Measures Required: None required

(b) – No Impact (Same as Approved Project): The potential for unstable soil conditions and erosion would not be significant because the revised project will be required to comply with the recommendations of the geotechnical analysis, as noted above. Air quality mitigation measures to control construction dust, as incorporated in the adopted Mitigated Negative Declaration, will also mitigate for wind-blown erosion.

Additional and/or Revised Mitigation Measures Required: None required

(e) – No Impact (Same as Approved Project): The revised project would not involve the use of septic tanks or alternative waste water disposal systems.

Additional and/or Revised Mitigation Measures Required: None required

7. GREENHOUSE GAS EMISSIONS

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an adopted plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-b) – **No Impact (Same as Approved Project)**: Direct responses to issues (a) through (b) as they pertain to the revised project have been provided on pages 15-19 of the attached *Air Quality, Greenhouses Gas, and Health Risk Assessment* (reference **Attachment 1**), prepared by ESA, dated November 2016. As discussed in the assessment, the revised project would remain below the Bay Area Air Quality Management District (BAAQMD)'s greenhouse gas emissions (GHG) threshold of 1,100 metrics tons of CO₂e. As a result, the revised project would represent a cumulatively less-than-significant GHG impact. The revised project would, therefore, not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

Additional and/or Revised Mitigation Measures Required: None required

8. HAZARDS AND HAZARDOUS MATERIALS

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
plan or emergency evacuation plan?				<input checked="" type="checkbox"/>	
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): No routine transport, use or disposal of hazardous materials would be associated with the revised project. A slight hazardous potential would exist during project construction when materials and construction equipment are at the site, however, long-term hazard risk is very low. Hazard risks during construction and demolition would be regulated by the City’s standard conditions of approval and would be required to be performed in accordance with state and federal hazardous materials regulations and current Best Management Practices (BMPs) for construction activities as discussed in Air Quality Section of the Infill Environmental Checklist for the original project.

Additional and/or Revised Mitigation Measures Required: None required

(b-d) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): Remediation of soil contamination, as discussed in the Infill Environmental Checklist, was conducted pursuant to the County of Santa Clara Voluntary Cleanup Program overseen by the Departmental of Environmental Health. Remediation efforts have now been completed, as noted in the California [Geotracker website](#).

The subject parcel to be included as part of the revised project is not listed on the Hazardous Waste and Substances Sites List (available at http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm). Additionally, a Phase I site assessment (reference **Attachment 3**) prepared for the additional parcel to did not identify any "recognized environmental conditions"—meeting the standard set forth by American Society for Testing and Materials (ASTM)—that could be considered "significant effect" under CEQA (Guideline § 21068).

Additional and/or Revised Mitigation Measures Required: None required

(c) – No Impact (Same as Approved Project): The project site is not within ¼ mile of an existing or proposed school.

Additional and/or Revised Mitigation Measures Required: None required

(e-f) – No Impact (Same as Approved Project): The project site is not located within the Santa Clara County Airport Land Use Commission jurisdiction, within two miles of a public airport or within the vicinity of a private airstrip.

Additional and/or Revised Mitigation Measures Required: None required

(g) – No Impact (Same as Approved Project): The revised project would not interfere with emergency response or evacuation plans. Sufficient emergency access and emergency services staff would be provided for the project site in compliance with the State of California Building Code Standards and requirements of the Santa Clara County Fire and Health Departments.

Additional and/or Revised Mitigation Measures Required: None required

(h) – No Impact (Same as Approved Project): The project site is not located near any wildland areas and would not cause an increase in wildland fire hazard.

Additional and/or Revised Mitigation Measures Required: None required

9. HYDROLOGY AND WATER QUALITY

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a,c-f) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): The revised project would entirely alter the existing drainage pattern of the subject parcel through demolition of the existing residence and re-grading to accommodate residential development in a manner comparable to the approved project. The revised project includes advanced stormwater treatment and retention that will prevent erosion, siltation, runoff related flooding, or increases in flow velocity or volume of stormwater runoff, discussed in greater detail in the Infill Environmental Checklist of the original project. The changes to the project site as a result of on-site improvements will not substantially alter the existing drainage pattern of the surrounding area, alter 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.

Additional and/or Revised Mitigation Measures Required: None required

(b) – No Impact (Same as Approved Project): The revised project will continue to be adequately served by the existing water supplies, as confirmed in written correspondence ("will serve" letter) by San Jose Water Company (reference **Attachment 4**), the local area water utility. As such, the project will not deplete or otherwise interfere with groundwater supplies.

Additional and/or Revised Mitigation Measures Required: None required

(g-h) – No Impact (Same as Approved Project): The Federal Emergency Management Agency Flood Insurance Rate Maps, as amended by a Letter of Map Amendment (LOMA) indicates the overall project is located in Zone X, an area determined to be outside the 500-year (.2%) annual chance floodplain. Therefore, the addition of the proposed parcel would not 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.

Additional and/or Revised Mitigation Measures Required: None required

(i-j) – No Impact (Same as Approved Project): The project site is located downstream of Lexington Reservoir, in an area defined by the Association of Bay Area Governments as a dam failure inundation area. As the revised project is not modifying flood protection measures or creating a condition where adjacent properties are exposed to a new significant risk of loss, injury or death involving flooding, no additional exposure to water-related hazards is expected as a result of construction or operation.

Additional and/or Revised Mitigation Measures Required: None required

10. LAND USE and PLANNING

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): Projects that have the potential to physically divide an established community typically include construction that would eliminate formal or informal travel ways through a property. No such pathways or other forms of informal access through the project site currently exist.

Additional and/or Revised Mitigation Measures Required: None required

(b) – No Impact (Same as Approved Project): The overall project site covers two land use districts as described by the Campbell General Plan. A core component of the project, the largest parcel of the former Biddle Roofing Company, is designated *High Density Residential (up to 27 units/gr. acre)*. The remainder of the project site is designated *Commercial/Medium-High Density Residential (14-27 units/gr. acre)*, which is subject to the South of Campbell Avenue (SOCA) Plan. The SOCA Plan is designed to encourage the orderly transition of the South of Campbell Avenue area from its historic industrial use to a mixed commercial/residential district, supportive and complementary to Downtown Campbell. Development of the revised project would remain consistent with the General Plan land use designations and with the SOCA Plan. The revised project is also consistent with the General Plan Housing Element, which identified the SOCA Area as an "opportunity site" for new residential development. Lastly, the revised project would also be consistent with the General Plan strategies that relate to support for high density residential development as listed in the Infill Environmental Checklist.

Additional and/or Revised Mitigation Measures Required: None required

(c) – No Impact (Same as Approved Project): No habitat conservation plan or natural community conservation plans are applicable to the project site.

Additional and/or Revised Mitigation Measures Required: None required

11. MINERAL RESOURCES

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with an adopted energy conservation plan or use non-renewable resources in a wasteful and inefficient manner?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-c) – No Impact (Same as Approved Project): No known mineral resources are present at the overall project site or the subject parcel.

Additional and/or Revised Mitigation Measures Required: None required

12. NOISE

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-b) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project): The City's Noise Ordinance (CMC Sec. 21.16.070.E) provides numeric noise exposure standards for new residential development. Acoustical studies are required for all new noise-sensitive projects that may be affected by existing noise from stationary sources, including all new residential developments with a noise exposure greater than 60 dBA CNEL. In compliance with this uniformly applicable development policy, an updated acoustical analysis was prepared for the revised

project (reference **Attachment 5**). Based on the analysis, the revised project will be required to incorporate design features to reduce the ambient noise and vibration within the buildings to acceptable levels as defined by the California Building Code (CBC). Outdoor recreational areas will be shielded as necessary to comply with the noise standard. As a result, potential noise-related impacts would be substantially mitigated.

Additional and/or Revised Mitigation Measures Required: None required

(c) – No Impact (Same as Approved Project): Residential developments are classified as sensitive receptors of noise, and to this extent do not themselves generate noise of any appreciable level. As such, the revised project would not result in increase in ambient noise within the vicinity of the project site.

Additional and/or Revised Mitigation Measures Required: None required

(d) – Substantially Mitigated by Uniformly Applicable Development Policies (Same as Approved Project). Construction will eventually result in temporarily increasing ambient noise levels in the project vicinity. However, construction is governed by CMC Sec. 18.04.052, which limits construction activity from 8 AM to 5 PM., Monday through Friday, 9 AM to 4 PM on Saturday, and prohibits construction on Sunday. Additionally, loud environmentally disruptive noise over 50 dBA (e.g., air compressors without mufflers, continuously running motors or generators, loud playing musical instruments or radios) is prohibited. As such, temporary ambient noise level increases associated with construction of the revised will be substantially mitigated.

Additional and/or Revised Mitigation Measures Required: None required

(e-f) – No Impact (Same as Approved Project): The project is not located within the vicinity of an airport land use plan or within two miles of an airport. The revised project is not located within the vicinity of a private airstrip.

Additional and/or Revised Mitigation Measures Required: None required

13. POPULATION AND HOUSING

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Induce substantial population growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, especially affordable housing and necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): The revised project, with the addition of six units is consistent with the planned residential densities of the General Plan and does not represent substantial growth inducing impacts.

Additional and/or Revised Mitigation Measures Required: None required

(b-c) – No Impact (Same as Approved Project): The revised project will require the demolition of an existing residence that has been vacated, and therefore will not result in the displacement of any people or housing units, which would necessitate the construction of replacement housing elsewhere.

Additional and/or Revised Mitigation Measures Required: None required

14. PUBLIC SERVICES

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
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Would the project:

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

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Maintenance of public facilities, including roads?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public services or facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): The revised project will require public services such as fire, police services, schools, open space, and street maintenance; however, these services are currently provided to all other developments in the area. The revised project will not result in any significant changes to existing services or substantial adverse impacts to public services.

Additional and/or Revised Mitigation Measures Required: None required

15. RECREATION

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approve d Project"	Less Impact than "Approved Project"
Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): The revised project will result in a *de minimis* increase in the use of existing neighborhood and regional parks and other recreational facilities. However, the increase demand for recreational facilities would not be significant and consistent with the planned density for the project and usage of the facilities.

Additional and/or Revised Mitigation Measures Required: None required

(b) – No Impact (Same as Approved Project): The City’s Subdivision Ordinance (CMC Sec. 20.24) requires the dedication of land or the payment of an in-lieu fee as a condition of approval for the Tentative Subdivision Map. The City’s Standard is three acres of open space, parkland and recreational facilities and one acre of school open space and recreational facilities for every 1,000 residents. The City’s Open Space Element prioritizes the acquisition and development of open space sites in neighborhoods which are deficient in open space and park acreage. The City’s access standard is to provide open space, parks, or recreation facilities within one-half mile radii of all City residents. The project site is located within one half-mile of Campbell Park and the Los Gatos Creek Trail; therefore, the residents of the revised project are anticipated to use the existing facilities and the dedication of on-site parkland will not be required. The project sponsor is required to pay a Park Impact Fee for the development of the revised project and this fee will be used for the acquisition, improvement and/or expansion of parks and recreational facilities within the City.

Additional and/or Revised Mitigation Measures Required: None required

16. TRANSPORTATION and CIRCULATION

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in any rail, waterborne or air traffic impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-b) – No Impact (Same as Approved Project): The revised project would result in a net increase of four units that would generate an additional 21 daily trips, including 1.6 during the AM peak hour and 2 during the PM peak hour, over the approved project. As such, the net increase in traffic generation that would be created by the revised project is below local and regional thresholds for formal analysis, and can be considered insignificant. As a result, the revised project would not conflict with applicable congestion management program or other applicable plans, ordinances or policies establishing measures of effectiveness for the performance of the circulation system.

Additional and/or Revised Mitigation Measures Required: None required

(c) – No Impact (Same as Approved Project): The revised project would not affect any rail, waterborne, or air traffic.

Additional and/or Revised Mitigation Measures Required: None required

(d-e) – No Impact (Same as Approved Project): The original project's traffic impact analysis (TIA) reviewed the project's internal vehicular circulation and emergency access and determined it to be acceptable. The revised project's circulation would remain substantially the same as the approved. The Fire Department has also determined the site circulation and roadway configuration for the revised project would provide adequate emergency access.

Additional and/or Revised Mitigation Measures Required: None required

(f) – No Impact (Same as Approved Project): The revised project is a transit-oriented development in that it will be located within ¼ mile of the Downtown Campbell light-rail station, as well as Downtown Campbell. The development of a higher density residential infill project in proximity to high quality transit and the City center is consistent with the applicable policies of the Campbell General Plan. As such, the revised project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Additional and/or Revised Mitigation Measures Required: None required

17. UTILITIES and SERVICE SYSTEMS

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a-b,e) – No Impact (Same as Approved Project): The utilities for the revised project, including sewage disposal, would require the construction of a private sanitary system that would connect to the

existing waste water treatment system, which currently has sufficient capacity to receive the additional waste water generated from the proposed project. Therefore, the revised project would not impact the ability of the waste water treatment provider to meet its current commitments for service. The revised project would not generate significant amounts of wastewater, and would therefore not exceed wastewater treatment requirements for the Regional Water Quality Control Board. The West Valley Sanitation District has provided written correspondence ("will serve" letter) which indicates that the sewer facilities, with the construction of on- and off-site improvements, are adequate to support the revised project (reference Attachment 4).

Additional and/or Revised Mitigation Measures Required: None required

(c) – No Impact (Same as Approved Project): As noted in the Infill Environmental Checklist, the project stormwater runoff generated by the project site would be collected and treated on-site in compliance with Provision C.3 of the National Pollution Discharge Elimination System (NPDES) requirements as discussed in Section 9 (Hydrology and Water Quality). Treated stormwater will be directed either to the existing public roadway system within the street or to an existing creek outfall located on the adjacent Public Works Maintenance Corporation Yard (accessed through an easement agreement with the City).

Additional and/or Revised Mitigation Measures Required: None required

(d) – No Impact (Same as Approved Project): The revised project will be adequately served by the existing water supplies, as confirmed in written correspondence ("will serve" letter) by San Jose Water Company (reference Attachment 4), the local area water utility.

Additional and/or Revised Mitigation Measures Required: None required

(f-g) – No Impact (Same as Approved Project): Existing capacity at local landfills can accommodate the amount of waste generated as a result of the revised project. The project would comply with Federal, State and local statutes and regulations related to solid waste.

Additional and/or Revised Mitigation Measures Required: None required

18. MANDATORY FINDINGS OF SIGNIFICANCE

	New Potentially Significant Impact	New Less Than Significant w/ Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"
Would the project:					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) – No Impact (Same as Approved Project): Based on the findings of the Infill Environmental Checklist Form, First Addendum, and this Second Addendum, construction and operation of the revised project, with previously adopted mitigation, would not substantially degrade the quality the environment; reduce the habitat, population, or range of species; nor eliminate important examples of California history or prehistory.

(b) – No Impact (Same as Approved Project): The revised project would not cause any significant cumulative impacts to the following topical issues:

Traffic Congestion at Study Intersections. The Traffic Impact Analysis (TIA) prepared for the original project evaluated the operating conditions of key study intersections for existing, background, project, and cumulative traffic conditions. Based on the results of the TIA, all study intersections are projected to operate at acceptable levels for each traffic condition. The net increase in traffic generation that would be created by both the approved project and revised project is below local and regional thresholds for formal analysis, and can therefore, be considered insignificant.

Land Use and Planning. The revised project in combination with any development activity in the vicinity would not induce growth, because the project alone would not induce growth.

Geologic Problems. Seismic and soil conditions are site-specific, and will not contribute to cumulative impacts.

Water. Water run-off and water quality are site-specific, and will not contribute to cumulative impacts.

Air Quality. Another development project in the vicinity of the project site has recently been approved. However, as both projects include mitigation measure relevant to construction activity, the cumulative air quality impact will be less than significant.

Biological Resources. The potential biological resource impacts discussed are site-specific, and will not contribute to cumulative impacts.

Energy. The revised project would have no impact on energy and mineral sources, so it would not contribute to cumulative impacts.

Hazards. All hazards discussed are site specific, and will not contribute to cumulative impacts.

Noise. Construction activity is substantially mitigated through uniform development policies on a project-by-project basis and therefore cannot result in a cumulative impact.

Public Services. Since the revised project would not make any significant demands on public services, it would not contribute to cumulative impacts to public services.

Utilities/Service Systems. Since the revised project would have less than significant or no impacts to public utilities, it would have no cumulative impact.

(C) – No Impact: Based on the findings of the Infill Environmental Checklist Form, the First Addendum and its supplemental analysis, and this Second Addendum and its supplemental analysis, there is no evidence to demonstrate that the revised project would cause a substantial adverse effect on human beings, either directly or indirectly. Additionally, based on the findings of the Infill Environmental Checklist Form, the First Addendum, and this Second Addendum, construction and operation of the revised project, with mitigation, the project would not substantially degrade the quality the environment; reduce the habitat, population, or range of species; nor eliminate important examples of California history or prehistory.

SUMMARY OF ADDITIONAL AND/OR REVISED MITIGATION MEASURES

1. **Aesthetics:** None Required
2. **Agricultural Resources:** None Required
3. **Air Quality:** None Required
4. **Biological Resources:** None Required
5. **Cultural Resources:** None Required
6. **Geology and Soils:** None Required
7. **Greenhouse Gas Emissions:** None Required
8. **Hazards and Hazardous Materials:** None Required
9. **Hydrology and Water Quality:** None Required
10. **Land Use and Planning:** None Required
11. **Mineral Resources:** None Required
12. **Noise:** None Required
13. **Population and Housing:** None Required
14. **Public Services:** None Required
15. **Recreation:** None Required
16. **Transportation and Traffic:** None Required
17. **Utilities and Service Systems:** None Required
18. **Mandatory Findings of Significance:** None Required

REFERENCE MATERIALS

New Attachments (May be viewed online on the City of Campbell 'Public Notices' web page (<http://www.cityofcampbell.com/501/Public-Notices>) under 'Environmental Notices' or at the Campbell Community Development Department office (70 N First St., Campbell, CA 95008) during normal business hours).

1. *Air Quality, Greenhouse Gas, and Health Risk Assessment*, by ESA, dated November 2016.
2. *Geotechnical Evaluation – Perry Property, 500 Sam Cava Ln.*, by Pacific Geotechnical Engineering, dated November 8, 2016.
3. *Phase I Environmental Site Assessment and Shallow Soil Investigations* by ENVIRON International Corp., dated July 2016.
4. *"Will Serve" Letters (PG&E, San Jose Water, and West Valley Sanitation District, and West Valley Collection and Recycling)*.
5. *Draft Environmental Noise Feasibility Study* by Salter Associates, Inc., dated June 2, 2015.

Reference Documents:

1. Bay Area Air Quality Management District (BAAQMD), June 2010, *CEQA Air Quality Guidelines*.
2. Bay Area Air Quality Management District (BAAQMD), December 2008, *Source Inventory of Bay Area Greenhouse Gas Emissions*.
3. California Environmental Protection Agency (CEPA) California Air Resources Board (CARB), April 2005, *Air Quality and Land Use Handbook: A Community Health Perspective*.
4. California Environmental Protection Agency (CEPA) California Air Resources Board (CARB), November 16, 2007, *Staff Report: California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit*.
5. California Natural Diversity Database, 2000.
6. California Office of Planning and Research (OPR), June 19, 2008, *Technical Advisory: CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*.
7. CEQA Guidelines, 2012 version.
8. City of Campbell General Plan.
9. Campbell General Plan EIR.
10. City of Campbell Zoning Code.
11. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Community Map Number 06085C0241H, Effective Date May 18, 2009.
12. State of California, Seismic Hazard Zones Map, San Jose West Quadrangle, February 2002.
13. U.S. Environmental Protection Agency, April 15, 2009, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*.

ATTACHMENT 1

AIR QUALITY, GREENHOUSE GAS, AND HEALTH RISK ASSESSMENT

500 SAM CAVA LANE
CAMPBELL, SANTA CLARA COUNTY

Air Quality, Greenhouse Gas, and Health Risk Assessment

Prepared for
Madison Park of Campbell, LLC

November 2016



500 SAM CAVA LANE CAMPBELL, SANTA CLARA COUNTY

Air Quality, Greenhouse Gas, and Health Risk Assessment

Prepared for
Madison Park of Campbell, LLC

November 2016



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OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations.

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CHAPTER 1

Introduction

Madison Park of Campbell, LLC is proposing to build six attached townhomes at 500 Sam Cava Lane in Campbell, California (Project). This Project is adjacent to Madison Park of Campbell's residential project at 280 Dillon Avenue (Madison project). Environmental Science Associates (ESA) has been contracted by Madison Park of Campbell to prepare this air quality, health risk, and greenhouse gas (GHG) assessment.

The Madison project was examined in an *Air Quality and Greenhouse Gas Technical Memorandum* (ESA, 2014). That document examined the impacts of 81 townhomes, 19 apartment units, and associated parking. Due to the acquisition of additional properties, the final city-approved Madison Project consists of 90 townhomes and 28 apartment units.

This report analyzes the air quality, health risk, and GHG impacts that would result from the proposed Project plus the city-approved Madison project. Supporting information is included in the appendices.

Project Location and Description

The proposed Project is located at 500 Sam Cava Lane, Campbell, California, 95008 (see **Figure 1**). The Project consists of six attached townhome residences on a 0.191 acre site. The proposed Project is an extension of the Madison project at 280 Dillon Avenue. The Madison project is currently under construction. The Project plus the Madison project, when completed, will include 124 residential units - 96 townhome residences and 28 apartment units. These combined projects are anticipated to be completed in 2017.

The surrounding properties are mainly commercial and residential. The proposed Project's southernmost boundary would be approximately 300 feet from Highway 17. The proposed Project's northernmost boundary is approximately 100 feet from the Union Pacific Railroad (UPRR). The project area is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD).



SOURCE: USDA, 2014; ESA, 2016

500 Sam Cava Lane Health and Risk Assessment . 140404.01

Figure 1
Project Area

CHAPTER 2

Air Quality Analysis

Under amendments to the federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (USEPA) has classified air basins or portions thereof as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the National Ambient Air Quality Standards (NAAQS) have been achieved. The California CAA, which is patterned after the federal CAA, also requires areas to be designated as "attainment" or "non-attainment" for the California Ambient Air Quality Standards (CAAQS). Thus, areas in California have two sets of attainment designations: one set with respect to the NAAQS and one set with respect to the CAAQS. The San Francisco Bay Area Air Basin (Bay Area) is currently designated as a nonattainment area for state and national ozone standards, state particulate matter (PM₁₀ and PM_{2.5}) standards, and the federal PM_{2.5} (24-hour) standard.

The BAAQMD is the primary agency responsible for assuring both sets of ambient air quality standards are attained and maintained in the Bay Area. BAAQMD's jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, and the southern portions of Solano and Sonoma counties.

Approach to Analysis

The proposed Project consists of six attached townhome units and associated parking on a 0.21 acre site. This air quality analysis also includes the Madison project currently under construction. In total, this air quality analysis evaluates both the proposed Project and the Madison project for a combined total of 96 townhomes, 28 apartment units, and associated parking.

Potential impacts are assessed by modeling the estimated daily emissions generated by project construction and project operations using the California Emissions Estimator Model (CalEEMod), version 2013.2.2 (CalEEMod, 2013).

The air quality analysis uses the BAAQMD's 2010 thresholds (**Table 2-1**) to determine the potential impacts of the proposed Project and the Madison project (BAAQMD, 2010a).

**TABLE 2-1.
BAAQMD PROJECT-LEVEL AIR QUALITY THRESHOLDS OF SIGNIFICANCE**

Pollutant	Construction-Related	Operational-Related	
	Average Daily Emissions, lb/day	Average Daily Emissions, lb/day	Maximum Annual Emissions, tons/year
ROG	54	54	10
NO _x	54	54	10
PM ₁₀ (exhaust)	82	82	15
PM _{2.5} (exhaust)	54	54	10
PM ₁₀ /PM _{2.5} (fugitive dust)	BMPs	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Risks and Hazards (individual project)	Same as operational thresholds	Compliance with Qualified Community Risk Reduction Plan; or increased cancer risk of greater than 10.0 in a million; or increased non-cancer risk of greater than 1.0 hazard index (chronic or acute); or ambient PM _{2.5} increase of greater than 0.3 µg/m ³ annual average	
Risks and Hazards (cumulative threshold)	Same as operational thresholds	Compliance with Qualified Community Risk Reduction Plan; or increased cancer risk of greater than 100 in a million from all local sources; or increased non-cancer risk of greater than 10.0 hazard index (chronic or acute) from all local sources; or ambient PM _{2.5} increase of greater than 0.8 µg/m ³ annual average from all local sources	

NOTES:

BMPs = Best Management Practices

SOURCE: BAAQMD, 2010a.

For the purposes of this air quality analysis, sensitive receptors are defined as facilities and land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and daycare centers. Residential areas are also considered sensitive to poor air quality because people usually stay home for extended periods of time, which results in greater exposure to ambient air quality.

Impact Assessment

This impact assessment follows the air quality issues described within the CEQA Guidelines, Appendix G, Initial Study Checklist. **Table 2-2** presents a summary of the air quality issues and impacts.

**TABLE 2-2.
CEQA GUIDELINES AIR QUALITY ISSUES SUMMARY**

Issue	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SOURCE: CEQA Guidelines, Appendix G

a) Would the project conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant with Mitigation Incorporated)

The most recently adopted air quality plan in the Bay Area is the BAAQMD's 2010 CAP (BAAQMD, 2010b). The 2010 CAP is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. Strategies to achieve compliance include stationary source control measures to be implemented through BAAQMD regulations; mobile source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the Metropolitan Transportation Commission (MTC), local governments, transit agencies, and others.

BAAQMD guidance states that "if approval of a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation, the project would be considered consistent with the 2010 CAP." As indicated in the discussion of issues below, the proposed Project (in addition to the Madison project) would not result in significant and unavoidable air quality impacts. Toxic air contaminants (TACs) and fugitive dust emissions from construction activities would be less than significant with implementation of **Mitigation Measures AIR-1** and **AIR-2**. Long-term operational emissions would be less than significant without mitigation.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? (Less than Significant with Mitigation Incorporated)

Both the proposed Project and the Madison project would generate criteria pollutants and TACs during short-term construction activities and would also result in long-term operational criteria pollutant emissions from sources including on-road vehicles, onsite area and energy sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as hairsprays, deodorants, cleaning products, etc.). However, since the proposed Project consists of development of only residential land uses, it would not be a source of substantial TACs. These potential impacts are assessed below.

Construction

The proposed Project consists of 6 attached townhome units on a 0.191 acre site. However, this air quality also includes the Madison project currently under construction. In total, the air quality analysis evaluates 124 residential units consisting of 96 townhomes and 28 apartment units.

Project related demolition, soil transport, grading, and other construction activities at the combined project site may cause wind-blown dust that could generate particulate matter into the atmosphere. Fugitive dust includes not only PM₁₀ and PM_{2.5} but also larger particles that can cause nuisance impacts. For mitigation of fugitive dust emissions, the BAAQMD recommends using specific Best Management Practices (BMPs), which has been a practical and effective approach to control fugitive dust emissions. The guidelines note that individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent and conclude that projects that implement construction BMPs would reduce fugitive dust emissions to a less than significant level. To ensure implementation of BMPs they are identified herein as a mitigation measure.

Construction of the proposed Project and the Madison project would generate air emissions through the use of heavy-duty construction equipment, from vehicle trips hauling materials, and from construction workers traveling to and from the project site. Mobile source emissions, primarily NO_x, would be generated from the use of construction equipment such as excavators, bulldozers, wheeled loaders, and fork lifts. During the finishing phase, paving operations and the application of asphalt, architectural coatings (i.e., paints) and other building materials would release ROG. The assessment of construction air quality impacts considers each of these sources, and recognizes that construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

The CalEEMod model was used to quantify construction emissions associated with off-road equipment, paving, architectural coatings, haul trucks associated with demolition, on-road worker vehicle emissions, and vendor delivery trips (see Appendix A). Construction for the proposed Project and the Madison project was assumed to occur from June 2015 through October 2017. The proposed Project would be constructed in 2017, along with the remaining units comprising

the Madison project. Unmitigated and construction-related criteria pollutant exhaust emissions for the proposed Project and the Madison project are presented in **Table 2-3**. The estimated emissions consider the following basic construction phases: demolition; excavation/grading; building construction; asphalt paving; and application of architectural coatings.

**TABLE 2-3.
AVERAGE DAILY CONSTRUCTION-RELATED POLLUTANT EMISSIONS IN POUNDS PER DAY**

Scenario	Pollutant			
	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)
Construction emissions	9.1	35.0	2.1	2.0
BAAQMD significance threshold	54	54	82	54
Exceed threshold?	No	No	No	No

NOTE:
Project emissions include the proposed Project and Madison project.
SOURCE: Appendix A

As shown in Table 2-3, average daily regional emissions would not exceed the BAAQMD daily significance thresholds during construction. Thus, the proposed Project (combined with the Madison project) would have a less than significant impact in relation to regional construction emissions.

Operation

Project site development would increase criteria air pollutant and precursor emissions, including ROG, NO_x, PM₁₀, and PM_{2.5} from on-site area and energy sources and mobile on-road sources. Exhaust emissions from on-road vehicle traffic associated with the proposed Project (combined with the Madison project) development were calculated using the latest version of the CalEEMod program (see Appendix A).

Table 2-4 summarizes the maximum daily mobile, energy, and area emissions of criteria pollutants that would be generated by both projects development and compares the emissions to BAAQMD thresholds. **Table 2-5** summarizes the annual emissions from the operation of both the proposed Project and Madison project. As indicated in Tables 2-4 and 2-5, total combined project-related net operational emissions of ROG, NO_x, PM₁₀, and PM_{2.5} would not exceed the BAAQMD significance thresholds during operations, and thus, the proposed Project (combined with the Madison project) would have a less than significant impact in relation to regional operational emissions.

**TABLE 2-4.
AVERAGE DAILY OPERATIONAL-RELATED POLLUTANT EMISSIONS IN POUNDS PER DAY**

Scenario	Pollutant			
	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)
Unmitigated operational emissions	10.60	6.0	0.1	0.1
BAAQMD significance threshold	54	54	82	54
Exceed threshold?	No	No	No	No

NOTE:

Project emissions include the proposed Project and Madison project.

SOURCE: Appendix A

**TABLE 2-5.
ANNUAL OPERATIONAL-RELATED POLLUTANT EMISSIONS IN TONS PER YEAR**

Scenario	Pollutant			
	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)
Unmitigated operational emissions	1.93	1.09	0.03	0.03
BAAQMD significance threshold	10	10	15	10
Exceed threshold?	No	No	No	No

NOTE:

Project emissions include the proposed Project and Madison project.

SOURCE: Appendix A

In regards to localized CO concentrations, the BAAQMD has developed screening criteria for local CO impacts. Projects would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The proposed Project (combined with the Madison project) would generate minimal new traffic trips and would not exceed these screening criteria. Based on the BAAQMD's criteria, project-related traffic from both projects would not exceed CO standards and therefore, no further

analysis was conducted for CO impacts. This impact would be considered less than significant on a project-level and cumulative basis.

Mitigation Measures

Mitigation Measure AIR-1: The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All streets, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AIR-2: The project applicant shall ensure that construction contract specifications include a requirement that all off-road diesel-powered construction equipment used for project improvements be equipped with a Level 3 Verified Diesel Emissions Control (VDEC).

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

The proposed Project and the Madison project would result in the generation of criteria pollutants during short-term construction activities. For long-term operation, the proposed Project and the Madison project would generate criteria pollutant emissions primarily from motor vehicles and area sources. According to the BAAQMD, no single project is sufficient in size, by itself, to cause nonattainment of ambient air quality standards for regional criteria pollutants. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. There are many projects throughout the San Francisco Bay area that have been identified as having significant and unavoidable operational and construction-related regional pollutant impacts. Consequently, for assessment of cumulative regional pollutant impacts, BAAQMD has developed a methodology to assess whether a project would have a cumulatively considerable contribution. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (BAAQMD, 2010a).

As described in the section above, criteria pollutant emissions generated by short-term construction and long-term operations of the proposed Project (combined with the Madison project) would not exceed the BAAQMD significance thresholds. Thus, the combined projects would have a less than significant cumulative impact in relation to regional emissions. In addition, project-related traffic from the combined projects would not exceed CO standards and would result in a less than significant cumulative impact in relation to localized CO.

**d) Would the project expose sensitive receptors to substantial pollutant concentrations?
(Less than Significant with Mitigation)**

The potential for the proposed Project (in combination with the Madison project) to expose sensitive receptors to substantial pollutant concentrations are examined separately for the construction and operation phases.

Construction

Construction activities for the proposed Project and Madison project would produce diesel particulate matter (DPM) and PM_{2.5} emissions due to combustion equipment such as loaders, backhoes, and haul truck trips. These emissions could result in elevated concentrations of DPM and PM_{2.5} at nearby receptors. These elevated concentrations could lead to an increase in the risk of cancer or other health impacts. Consequently, a health risk assessment was performed to determine the extent of increased cancer risks and hazard indices at the maximally exposed receptors. The health risk assessment was based on recommended methodology of the Office of Environmental of Health Hazard Assessment (OEHHA) and adopted by the BAAQMD (BAAQMD, 2012b). The cancer risk to nearby residential receptors assumes exposure would occur 8 hours per day, five days per week, to account for the active construction duration. Additionally, cancer risk estimates also incorporate age sensitivity factors and daily breathing rates recommended by OEHHA. This approach factors in the increased susceptibility of infants and children to carcinogens as compared to adults.

The maximally exposed receptor would be adjacent residences to the combined projects on Dillon Avenue and Sam Cava Lane. Dispersion modeling was used to estimate maximum downwind concentrations at sensitive receptors (see Appendix B). Potential health risk at sensitive receptors resulting from construction activities were modeled using the Risk Assessment Standalone Tool (RAST) from the Hotspots Analysis and Reporting Program (version 2) (HARP, 2016). Unmitigated and mitigated combined project construction maximum cancer risk, chronic hazard impact, and PM_{2.5} concentration are shown in **Table 2-6** below. Appendix C presents RAST model inputs and results.

**TABLE 2-6.
CONSTRUCTION-RELATED HEALTH IMPACTS**

Scenario	Maximum Cancer Risk (per million)	Chronic Hazard Impact	PM _{2.5} Concentration (µg/m ³)
Unmitigated project construction	38.79	0.03	0.13
BAAQMD significance threshold	10	1	0.3
Exceed threshold?	Yes	No	No
Mitigated project construction	6.02	0.004	0.02
BAAQMD significance threshold	10	1	0.3
Exceed threshold?	No	No	No

NOTE:

Project emissions include the proposed Project and Madison project. See Mitigation Measures AIR-1 and AIR-2

SOURCE: Appendix C

As shown in Table 2-6, the incremental cancer risk at the maximum exposed residential receptor of 38.79 in one million (assuming child risk) would exceed the BAAQMD threshold of 10 in a million without mitigation. With incorporation of mitigation, the combined projects would result in incremental cancer risk of 6.02 in one million. The unmitigated and mitigated chronic hazard index would be 0.03 and 0.004 at the maximum exposed residential receptor, respectively, which would be below the BAAQMD threshold of 1. Finally, the maximum annual PM_{2.5} unmitigated and mitigated concentrations would be 0.13 µg/m³ and 0.02 µg/m³ for the maximum exposed residential receptor, respectively, which is below the BAAQMD threshold of 0.3 µg/m³. Combined project health risk impacts would thus be less than significant after mitigation.

Near the project site is the Residences at Railway project (Railway project). The Railway project is located at 208 and 226-328 Railway Avenue, and a portion of 290 Dillon Avenue. The Railway project is currently under construction and would potentially cumulatively contribute to air quality impacts if construction of the Railway project and the proposed Project (in combination with the Madison project) were to overlap. The *Air Quality, Greenhouse Gas, and Health Risk Assessment* for the Railway project estimated construction of the Railway project (with mitigation) would result in an increased cancer risk of 8.9 in a million (RCH Group, 2015). The total increased cancer risk from the mitigated construction of the proposed Project (in combination with the Madison project) and the concurrent construction of the Railway project would be 14.92 in a million, which is less than the BAAQMD threshold of 100 in a million and would be less than significant after mitigation.

Notably, unmitigated demolition activities could result in airborne entrainment of asbestos, a TAC, particularly where structures built prior to 1980 would be demolished. However, these materials would be removed in accordance with the procedures specified by Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) of BAAQMD's regulations; therefore, with adherence to regulatory requirements, asbestos would not be emitted to any substantial degree during demolition. Implementation of the **Mitigation Measures AIR-1** and **AIR-2** would ensure that project-generated fugitive dust and exhaust (criteria pollutant and TACs) during construction would be reduced to a less than significant level.

Operation

Unlike ozone and other regional pollutants, TACs are a localized pollution problem. TACs produced at distant locations do not readily combine to create concentrations at any single location that would cause health risks. The BAAQMD method for determining health risk requires the review of health risk from permitted sources, railroads, and major streets in the vicinity of a project site (i.e., within 1,000 feet of the proposed new sensitive residential receptors on the project site), then adding the project operational impacts to determine whether the cumulative health risk thresholds are exceeded. BAAQMD has developed a geo-referenced database of permitted and Highway TAC emissions sources throughout San Francisco Bay Area for estimating health risks to new sensitive receptors from existing permitted sources. Highway 17 is approximately 300 feet from the project site. Emissions from locomotives travelling on the nearby railroad were estimated based on locomotive emissions standards. Details of the emission estimates for locomotives are given in Appendix D.

Unlike for a project level assessment, for the cumulative assessment the risks from all sources within 1,000 feet of project site are summed and compared to a cumulative significance threshold. **Figure 2** presents nearby sources. No onsite stationary sources of TACs are assumed and the combined project-generated traffic would be negligible. A summary of the cumulative health impacts is found in **Table 2-7**. The cumulative maximally-exposed receptor is assumed to be a proposed residence exposed to maximum risk from all sources, which would be a conservative assessment. As demonstrated in Table 2-7, health impacts on the combined project sensitive receptors from existing sources (permitted sources, railroad, and Highway 17) in the area would have a cumulative impact below the BAAQMD thresholds for cancer risk, chronic health hazards, and $PM_{2.5}$ concentrations.

The Risk Assessment Standalone Tool (RAST) from the Hotspots Analysis and Reporting Program (version 2) was used to determine risks and impacts (HARP, 2016). As shown in Table 2-7, the cumulative cancer risk from all sources within 1,000 feet of proposed sensitive receptors would be approximately 54.5 in one million, which would be below the BAAQMD cumulative threshold of 100 in one million and would be less than significant. The cumulative hazard index from all such sources would be approximately 0.05, which is well below the significance threshold of 10 and would be less than significant. The cumulative $PM_{2.5}$ concentration would be approximately $0.30 \mu\text{g}/\text{m}^3$, which would be below the significance threshold of $0.8 \mu\text{g}/\text{m}^3$ and is considered less than significant.



SOURCE: USDA, 2014; ESA, 2016

500 Sam Cava Lane Health and Risk Assessment . 140404.01

Figure 2
Nearby Sources

**TABLE 2-7.
CUMULATIVE HEALTH IMPACTS**

Source Name	BAAQMD Plant Number	Distance from Project (feet)	Cancer Risk (per million)	Chronic Hazard Impact	PM _{2.5} Concentration (µg/m ³)
City of Campbell (Generator)	19046	50	0	0	0.076
City of Campbell Dept of Public Works	G7099	50	14.31	0.005	0.025
Etched Media Corporation	5564	475	0.53	0.001	N/A
Benson's Cleaners	3334	950	0	0	0
Orchard Valley Coffee	18459	975	7.49	0.02	0
Nearby Permitted Sources			22.33	0.03	0.10
Highway 17 ¹			26.95	0.03	0.20
Union Pacific Railroad ²			5.22	0.0011	0.0053
Grand Total			54.50	0.05	0.30
BAAQMD Cumulative Significance Threshold			100	10	0.8
Exceeds Threshold?			No	No	No

NOTE:

Plant number 6043 and 10606, located at 300 Railway Avenue, Unit B and G, respectively, are assumed to be no longer operational, as the Railway project is currently constructing on the property. Cancer risk, chronic hazard, and PM_{2.5} concentration values for generator sources were not adjusted using the BAAQMD Diesel Generator Distance Multiplier (BAAQMD, 2012c).

¹ Highway 17 risk estimated from BAAQMD developed geo-referenced database of permitted and Highway TAC emissions for 6 foot height at 300 feet (BAAQMD, 2012d).

² Railroad diesel concentrations and risk based on the assumption of three diesel locomotives passing by on a weekly basis. The ISCST3 model was used to estimate maximum downwind concentrations and potential health risk at sensitive receptors from the rail line source. Additional information is provided in Appendix D.

SOURCE: BAAQMD, 2012d; BAAQMD, 2012e

e) Would the project create objectionable odors affecting a substantial number of people? (Less than Significant)

BAAQMD has identified typical sources of odor in the CEQA Air Quality Guidelines, a few examples of which include manufacturing plants, rendering plants, coffee roasters, wastewater treatment plants, sanitary landfills, and solid waste transfer stations. While sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally produced odors often exceeds regulatory thresholds. The proposed Project (and Madison project) would not include uses that have been identified by BAAQMD as potential sources of objectionable odors; this is a less than significant impact.

CHAPTER 3

Greenhouse Gas Analysis

“Global warming” and “global climate change” are the terms used to describe the increase in the average temperature of the earth’s near-surface air and oceans since the mid-20th century and its projected continuation. Increases in greenhouse gas (GHG) concentrations in the earth’s atmosphere are thought to be the main cause of human-induced climate change. GHGs naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHGs occur naturally and are necessary for keeping the earth’s surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature. Carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) are the principal GHGs. When concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may be enhanced. CO₂, CH₄, and N₂O occur naturally, and are also generated through human activity. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Other human-generated GHGs include fluorinated gases such as SFCs, PFCs, and SF₆, which have much higher heat-absorption potential than CO₂, and are byproducts of certain industrial processes.

CO₂ is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO₂. CH₄ and N₂O are substantially more potent GHGs than CO₂, with 100-year GWPs of 28 and 265 times that of CO₂, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons of CO₂ equivalent (CO₂e). CO₂e is calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH₄ and N₂O have much higher GWPs than CO₂, CO₂ is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO₂e, both from residential developments and human activity in general.

Approach to Analysis

With regard to impacts from GHGs, both BAAQMD and the California Air Pollution Control Officers Association (CAPCOA) consider GHG impacts to be exclusively cumulative impacts

(BAAQMD, 2012a; CAPCOA, 2008); therefore, assessment of significance is based on a determination of whether the GHG emissions from a project represent a cumulatively considerable contribution to the global atmosphere. This analysis uses both a quantitative and a qualitative approach. This analysis considers that, because the quantifiable thresholds developed by BAAQMD in its 2009 *Justification Report* were formulated based on AB 32 and California Climate Change Scoping Plan reduction targets for which its set of strategies were developed to reduce GHG emissions statewide, a project cannot exceed a numeric BAAQMD threshold without also conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (the state Climate Change Scoping Plan) (BAAQMD, 2009). Therefore, if a project exceeds a numeric threshold and results in a significant cumulative impact, it would also result in a significant cumulative impact with respect to plan, policy, or regulation consistency, even though the project may incorporate measures and have features that would reduce its contribution to cumulative GHG emissions.

Separate thresholds of significance are established for operational emissions from stationary sources (such as generators, furnaces, and boilers) and non-stationary sources (such as on-road vehicles). As no threshold has been established for construction-related emissions, the operational emissions thresholds are applied in this analysis. For non-stationary sources, three separate thresholds have been established, as presented in **Table 3-1**.

**TABLE 3-1.
BAAQMD PROJECT-LEVEL GREENHOUSE GAS THRESHOLDS OF SIGNIFICANCE**

Pollutant	Construction-Related	Operational-Related	
	Average Daily Emissions, lb/day	Average Daily Emissions, lb/day	Maximum Annual Emissions, tons/year
GHGs *	None	Compliance with Qualified GHG Reduction Strategy; or 1,100 metric tons of CO ₂ e per year; or 4.6 metric tons of CO ₂ e per service population per year	

NOTES:

The service population is the sum of residents plus employees expected for a development project.
 * For projects other than stationary sources.

SOURCE: BAAQMD, 2010a.

The quantitative threshold of 1,100 metric tons of CO₂e annually is applied to this analysis. If the combined project (proposed Project and Madison project) construction or operational GHG emissions would exceed this threshold, it would be considered to have a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact on climate change.

GHG emissions resulting from the proposed Project (in combination with the Madison project) were estimated using CalEEMod version 2013.2.2, with model data and assumptions included in **Appendix A**. Construction emissions were estimated for equipment and truck exhaust and construction worker vehicles. In regards to operations, vehicle trips assumed default trip lengths for urban land uses, which are embedded in CalEEMod. The model makes adjustments for

implementation of Pavley vehicle standards and Low Carbon Fuel Standards. Area and indirect sources associated with project operations would primarily result from electrical usage, water and wastewater transport (the energy used to pump water and wastewater to and from the project) and solid waste generation. GHG emissions from electrical usage are generated when energy consumed on the site is generated by fuel combustion. GHG emissions from water and wastewater transport are also indirect emissions resulting from the energy required to transport water from its source, and the energy required to treat wastewater and transport it to its treated discharge point. Solid waste emissions are generated when the increased waste generated by the combined projects are taken to a landfill to decompose.

Impact Assessment

This impact assessment follows the GHG issues described within the CEQA Guidelines, Appendix G, Initial Study Checklist. **Table 3-2** presents a summary of the greenhouse gas issues and impacts.

**TABLE 3-2.
CEQA GUIDELINES GREENHOUSE GAS ISSUES SUMMARY**

Issue	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an adopted plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SOURCE: CEQA Guidelines, Appendix G

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less than Significant)

Application of BAAQMD’s project-specific GHG emissions thresholds is to include both direct emissions from a project’s vehicle trip generation and onsite water and space heating and other stationary sources, as well as indirect emissions from offsite electrical generation, solid waste generation, and water conveyance and treatment. The following activities associated with the proposed project could contribute to the generation of GHG emissions:

- **Construction Activities.** Construction equipment typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO₂, CH₄, and N₂O. CH₄ is also emitted during the fueling of heavy equipment.

- **Solid Waste Disposal Emissions.** Resulting emissions associated with waste generation and disposal in landfills are indirect. Landfills emit anthropogenic methane from the anaerobic breakdown of material.
- **Gas, Electricity, and Water Use.** Natural gas use results in the emissions of two GHGs: CH₄ (the major component of natural gas) and CO₂ from the combustion of natural gas. CH₄ is released prior to initiation of combustion of the natural gas (as before a flame on a stove is sparked), and from the small amount of CH₄ that is uncombusted in a natural gas flame. Electricity use can result in GHG production if the electricity is generated by combustion of fossil fuel. GHG emissions associated with treatment and transport of water is also included in the analysis below.
- **Motor Vehicle Use.** Transportation associated with the project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips. However, not all of these emissions would be “new” to the region or state since drivers would likely have relocated from another area. To be conservative, however, all vehicle trips predicted were assumed to be new trips in this analysis.

Construction emissions over the full buildout duration for both projects were estimated using CalEEMod and amortized assuming a 30-year development life after completion of construction (which is likely low), and added to overall combined project emissions for comparison to significance thresholds. Amortized GHG emissions associated with construction of the proposed Project and Madison project would result in an annualized generation of 15.17 metric tons of CO₂e.

In regards to operations, the CalEEMod model was used to estimate GHG emissions from motor vehicle trips, grid electricity usage, solid waste, and other sources (including area sources, natural gas combustion, and water/wastewater conveyance). **Table 3-3** presents an estimate of the proposed Project’s (in combination with the Madison project) unmitigated construction and operational CO₂e emissions.

**TABLE 3-3.
ESTIMATED EMISSIONS OF GREENHOUSE GASES**

Source	Emissions, metric tons of CO₂e per year
Project mitigated construction (amortized)	15.17
Project operations	1,078.01
Total project GHG emissions (construction and operation)	1,093.18
<i>BAAQMD GHG threshold</i>	1,100
<i>Exceeds threshold?</i>	No

NOTES:

Project emissions include the proposed Project and Madison project. GHG emissions were calculated using the CalEEMod model for the project construction and operations. Additional assumptions and data are included in Appendix A.

* For projects other than stationary sources.

Table 3-3 indicates that the net GHG emissions associated with the proposed Project (in combination with the Madison project) would be below BAAQMD's GHG threshold of 1,100 metric tons of CO₂e per year. This would represent a cumulatively less-than-significant GHG impact.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Less than Significant)

The City of Campbell has not established a GHG reduction plan. However, since the project would result in less than significant GHG emissions, as described above, the project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This would be a less than significant impact.

CHAPTER 4

References

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Appendix A

CalEEMod Model

Inputs and Results

- Annual Modeling Run
- Winter Modeling Run
- Health Risk Assessment Annual Modeling Run
- Health Risk Assessment Mitigation Report
- Average Annual Daily Emissions Calculation

**500 Sam Cava Avenue and 280 Dillon Avenue, Campbell, CA
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	300.00	Space	1.00	120,000.00	0
Apartments Low Rise	28.00	Dwelling Unit	1.50	24,472.00	80
Condo/Townhouse	96.00	Dwelling Unit	3.00	184,128.00	275

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 96 townhouses (average of 1,918 sf), 28 apartments (average of 874 sf), and a max of 300 parking spaces assumed for a total of 5.5 acre project site.

Construction Phase - Starting Summer 2015, based on average default active days between >5 and >10 acres project (Table 3-1, CalEEMod User Guide, Appendix D)

Revised to address project specific estimates and estimated time to get 500 Cava Lane permitted and built

Off-road Equipment -

Off-road Equipment -

Trips and VMT -

Demolition -

Grading - Total acres disturbed equal to project area.

Architectural Coating -

Woodstoves - No woodstoves assumed. Only gas fireplaces assumed, with default ratio of "# gas" to "# no fireplaces"

Area Coating -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	325.00
tblConstructionPhase	NumDays	230.00	599.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	PhaseEndDate	12/28/2017	9/16/2016
tblConstructionPhase	PhaseStartDate	12/1/2017	8/20/2016
tblFireplaces	NumberGas	15.40	19.32
tblFireplaces	NumberGas	52.80	66.24
tblFireplaces	NumberWood	3.92	0.00
tblFireplaces	NumberWood	13.44	0.00
tblGrading	AcresOfGrading	12.50	5.50
tblLandUse	LandUseSquareFeet	28,000.00	24,472.00
tblLandUse	LandUseSquareFeet	96,000.00	184,128.00
tblLandUse	LotAcreage	2.70	1.00
tblLandUse	LotAcreage	1.75	1.50
tblLandUse	LotAcreage	6.00	3.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblWoodstoves	NumberCatalytic	0.14	0.00
tblWoodstoves	NumberCatalytic	0.48	0.00
tblWoodstoves	NumberNoncatalytic	0.14	0.00
tblWoodstoves	NumberNoncatalytic	0.48	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.3540	3.0111	2.5032	3.5100e-003	0.2600	0.1778	0.4378	0.1144	0.1660	0.2804	0.0000	313.3851	313.3851	0.0604	0.0000	314.6542
2016	0.9473	4.5648	4.2061	6.9100e-003	0.2051	0.2846	0.4897	0.0551	0.2674	0.3225	0.0000	595.9245	595.9245	0.0949	0.0000	597.9183
2017	1.6647	3.8760	3.8104	6.6400e-003	0.2097	0.2410	0.4507	0.0563	0.2276	0.2839	0.0000	557.9984	557.9984	0.0824	0.0000	559.7283
Total	2.9660	11.4520	10.5197	0.0171	0.6748	0.7034	1.3781	0.2258	0.6610	0.8868	0.0000	1,467.3080	1,467.3080	0.2378	0.0000	1,472.3008

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.3540	3.0111	2.5032	3.5100e-003	0.2600	0.1778	0.4378	0.1144	0.1660	0.2804	0.0000	313.3848	313.3848	0.0604	0.0000	314.6540
2016	0.9473	4.5648	4.2061	6.9100e-003	0.2051	0.2846	0.4897	0.0551	0.2674	0.3225	0.0000	595.9241	595.9241	0.0949	0.0000	597.9178
2017	1.6647	3.8760	3.8104	6.6400e-003	0.2097	0.2410	0.4507	0.0563	0.2276	0.2839	0.0000	557.9980	557.9980	0.0824	0.0000	559.7279
Total	2.9660	11.4520	10.5197	0.0171	0.6748	0.7034	1.3781	0.2258	0.6610	0.8868	0.0000	1,467.3069	1,467.3069	0.2378	0.0000	1,472.2997

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797
Energy	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	296.9872	296.9872	0.0104	3.8200e-003	298.3897
Mobile	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069
Waste						0.0000	0.0000		0.0000	0.0000	11.5786	0.0000	11.5786	0.6843	0.0000	25.9484
Water						0.0000	0.0000		0.0000	0.0000	2.5631	17.9035	20.4666	0.2641	6.3800e-003	27.9909
Total	1.9343	1.0917	5.4795	0.0101	0.6778	0.0260	0.7038	0.1812	0.0250	0.2062	14.1417	1,039.8968	1,054.0386	0.9901	0.0103	1,078.0156

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797
Energy	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	296.9872	296.9872	0.0104	3.8200e-003	298.3897
Mobile	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069
Waste						0.0000	0.0000		0.0000	0.0000	11.5786	0.0000	11.5786	0.6843	0.0000	25.9484
Water						0.0000	0.0000		0.0000	0.0000	2.5631	17.9035	20.4666	0.2640	6.3700e-003	27.9868
Total	1.9343	1.0917	5.4795	0.0101	0.6778	0.0260	0.7038	0.1812	0.0250	0.2062	14.1417	1,039.8968	1,054.0386	0.9900	0.0103	1,078.0115

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.10	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2015	6/26/2015	5	20	
2	Site Preparation	Site Preparation	6/27/2015	7/10/2015	5	10	
3	Grading	Grading	7/11/2015	8/14/2015	5	25	
4	Building Construction	Building Construction	8/15/2015	11/30/2017	5	599	
5	Paving	Paving	8/20/2016	9/16/2016	5	20	
6	Architectural Coating	Architectural Coating	9/17/2016	12/15/2017	5	325	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.5

Acres of Paving: 0

Residential Indoor: 422,415; Residential Outdoor: 140,805; Non-Residential Indoor: 5,400; Non-Residential Outdoor: 1,800 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
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
Demolition	6	15.00	0.00	120.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	140.00	33.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0129	0.0000	0.0129	1.9600e-003	0.0000	1.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4836	0.3607	4.0000e-004		0.0245	0.0245		0.0229	0.0229	0.0000	37.4413	37.4413	0.0102	0.0000	37.6544
Total	0.0451	0.4836	0.3607	4.0000e-004	0.0129	0.0245	0.0374	1.9600e-003	0.0229	0.0248	0.0000	37.4413	37.4413	0.0102	0.0000	37.6544

3.2 Demolition - 2015

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	1.4700e-003	0.0208	0.0149	5.0000e-005	1.0100e-003	3.1000e-004	1.3200e-003	2.8000e-004	2.8000e-004	5.6000e-004	0.0000	4.1588	4.1588	4.0000e-005	0.0000	4.1595
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	6.2000e-004	8.8000e-004	8.5300e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2465	1.2465	7.0000e-005	0.0000	1.2479
Total	2.0900e-003	0.0217	0.0235	7.0000e-005	2.3800e-003	3.2000e-004	2.7000e-003	6.4000e-004	2.9000e-004	9.3000e-004	0.0000	5.4052	5.4052	1.1000e-004	0.0000	5.4074

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					0.0129	0.0000	0.0129	1.9600e-003	0.0000	1.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4836	0.3607	4.0000e-004		0.0245	0.0245		0.0229	0.0229	0.0000	37.4412	37.4412	0.0102	0.0000	37.6544
Total	0.0451	0.4836	0.3607	4.0000e-004	0.0129	0.0245	0.0374	1.9600e-003	0.0229	0.0248	0.0000	37.4412	37.4412	0.0102	0.0000	37.6544

3.2 Demolition - 2015**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	1.4700e-003	0.0208	0.0149	5.0000e-005	1.0100e-003	3.1000e-004	1.3200e-003	2.8000e-004	2.8000e-004	5.6000e-004	0.0000	4.1588	4.1588	4.0000e-005	0.0000	4.1595
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	6.2000e-004	8.8000e-004	8.5300e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2465	1.2465	7.0000e-005	0.0000	1.2479
Total	2.0900e-003	0.0217	0.0235	7.0000e-005	2.3800e-003	3.2000e-004	2.7000e-003	6.4000e-004	2.9000e-004	9.3000e-004	0.0000	5.4052	5.4052	1.1000e-004	0.0000	5.4074

3.3 Site Preparation - 2015**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.2132	2.0000e-004		0.0154	0.0154		0.0142	0.0142	0.0000	18.6506	18.6506	5.5700e-003	0.0000	18.7675
Total	0.0263	0.2845	0.2132	2.0000e-004	0.0903	0.0154	0.1058	0.0497	0.0142	0.0639	0.0000	18.6506	18.6506	5.5700e-003	0.0000	18.7675

3.3 Site Preparation - 2015

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	5.3000e-004	5.1200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7479	0.7479	4.0000e-005	0.0000	0.7488
Total	3.7000e-004	5.3000e-004	5.1200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7479	0.7479	4.0000e-005	0.0000	0.7488

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.2132	2.0000e-004		0.0154	0.0154		0.0142	0.0142	0.0000	18.6505	18.6505	5.5700e-003	0.0000	18.7675
Total	0.0263	0.2845	0.2132	2.0000e-004	0.0903	0.0154	0.1058	0.0497	0.0142	0.0639	0.0000	18.6505	18.6505	5.5700e-003	0.0000	18.7675

3.3 Site Preparation - 2015

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	5.3000e-004	5.1200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7479	0.7479	4.0000e-005	0.0000	0.7488
Total	3.7000e-004	5.3000e-004	5.1200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7479	0.7479	4.0000e-005	0.0000	0.7488

3.4 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0782	0.0000	0.0782	0.0417	0.0000	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0479	0.5052	0.3334	3.7000e-004		0.0291	0.0291		0.0268	0.0268	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049
Total	0.0479	0.5052	0.3334	3.7000e-004	0.0782	0.0291	0.1073	0.0417	0.0268	0.0685	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049

3.4 Grading - 2015

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	7.8000e-004	1.1000e-003	0.0107	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.5581	1.5581	9.0000e-005	0.0000	1.5599
Total	7.8000e-004	1.1000e-003	0.0107	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.5581	1.5581	9.0000e-005	0.0000	1.5599

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					0.0782	0.0000	0.0782	0.0417	0.0000	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0479	0.5052	0.3334	3.7000e-004		0.0291	0.0291		0.0268	0.0268	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049
Total	0.0479	0.5052	0.3334	3.7000e-004	0.0782	0.0291	0.1073	0.0417	0.0268	0.0685	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049

3.4 Grading - 2015

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	7.8000e-004	1.1000e-003	0.0107	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.5581	1.5581	9.0000e-005	0.0000	1.5599
Total	7.8000e-004	1.1000e-003	0.0107	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.7000e-004	0.0000	1.5581	1.5581	9.0000e-005	0.0000	1.5599

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1811	1.4865	0.9279	1.3300e-003		0.1048	0.1048		0.0985	0.0985	0.0000	120.7772	120.7772	0.0303	0.0000	121.4136
Total	0.1811	1.4865	0.9279	1.3300e-003		0.1048	0.1048		0.0985	0.0985	0.0000	120.7772	120.7772	0.0303	0.0000	121.4136

3.5 Building Construction - 2015

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	0.0000
Vendor	0.0216	0.1876	0.2349	3.9000e-004	0.0106	3.0500e-003	0.0136	3.0300e-003	2.8100e-003	5.8300e-003	0.0000	35.7363	35.7363	3.2000e-004	0.0000	35.7430	
Worker	0.0287	0.0405	0.3939	7.3000e-004	0.0631	5.3000e-004	0.0636	0.0168	4.9000e-004	0.0173	0.0000	57.5862	57.5862	3.2600e-003	0.0000	57.6547	
Total	0.0503	0.2281	0.6288	1.1200e-003	0.0737	3.5800e-003	0.0772	0.0198	3.3000e-003	0.0231	0.0000	93.3225	93.3225	3.5800e-003	0.0000	93.3977	

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	0.1811	1.4865	0.9279	1.3300e-003		0.1048	0.1048		0.0985	0.0985	0.0000	120.7771	120.7771	0.0303	0.0000	121.4134
Total	0.1811	1.4865	0.9279	1.3300e-003		0.1048	0.1048		0.0985	0.0985	0.0000	120.7771	120.7771	0.0303	0.0000	121.4134

3.5 Building Construction - 2015**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	0.0216	0.1876	0.2349	3.9000e-004	0.0106	3.0500e-003	0.0136	3.0300e-003	2.8100e-003	5.8300e-003	0.0000	35.7363	35.7363	3.2000e-004	0.0000	35.7430
Worker	0.0287	0.0405	0.3939	7.3000e-004	0.0631	5.3000e-004	0.0636	0.0168	4.9000e-004	0.0173	0.0000	57.5862	57.5862	3.2600e-003	0.0000	57.6547
Total	0.0503	0.2281	0.6288	1.1200e-003	0.0737	3.5800e-003	0.0772	0.0198	3.3000e-003	0.0231	0.0000	93.3225	93.3225	3.5800e-003	0.0000	93.3977

3.5 Building Construction - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0104	316.0104	0.0784	0.0000	317.6563
Total	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0104	316.0104	0.0784	0.0000	317.6563

3.5 Building Construction - 2016

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	0.0000
Vendor	0.0511	0.4300	0.5823	1.0300e-003	0.0278	6.4400e-003	0.0343	7.9800e-003	5.9200e-003	0.0139	0.0000	93.1305	93.1305	7.5000e-004	0.0000	93.1462	
Worker	0.0680	0.0956	0.9289	1.9300e-003	0.1663	1.3300e-003	0.1677	0.0442	1.2200e-003	0.0455	0.0000	146.5683	146.5683	7.8300e-003	0.0000	146.7328	
Total	0.1191	0.5256	1.5111	2.9600e-003	0.1942	7.7700e-003	0.2019	0.0522	7.1400e-003	0.0594	0.0000	239.6988	239.6988	8.5800e-003	0.0000	239.8790	

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	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0101	316.0101	0.0784	0.0000	317.6560	
Total	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0101	316.0101	0.0784	0.0000	317.6560	

3.5 Building Construction - 2016

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	0.0511	0.4300	0.5823	1.0300e-003	0.0278	6.4400e-003	0.0343	7.9800e-003	5.9200e-003	0.0139	0.0000	93.1305	93.1305	7.5000e-004	0.0000	93.1462
Worker	0.0680	0.0956	0.9289	1.9300e-003	0.1663	1.3300e-003	0.1677	0.0442	1.2200e-003	0.0455	0.0000	146.5683	146.5683	7.8300e-003	0.0000	146.7328
Total	0.1191	0.5256	1.5111	2.9600e-003	0.1942	7.7700e-003	0.2019	0.0522	7.1400e-003	0.0594	0.0000	239.6988	239.6988	8.5800e-003	0.0000	239.8790

3.5 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	0.3707	3.1555	2.1664	3.2000e-003		0.2129	0.2129		0.1999	0.1999	0.0000	286.1775	286.1775	0.0704	0.0000	287.6566
Total	0.3707	3.1555	2.1664	3.2000e-003		0.2129	0.2129		0.1999	0.1999	0.0000	286.1775	286.1775	0.0704	0.0000	287.6566

3.5 Building Construction - 2017

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	0.0410	0.3525	0.4913	9.4000e-004	0.0255	5.1000e-003	0.0306	7.3000e-003	4.6900e-003	0.0120	0.0000	83.8173	83.8173	6.5000e-004	0.0000	83.8310
Worker	0.0558	0.0785	0.7602	1.7600e-003	0.1523	1.1600e-003	0.1535	0.0405	1.0700e-003	0.0416	0.0000	129.0830	129.0830	6.5500e-003	0.0000	129.2207
Total	0.0968	0.4310	1.2515	2.7000e-003	0.1778	6.2600e-003	0.1841	0.0478	5.7600e-003	0.0536	0.0000	212.9004	212.9004	7.2000e-003	0.0000	213.0516

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	0.3707	3.1555	2.1664	3.2000e-003		0.2129	0.2129		0.1999	0.1999	0.0000	286.1772	286.1772	0.0704	0.0000	287.6563
Total	0.3707	3.1555	2.1664	3.2000e-003		0.2129	0.2129		0.1999	0.1999	0.0000	286.1772	286.1772	0.0704	0.0000	287.6563

3.5 Building Construction - 2017

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	0.0410	0.3525	0.4913	9.4000e-004	0.0255	5.1000e-003	0.0306	7.3000e-003	4.6900e-003	0.0120	0.0000	83.8173	83.8173	6.5000e-004	0.0000	83.8310
Worker	0.0558	0.0785	0.7602	1.7600e-003	0.1523	1.1600e-003	0.1535	0.0405	1.0700e-003	0.0416	0.0000	129.0830	129.0830	6.5500e-003	0.0000	129.2207
Total	0.0968	0.4310	1.2515	2.7000e-003	0.1778	6.2600e-003	0.1841	0.0478	5.7600e-003	0.0536	0.0000	212.9004	212.9004	7.2000e-003	0.0000	213.0516

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0222	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.6 Paving - 2016

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	5.6000e-004	7.8000e-004	7.6300e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2034	1.2034	6.0000e-005	0.0000	1.2047
Total	5.6000e-004	7.8000e-004	7.6300e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2034	1.2034	6.0000e-005	0.0000	1.2047

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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0222	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.6 Paving - 2016

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	5.6000e-004	7.8000e-004	7.6300e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2034	1.2034	6.0000e-005	0.0000	1.2047
Total	5.6000e-004	7.8000e-004	7.6300e-003	2.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2034	1.2034	6.0000e-005	0.0000	1.2047

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3432					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.0890	0.0707	1.1000e-004		7.3700e-003	7.3700e-003		7.3700e-003	7.3700e-003	0.0000	9.5747	9.5747	1.1300e-003	0.0000	9.5984
Total	0.3570	0.0890	0.0707	1.1000e-004		7.3700e-003	7.3700e-003		7.3700e-003	7.3700e-003	0.0000	9.5747	9.5747	1.1300e-003	0.0000	9.5984

3.7 Architectural Coating - 2016

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	3.9100e-003	5.4900e-003	0.0534	1.1000e-004	9.5600e-003	8.0000e-005	9.6400e-003	2.5400e-003	7.0000e-005	2.6100e-003	0.0000	8.4235	8.4235	4.5000e-004	0.0000	8.4329
Total	3.9100e-003	5.4900e-003	0.0534	1.1000e-004	9.5600e-003	8.0000e-005	9.6400e-003	2.5400e-003	7.0000e-005	2.6100e-003	0.0000	8.4235	8.4235	4.5000e-004	0.0000	8.4329

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	0.3432					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.0890	0.0707	1.1000e-004		7.3700e-003	7.3700e-003		7.3700e-003	7.3700e-003	0.0000	9.5747	9.5747	1.1300e-003	0.0000	9.5984
Total	0.3570	0.0890	0.0707	1.1000e-004		7.3700e-003	7.3700e-003		7.3700e-003	7.3700e-003	0.0000	9.5747	9.5747	1.1300e-003	0.0000	9.5984

3.7 Architectural Coating - 2016

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	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	0.0000
Worker	3.9100e-003	5.4900e-003	0.0534	1.1000e-004	9.5600e-003	8.0000e-005	9.6400e-003	2.5400e-003	7.0000e-005	2.6100e-003	0.0000	8.4235	8.4235	4.5000e-004	0.0000	8.4329	
Total	3.9100e-003	5.4900e-003	0.0534	1.1000e-004	9.5600e-003	8.0000e-005	9.6400e-003	2.5400e-003	7.0000e-005	2.6100e-003	0.0000	8.4235	8.4235	4.5000e-004	0.0000	8.4329	

3.7 Architectural Coating - 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					
Archit. Coating	1.1440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0415	0.2731	0.2335	3.7000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	31.9157	31.9157	3.3700e-003	0.0000	31.9864
Total	1.1855	0.2731	0.2335	3.7000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	31.9157	31.9157	3.3700e-003	0.0000	31.9864

3.7 Architectural Coating - 2017

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	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	0.0000
Worker	0.0117	0.0164	0.1590	3.7000e-004	0.0319	2.4000e-004	0.0321	8.4700e-003	2.2000e-004	8.7000e-003	0.0000	27.0048	27.0048	1.3700e-003	0.0000	27.0336	
Total	0.0117	0.0164	0.1590	3.7000e-004	0.0319	2.4000e-004	0.0321	8.4700e-003	2.2000e-004	8.7000e-003	0.0000	27.0048	27.0048	1.3700e-003	0.0000	27.0336	

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	1.1440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0415	0.2731	0.2335	3.7000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	31.9156	31.9156	3.3700e-003	0.0000	31.9864
Total	1.1855	0.2731	0.2335	3.7000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	31.9156	31.9156	3.3700e-003	0.0000	31.9864

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0117	0.0164	0.1590	3.7000e-004	0.0319	2.4000e-004	0.0321	8.4700e-003	2.2000e-004	8.7000e-003	0.0000	27.0048	27.0048	1.3700e-003	0.0000	27.0336
Total	0.0117	0.0164	0.1590	3.7000e-004	0.0319	2.4000e-004	0.0321	8.4700e-003	2.2000e-004	8.7000e-003	0.0000	27.0048	27.0048	1.3700e-003	0.0000	27.0336

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	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069
Unmitigated	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	184.52	200.48	169.96	412,363	412,363
Condo/Townhouse	632.64	687.36	582.72	1,413,815	1,413,815
Parking Lot	0.00	0.00	0.00		
Total	817.16	887.84	752.68	1,826,177	1,826,177

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551854	0.058218	0.185395	0.123453	0.029544	0.004438	0.012761	0.022956	0.001780	0.001269	0.006045	0.000523	0.001763

5.0 Energy Detail

~~5.1 Fleet Mix~~

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	181.1107	181.1107	8.1900e-003	1.6900e-003	181.8080
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	181.1107	181.1107	8.1900e-003	1.6900e-003	181.8080
NaturalGas Mitigated	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1200e-003	116.5817
NaturalGas Unmitigated	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1200e-003	116.5817

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					
Condo/Townhouse	1.86956e+006	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.7670	99.7670	1.9100e-003	1.8300e-003	100.3741
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
Apartments Low Rise	301881	1.6300e-003	0.0139	5.9200e-003	9.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	16.1095	16.1095	3.1000e-004	3.0000e-004	16.2076
Total		0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1300e-003	116.5817

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.86956e+006	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.7670	99.7670	1.9100e-003	1.8300e-003	100.3741
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
Apartments Low Rise	301881	1.6300e-003	0.0139	5.9200e-003	9.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	16.1095	16.1095	3.1000e-004	3.0000e-004	16.2076
Total		0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1300e-003	116.5817

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	103088	29.9895	1.3600e-003	2.8000e-004	30.1049
Condo/Townhouse	413875	120.4010	5.4400e-003	1.1300e-003	120.8646
Parking Lot	105600	30.7203	1.3900e-003	2.9000e-004	30.8385
Total		181.1107	8.1900e-003	1.7000e-003	181.8080

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	103088	29.9895	1.3600e-003	2.8000e-004	30.1049
Condo/Townhouse	413875	120.4010	5.4400e-003	1.1300e-003	120.8646
Parking Lot	105600	30.7203	1.3900e-003	2.9000e-004	30.8385
Total		181.1107	8.1900e-003	1.7000e-003	181.8080

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797
Unmitigated	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797

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	0.1487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2834					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.2000e-004	0.0000	2.0000e-005	0.0000		2.9000e-004	2.9000e-004		2.8000e-004	2.8000e-004	0.0000	4.1133	4.1133	8.0000e-005	8.0000e-005	4.1384
Landscaping	0.0292	0.0109	0.9328	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.5093	1.5093	1.5200e-003	0.0000	1.5413
Total	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2834					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.2000e-004	0.0000	2.0000e-005	0.0000		2.9000e-004	2.9000e-004		2.8000e-004	2.8000e-004	0.0000	4.1133	4.1133	8.0000e-005	8.0000e-005	4.1384
Landscaping	0.0292	0.0109	0.9328	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.5093	1.5093	1.5200e-003	0.0000	1.5413
Total	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	20.4666	0.2640	6.3700e-003	27.9868
Unmitigated	20.4666	0.2641	6.3800e-003	27.9909

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.82431 / 1.15011	4.6215	0.0596	1.4400e-003	6.3205
Condo/Townhouse	6.25479 / 3.94323	15.8451	0.2044	4.9400e-003	21.6704
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		20.4666	0.2641	6.3800e-003	27.9909

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.82431 / 1.15011	4.6215	0.0596	1.4400e-003	6.3196
Condo/Townhouse	6.25479 / 3.94323	15.8451	0.2044	4.9300e-003	21.6672
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		20.4666	0.2640	6.3700e-003	27.9868

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.5786	0.6843	0.0000	25.9484
Unmitigated	11.5786	0.6843	0.0000	25.9484

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.88	2.6145	0.1545	0.0000	5.8593
Condo/Townhouse	44.16	8.9641	0.5298	0.0000	20.0891
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		11.5786	0.6843	0.0000	25.9484

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.88	2.6145	0.1545	0.0000	5.8593
Condo/Townhouse	44.16	8.9641	0.5298	0.0000	20.0891
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		11.5786	0.6843	0.0000	25.9484

9.0 Operational Offroad

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

496/500 Sam Cava Avenue and 280 Dillon Avenue, Campbell, CA
Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	300.00	Space	1.00	120,000.00	0
Apartments Low Rise	28.00	Dwelling Unit	1.50	24,472.00	80
Condo/Townhouse	96.00	Dwelling Unit	3.00	184,128.00	275

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 96 townhouses (average of 1,918 sf), 28 apartments (average of 874 sf), and a max of 300 parking spaces assumed for a total of 5.5 acre project site.

Construction Phase - Starting Summer 2015, based on average default active days between >5 and >10 acres project (Table 3-1, CalEEMod User Guide, Appendix D)

Off-road Equipment -

Off-road Equipment -

Trips and VMT -

Demolition -

Grading - Total acres disturbed equal to project area.

Architectural Coating -

Woodstoves - No woodstoves assumed. Only gas fireplaces assumed, with default ratio of "# gas" to "# no fireplaces"

Construction Off-road Equipment Mitigation -

Area Coating -

Water And Wastewater -

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	265.00
tblConstructionPhase	NumDays	20.00	25.00
tblFireplaces	NumberGas	15.40	19.32
tblFireplaces	NumberGas	52.80	66.24
tblFireplaces	NumberWood	3.92	0.00
tblFireplaces	NumberWood	13.44	0.00
tblGrading	AcresOfGrading	15.00	5.50
tblLandUse	LandUseSquareFeet	28,000.00	24,472.00
tblLandUse	LandUseSquareFeet	96,000.00	184,128.00
tblLandUse	LotAcreage	2.70	1.00
tblLandUse	LotAcreage	1.75	1.50
tblLandUse	LotAcreage	6.00	3.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblWoodstoves	NumberCatalytic	0.14	0.00
tblWoodstoves	NumberCatalytic	0.48	0.00
tblWoodstoves	NumberNoncatalytic	0.14	0.00
tblWoodstoves	NumberNoncatalytic	0.48	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	8.3655	0.1208	10.3750	5.4000e-004		0.1901	0.1901		0.1887	0.1887	0.0000	2,132.3214	2,132.3214	0.0592	0.0388	2,145.5780
Energy	0.0642	0.5483	0.2333	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.9013	699.9013	0.0134	0.0128	704.1608
Mobile	2.9655	6.0983	29.1998	0.0555	4.1847	0.0753	4.2600	1.1156	0.0693	1.1850		4,686.5873	4,686.5873	0.1955		4,690.6925
Total	11.3951	6.7673	39.8080	0.0596	4.1847	0.3098	4.4944	1.1156	0.3023	1.4180	0.0000	7,518.8100	7,518.8100	0.2681	0.0516	7,540.4312

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	8.3655	0.1208	10.3750	5.4000e-004		0.1901	0.1901		0.1887	0.1887	0.0000	2,132.3214	2,132.3214	0.0592	0.0388	2,145.5780
Energy	0.0642	0.5483	0.2333	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.9013	699.9013	0.0134	0.0128	704.1608
Mobile	2.9655	6.0983	29.1998	0.0555	4.1847	0.0753	4.2600	1.1156	0.0693	1.1850		4,686.5873	4,686.5873	0.1955		4,690.6925
Total	11.3951	6.7673	39.8080	0.0596	4.1847	0.3098	4.4944	1.1156	0.3023	1.4180	0.0000	7,518.8100	7,518.8100	0.2681	0.0516	7,540.4312

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2015	6/26/2015	5	20	
2	Site Preparation	Site Preparation	6/27/2015	7/10/2015	5	10	
3	Grading	Grading	7/11/2015	8/14/2015	5	25	
4	Building Construction	Building Construction	8/15/2015	8/19/2016	5	265	
5	Paving	Paving	8/20/2016	9/16/2016	5	20	
6	Architectural Coating	Architectural Coating	9/17/2016	10/14/2016	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.5

Acres of Paving: 0

Residential Indoor: 422,415; Residential Outdoor: 140,805; Non-Residential Indoor: 5,400; Non-Residential Outdoor: 1,800 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
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
Demolition	6	15.00	0.00	120.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	140.00	33.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2935	0.0000	1.2935	0.1959	0.0000	0.1959			0.0000			0.0000
Off-Road	4.5083	48.3629	36.0738	0.0399		2.4508	2.4508		2.2858	2.2858		4,127.1934	4,127.1934	1.1188		4,150.6886
Total	4.5083	48.3629	36.0738	0.0399	1.2935	2.4508	3.7443	0.1959	2.2858	2.4816		4,127.1934	4,127.1934	1.1188		4,150.6886

3.2 Demolition - 2015

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	0.1591	2.1086	1.7094	4.5000e-003	0.1045	0.0310	0.1356	0.0286	0.0286	0.0572		457.8052	457.8052	3.8800e-003		457.8867
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	0.0670	0.0956	0.8828	1.5600e-003	0.1415	1.1600e-003	0.1426	0.0375	1.0600e-003	0.0386		135.7179	135.7179	7.7900e-003		135.8814
Total	0.2262	2.2042	2.5923	6.0600e-003	0.2460	0.0322	0.2782	0.0661	0.0296	0.0957		593.5230	593.5230	0.0117		593.7681

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					1.2935	0.0000	1.2935	0.1959	0.0000	0.1959			0.0000			0.0000
Off-Road	4.5083	48.3629	36.0738	0.0399		2.4508	2.4508		2.2858	2.2858	0.0000	4,127.1934	4,127.1934	1.1188		4,150.6886
Total	4.5083	48.3629	36.0738	0.0399	1.2935	2.4508	3.7443	0.1959	2.2858	2.4816	0.0000	4,127.1934	4,127.1934	1.1188		4,150.6886

3.2 Demolition - 2015

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	0.1591	2.1086	1.7094	4.5000e-003	0.1045	0.0310	0.1356	0.0286	0.0286	0.0572		457.8052	457.8052	3.8800e-003		457.8867
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	0.0670	0.0956	0.8828	1.5600e-003	0.1415	1.1600e-003	0.1426	0.0375	1.0600e-003	0.0386		135.7179	135.7179	7.7900e-003		135.8814
Total	0.2262	2.2042	2.5923	6.0600e-003	0.2460	0.0322	0.2782	0.0661	0.0296	0.0957		593.5230	593.5230	0.0117		593.7681

3.3 Site Preparation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					36.1325	0.0000	36.1325	19.8614	0.0000	19.8614			0.0000			0.0000
Off-Road	5.2609	56.8897	42.6318	0.0391		3.0883	3.0883		2.8412	2.8412		4,111.7444	4,111.7444	1.2275		4,137.5225
Total	5.2609	56.8897	42.6318	0.0391	36.1325	3.0883	39.2208	19.8614	2.8412	22.7026		4,111.7444	4,111.7444	1.2275		4,137.5225

3.3 Site Preparation - 2015

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	0.0804	0.1147	1.0594	1.8800e-003	0.1698	1.3900e-003	0.1711	0.0450	1.2700e-003	0.0463		162.8614	162.8614	9.3400e-003			163.0577
Total	0.0804	0.1147	1.0594	1.8800e-003	0.1698	1.3900e-003	0.1711	0.0450	1.2700e-003	0.0463		162.8614	162.8614	9.3400e-003			163.0577

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					36.1325	0.0000	36.1325	19.8614	0.0000	19.8614			0.0000				0.0000
Off-Road	5.2609	56.8897	42.6318	0.0391		3.0883	3.0883		2.8412	2.8412	0.0000	4,111.7444	4,111.7444	1.2275			4,137.5224
Total	5.2609	56.8897	42.6318	0.0391	36.1325	3.0883	39.2208	19.8614	2.8412	22.7026	0.0000	4,111.7444	4,111.7444	1.2275			4,137.5224

3.3 Site Preparation - 2015

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	0.0804	0.1147	1.0594	1.8800e-003	0.1698	1.3900e-003	0.1711	0.0450	1.2700e-003	0.0463		162.8614	162.8614	9.3400e-003			163.0577
Total	0.0804	0.1147	1.0594	1.8800e-003	0.1698	1.3900e-003	0.1711	0.0450	1.2700e-003	0.0463		162.8614	162.8614	9.3400e-003			163.0577

3.4 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					7.4598	0.0000	7.4598	3.9975	0.0000	3.9975			0.0000				0.0000
Off-Road	3.8327	40.4161	26.6731	0.0298		2.3284	2.3284		2.1421	2.1421		3,129.0158	3,129.0158	0.9341			3,148.6328
Total	3.8327	40.4161	26.6731	0.0298	7.4598	2.3284	9.7882	3.9975	2.1421	6.1395		3,129.0158	3,129.0158	0.9341			3,148.6328

3.4 Grading - 2015

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	0.0670	0.0956	0.8828	1.5600e-003	0.1415	1.1600e-003	0.1426	0.0375	1.0600e-003	0.0386		135.7179	135.7179	7.7900e-003		135.8814
Total	0.0670	0.0956	0.8828	1.5600e-003	0.1415	1.1600e-003	0.1426	0.0375	1.0600e-003	0.0386		135.7179	135.7179	7.7900e-003		135.8814

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					7.4598	0.0000	7.4598	3.9975	0.0000	3.9975			0.0000			0.0000
Off-Road	3.8327	40.4161	26.6731	0.0298		2.3284	2.3284		2.1421	2.1421	0.0000	3,129.0158	3,129.0158	0.9341		3,148.6328
Total	3.8327	40.4161	26.6731	0.0298	7.4598	2.3284	9.7882	3.9975	2.1421	6.1395	0.0000	3,129.0158	3,129.0158	0.9341		3,148.6328

3.4 Grading - 2015

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	0.0670	0.0956	0.8828	1.5600e-003	0.1415	1.1600e-003	0.1426	0.0375	1.0600e-003	0.0386		135.7179	135.7179	7.7900e-003			135.8814
Total	0.0670	0.0956	0.8828	1.5600e-003	0.1415	1.1600e-003	0.1426	0.0375	1.0600e-003	0.0386		135.7179	135.7179	7.7900e-003			135.8814

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904		2,689.5771	2,689.5771	0.6748			2,703.7483
Total	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904		2,689.5771	2,689.5771	0.6748			2,703.7483

3.5 Building Construction - 2015

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	0.4869	3.8356	5.6197	7.8500e-003	0.2195	0.0621	0.2816	0.0627	0.0571	0.1198		792.2859	792.2859	7.2500e-003			792.4382
Worker	0.6256	0.8922	8.2398	0.0146	1.3202	0.0108	1.3310	0.3502	9.8700e-003	0.3600		1,266.7000	1,266.7000	0.0727			1,268.2262
Total	1.1125	4.7279	13.8594	0.0225	1.5397	0.0729	1.6126	0.4128	0.0670	0.4798		2,058.9860	2,058.9860	0.0799			2,060.6644

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	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904	0.0000	2,689.5771	2,689.5771	0.6748			2,703.7483
Total	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904	0.0000	2,689.5771	2,689.5771	0.6748			2,703.7483

3.5 Building Construction - 2015

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	0.4869	3.8356	5.6197	7.8500e-003	0.2195	0.0621	0.2816	0.0627	0.0571	0.1198		792.2859	792.2859	7.2500e-003			792.4382
Worker	0.6256	0.8922	8.2398	0.0146	1.3202	0.0108	1.3310	0.3502	9.8700e-003	0.3600		1,266.7000	1,266.7000	0.0727			1,268.2262
Total	1.1125	4.7279	13.8594	0.0225	1.5397	0.0729	1.6126	0.4128	0.0670	0.4798		2,058.9860	2,058.9860	0.0799			2,060.6644

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620			2,683.1890
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620			2,683.1890

3.5 Building Construction - 2016

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	0.4369	3.3350	5.3223	7.8400e-003	0.2195	0.0497	0.2691	0.0627	0.0457	0.1083		783.1572	783.1572	6.4100e-003			783.2919
Worker	0.5608	0.7988	7.3497	0.0146	1.3202	0.0102	1.3304	0.3502	9.3400e-003	0.3595		1,222.8764	1,222.8764	0.0662			1,224.2657
Total	0.9977	4.1338	12.6721	0.0224	1.5397	0.0599	1.5996	0.4128	0.0550	0.4679		2,006.0337	2,006.0337	0.0726			2,007.5576

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620			2,683.1890
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620			2,683.1890

3.5 Building Construction - 2016

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	0.4369	3.3350	5.3223	7.8400e-003	0.2195	0.0497	0.2691	0.0627	0.0457	0.1083		783.1572	783.1572	6.4100e-003			783.2919
Worker	0.5608	0.7988	7.3497	0.0146	1.3202	0.0102	1.3304	0.3502	9.3400e-003	0.3595		1,222.8764	1,222.8764	0.0662			1,224.2657
Total	0.9977	4.1338	12.6721	0.0224	1.5397	0.0599	1.5996	0.4128	0.0550	0.4679		2,006.0337	2,006.0337	0.0726			2,007.5576

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987			2,331.0495
Paving	0.1310					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Total	2.2208	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987			2,331.0495

3.6 Paving - 2016

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	0.0601	0.0856	0.7875	1.5600e-003	0.1415	1.0900e-003	0.1425	0.0375	1.0000e-003	0.0385		131.0225	131.0225	7.0900e-003			131.1713
Total	0.0601	0.0856	0.7875	1.5600e-003	0.1415	1.0900e-003	0.1425	0.0375	1.0000e-003	0.0385		131.0225	131.0225	7.0900e-003			131.1713

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	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987			2,331.0495
Paving	0.1310					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Total	2.2208	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987			2,331.0495

3.6 Paving - 2016

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	0.0601	0.0856	0.7875	1.5600e-003	0.1415	1.0900e-003	0.1425	0.0375	1.0000e-003	0.0385		131.0225	131.0225	7.0900e-003		131.1713
Total	0.0601	0.0856	0.7875	1.5600e-003	0.1415	1.0900e-003	0.1425	0.0375	1.0000e-003	0.0385		131.0225	131.0225	7.0900e-003		131.1713

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	148.7192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	149.0877	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449

3.7 Architectural Coating - 2016

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	0.1122	0.1598	1.4700	2.9200e-003	0.2641	2.0400e-003	0.2661	0.0700	1.8700e-003	0.0719		244.5753	244.5753	0.0132			244.8532
Total	0.1122	0.1598	1.4700	2.9200e-003	0.2641	2.0400e-003	0.2661	0.0700	1.8700e-003	0.0719		244.5753	244.5753	0.0132			244.8532

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	148.7192					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332			282.1449
Total	149.0877	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332			282.1449

3.7 Architectural Coating - 2016

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	0.1122	0.1598	1.4700	2.9200e-003	0.2641	2.0400e-003	0.2661	0.0700	1.8700e-003	0.0719		244.5753	244.5753	0.0132			244.8532
Total	0.1122	0.1598	1.4700	2.9200e-003	0.2641	2.0400e-003	0.2661	0.0700	1.8700e-003	0.0719		244.5753	244.5753	0.0132			244.8532

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	2.9655	6.0983	29.1998	0.0555	4.1847	0.0753	4.2600	1.1156	0.0693	1.1850		4,686.5873	4,686.5873	0.1955		4,690.6925
Unmitigated	2.9655	6.0983	29.1998	0.0555	4.1847	0.0753	4.2600	1.1156	0.0693	1.1850		4,686.5873	4,686.5873	0.1955		4,690.6925

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	184.52	200.48	169.96	412,363	412,363
Condo/Townhouse	632.64	687.36	582.72	1,413,815	1,413,815
Parking Lot	0.00	0.00	0.00		
Total	817.16	887.84	752.68	1,826,177	1,826,177

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551854	0.058218	0.185395	0.123453	0.029544	0.004438	0.012761	0.022956	0.001780	0.001269	0.006045	0.000523	0.001763

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0642	0.5483	0.2333	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.9013	699.9013	0.0134	0.0128	704.1608
NaturalGas Unmitigated	0.0642	0.5483	0.2333	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.9013	699.9013	0.0134	0.0128	704.1608

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					
Condo/Townhouse	5122.09	0.0552	0.4720	0.2009	3.0100e-003		0.0382	0.0382		0.0382	0.0382		602.5987	602.5987	0.0116	0.0111	606.2661
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
Apartments Low Rise	827.072	8.9200e-003	0.0762	0.0324	4.9000e-004		6.1600e-003	6.1600e-003		6.1600e-003	6.1600e-003		97.3026	97.3026	1.8600e-003	1.7800e-003	97.8947
Total		0.0642	0.5483	0.2333	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.9013	699.9013	0.0134	0.0128	704.1608

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
Apartments Low Rise	0.827072	8.9200e-003	0.0762	0.0324	4.9000e-004		6.1600e-003	6.1600e-003		6.1600e-003	6.1600e-003		97.3026	97.3026	1.8600e-003	1.7800e-003	97.8947
Condo/Townhouse	5.12209	0.0552	0.4720	0.2009	3.0100e-003		0.0382	0.0382		0.0382	0.0382		602.5987	602.5987	0.0116	0.0111	606.2661
Total		0.0642	0.5483	0.2333	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.9013	699.9013	0.0134	0.0128	704.1608

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3655	0.1208	10.3750	5.4000e-004		0.1901	0.1901		0.1887	0.1887	0.0000	2,132.3214	2,132.3214	0.0592	0.0388	2,145.5780
Unmitigated	8.3655	0.1208	10.3750	5.4000e-004		0.1901	0.1901		0.1887	0.1887	0.0000	2,132.3214	2,132.3214	0.0592	0.0388	2,145.5780

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	0.8149					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0320					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1938	1.0000e-005	0.0106	0.0000		0.1339	0.1339		0.1325	0.1325	0.0000	2,113.8353	2,113.8353	0.0405	0.0388	2,126.6997
Landscaping	0.3247	0.1207	10.3644	5.4000e-004		0.0562	0.0562		0.0562	0.0562		18.4861	18.4861	0.0187		18.8782
Total	8.3655	0.1208	10.3750	5.4000e-004		0.1901	0.1901		0.1887	0.1887	0.0000	2,132.3214	2,132.3214	0.0592	0.0388	2,145.5780

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8149					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0320					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1938	1.0000e-005	0.0106	0.0000		0.1339	0.1339		0.1325	0.1325	0.0000	2,113.8353	2,113.8353	0.0405	0.0388	2,126.6997
Landscaping	0.3247	0.1207	10.3644	5.4000e-004		0.0562	0.0562		0.0562	0.0562		18.4861	18.4861	0.0187		18.8782
Total	8.3655	0.1208	10.3750	5.4000e-004		0.1901	0.1901		0.1887	0.1887	0.0000	2,132.3214	2,132.3214	0.0592	0.0388	2,145.5780

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

496/500 Sam Cava Avenue and 280 Dillon Avenue, Campbell, CA (HRA)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	300.00	Space	1.00	120,000.00	0
Apartments Low Rise	28.00	Dwelling Unit	1.50	24,472.00	80
Condo/Townhouse	96.00	Dwelling Unit	3.00	184,128.00	275

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstructionPhase	NumDays	230.00	265.00
tblConstructionPhase	NumDays	20.00	25.00
tblFireplaces	NumberGas	15.40	19.32
tblFireplaces	NumberGas	52.80	66.24
tblFireplaces	NumberWood	3.92	0.00
tblFireplaces	NumberWood	13.44	0.00
tblGrading	AcresOfGrading	12.50	5.50
tblLandUse	LandUseSquareFeet	28,000.00	24,472.00
tblLandUse	LandUseSquareFeet	96,000.00	184,128.00
tblLandUse	LotAcreage	2.70	1.00
tblLandUse	LotAcreage	1.75	1.50
tblLandUse	LotAcreage	6.00	3.00
tblProjectCharacteristics	OperationalYear	2014	2017

tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblTripsAndVMT	WorkerTripLength	12.40	0.19
tblWoodstoves	NumberCatalytic	0.14	0.00
tblWoodstoves	NumberCatalytic	0.48	0.00
tblWoodstoves	NumberNoncatalytic	0.14	0.00
tblWoodstoves	NumberNoncatalytic	0.48	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	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797
Energy	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	296.9872	296.9872	0.0104	3.8200e-003	298.3897
Mobile	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069
Waste						0.0000	0.0000		0.0000	0.0000	11.5786	0.0000	11.5786	0.6843	0.0000	25.9484
Water						0.0000	0.0000		0.0000	0.0000	2.5631	17.9035	20.4666	0.2641	6.3800e-003	27.9909
Total	1.9343	1.0917	5.4795	0.0101	0.6778	0.0260	0.7038	0.1812	0.0250	0.2062	14.1417	1,039.8968	1,054.0386	0.9901	0.0103	1,078.0156

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797
Energy	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	296.9872	296.9872	0.0104	3.8200e-003	298.3897
Mobile	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069
Waste						0.0000	0.0000		0.0000	0.0000	11.5786	0.0000	11.5786	0.6843	0.0000	25.9484
Water						0.0000	0.0000		0.0000	0.0000	2.5631	17.9035	20.4666	0.2640	6.3700e-003	27.9868
Total	1.9343	1.0917	5.4795	0.0101	0.6778	0.0260	0.7038	0.1812	0.0250	0.2062	14.1417	1,039.8968	1,054.0386	0.9900	0.0103	1,078.0115

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.10	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2015	6/26/2015	5	20	
2	Site Preparation	Site Preparation	6/27/2015	7/10/2015	5	10	
3	Grading	Grading	7/11/2015	8/14/2015	5	25	
4	Building Construction	Building Construction	8/15/2015	8/19/2016	5	265	
5	Paving	Paving	8/20/2016	9/16/2016	5	20	
6	Architectural Coating	Architectural Coating	9/17/2016	10/14/2016	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.5

Acres of Paving: 0

Residential Indoor: 422,415; Residential Outdoor: 140,805; Non-Residential Indoor: 5,400; Non-Residential Outdoor: 1,800 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
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
Demolition	6	15.00	0.00	120.00	0.19	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	0.19	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	0.19	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Building Construction	9	140.00	33.00	0.00	0.19	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.19	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	0.19	0.19	0.19	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment
 Clean Paved Roads

3.2 Demolition - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0129	0.0000	0.0129	1.9600e-003	0.0000	1.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4836	0.3607	4.0000e-004		0.0245	0.0245		0.0229	0.0229	0.0000	37.4413	37.4413	0.0102	0.0000	37.6544
Total	0.0451	0.4836	0.3607	4.0000e-004	0.0129	0.0245	0.0374	1.9600e-003	0.0229	0.0248	0.0000	37.4413	37.4413	0.0102	0.0000	37.6544

3.2 Demolition - 2015

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	6.9000e-004	1.5900e-003	0.0103	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	0.1359	0.1359	0.0000	0.0000	0.1360
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	4.3000e-004	1.0000e-004	1.4400e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0505	0.0505	1.0000e-005	0.0000	0.0507
Total	1.1200e-003	1.6900e-003	0.0118	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1864	0.1864	1.0000e-005	0.0000	0.1866

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					0.0129	0.0000	0.0129	1.9600e-003	0.0000	1.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4836	0.3607	4.0000e-004		3.6800e-003	3.6800e-003		3.4300e-003	3.4300e-003	0.0000	37.4412	37.4412	0.0102	0.0000	37.6544
Total	0.0451	0.4836	0.3607	4.0000e-004	0.0129	3.6800e-003	0.0166	1.9600e-003	3.4300e-003	5.3900e-003	0.0000	37.4412	37.4412	0.0102	0.0000	37.6544

3.2 Demolition - 2015

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	6.9000e-004	1.5900e-003	0.0103	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	0.1359	0.1359	0.0000	0.0000	0.1360
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	4.3000e-004	1.0000e-004	1.4400e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0505	0.0505	1.0000e-005	0.0000	0.0507
Total	1.1200e-003	1.6900e-003	0.0118	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1864	0.1864	1.0000e-005	0.0000	0.1866

3.3 Site Preparation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.2132	2.0000e-004		0.0154	0.0154		0.0142	0.0142	0.0000	18.6506	18.6506	5.5700e-003	0.0000	18.7675
Total	0.0263	0.2845	0.2132	2.0000e-004	0.0903	0.0154	0.1058	0.0497	0.0142	0.0639	0.0000	18.6506	18.6506	5.5700e-003	0.0000	18.7675

3.3 Site Preparation - 2015

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-004	6.0000e-005	8.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0303	0.0303	0.0000	0.0000	0.0304
Total	2.6000e-004	6.0000e-005	8.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0303	0.0303	0.0000	0.0000	0.0304

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.2132	2.0000e-004		2.3200e-003	2.3200e-003		2.1300e-003	2.1300e-003	0.0000	18.6505	18.6505	5.5700e-003	0.0000	18.7675
Total	0.0263	0.2845	0.2132	2.0000e-004	0.0903	2.3200e-003	0.0927	0.0497	2.1300e-003	0.0518	0.0000	18.6505	18.6505	5.5700e-003	0.0000	18.7675

3.3 Site Preparation - 2015

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-004	6.0000e-005	8.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0303	0.0303	0.0000	0.0000	0.0304
Total	2.6000e-004	6.0000e-005	8.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0303	0.0303	0.0000	0.0000	0.0304

3.4 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0782	0.0000	0.0782	0.0417	0.0000	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0479	0.5052	0.3334	3.7000e-004		0.0291	0.0291		0.0268	0.0268	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049
Total	0.0479	0.5052	0.3334	3.7000e-004	0.0782	0.0291	0.1073	0.0417	0.0268	0.0685	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049

3.4 Grading - 2015

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	5.3000e-004	1.3000e-004	1.8000e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0631	0.0631	1.0000e-005	0.0000	0.0633
Total	5.3000e-004	1.3000e-004	1.8000e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0631	0.0631	1.0000e-005	0.0000	0.0633

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					0.0782	0.0000	0.0782	0.0417	0.0000	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0479	0.5052	0.3334	3.7000e-004		4.3700e-003	4.3700e-003		4.0200e-003	4.0200e-003	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049
Total	0.0479	0.5052	0.3334	3.7000e-004	0.0782	4.3700e-003	0.0826	0.0417	4.0200e-003	0.0457	0.0000	35.4824	35.4824	0.0106	0.0000	35.7049

3.4 Grading - 2015

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	5.3000e-004	1.3000e-004	1.8000e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0631	0.0631	1.0000e-005	0.0000	0.0633
Total	5.3000e-004	1.3000e-004	1.8000e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0631	0.0631	1.0000e-005	0.0000	0.0633

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1811	1.4865	0.9279	1.3300e-003		0.1048	0.1048		0.0985	0.0985	0.0000	120.7772	120.7772	0.0303	0.0000	121.4136
Total	0.1811	1.4865	0.9279	1.3300e-003		0.1048	0.1048		0.0985	0.0985	0.0000	120.7772	120.7772	0.0303	0.0000	121.4136

3.5 Building Construction - 2015

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	0.0000
Vendor	0.0148	0.0401	0.1937	4.0000e-005	3.1000e-004	2.3000e-004	5.5000e-004	9.0000e-005	2.1000e-004	3.1000e-004	0.0000	3.4596	3.4596	6.0000e-005	0.0000	0.0000	3.4610
Worker	0.0197	4.7500e-003	0.0664	3.0000e-005	1.0300e-003	7.0000e-005	1.1000e-003	2.8000e-004	6.0000e-005	3.4000e-004	0.0000	2.3338	2.3338	3.1000e-004	0.0000	0.0000	2.3403
Total	0.0344	0.0449	0.2601	7.0000e-005	1.3400e-003	3.0000e-004	1.6500e-003	3.7000e-004	2.7000e-004	6.5000e-004	0.0000	5.7935	5.7935	3.7000e-004	0.0000	0.0000	5.8012

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	0.1811	1.4865	0.9279	1.3300e-003		0.0157	0.0157		0.0148	0.0148	0.0000	120.7771	120.7771	0.0303	0.0000	121.4134
Total	0.1811	1.4865	0.9279	1.3300e-003		0.0157	0.0157		0.0148	0.0148	0.0000	120.7771	120.7771	0.0303	0.0000	121.4134

3.5 Building Construction - 2015

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	0.0000
Vendor	0.0148	0.0401	0.1937	4.0000e-005	3.1000e-004	2.3000e-004	5.5000e-004	9.0000e-005	2.1000e-004	3.1000e-004	0.0000	3.4596	3.4596	6.0000e-005	0.0000	0.0000	3.4610
Worker	0.0197	4.7500e-003	0.0664	3.0000e-005	1.0300e-003	7.0000e-005	1.1000e-003	2.8000e-004	6.0000e-005	3.4000e-004	0.0000	2.3338	2.3338	3.1000e-004	0.0000	0.0000	2.3403
Total	0.0344	0.0449	0.2601	7.0000e-005	1.3400e-003	3.0000e-004	1.6500e-003	3.7000e-004	2.7000e-004	6.5000e-004	0.0000	5.7935	5.7935	3.7000e-004	0.0000	0.0000	5.8012

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2827	2.3660	1.5361	2.2300e-003		0.1633	0.1633		0.1534	0.1534	0.0000	200.9875	200.9875	0.0499	0.0000	202.0343
Total	0.2827	2.3660	1.5361	2.2300e-003		0.1633	0.1633		0.1534	0.1534	0.0000	200.9875	200.9875	0.0499	0.0000	202.0343

3.5 Building Construction - 2016

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	0.0000
Vendor	0.0225	0.0623	0.3098	7.0000e-005	5.3000e-004	3.0000e-004	8.2000e-004	1.6000e-004	2.7000e-004	4.3000e-004	0.0000	5.7395	5.7395	1.0000e-004	0.0000	5.7415	
Worker	0.0305	7.0800e-003	0.1000	5.0000e-005	1.7300e-003	1.1000e-004	1.8400e-003	4.8000e-004	1.0000e-004	5.7000e-004	0.0000	3.7828	3.7828	4.5000e-004	0.0000	3.7923	
Total	0.0530	0.0693	0.4098	1.2000e-004	2.2600e-003	4.1000e-004	2.6600e-003	6.4000e-004	3.7000e-004	1.0000e-003	0.0000	9.5222	9.5222	5.5000e-004	0.0000	9.5339	

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	0.2827	2.3660	1.5361	2.2300e-003		0.0245	0.0245		0.0230	0.0230	0.0000	200.9872	200.9872	0.0499	0.0000	202.0341
Total	0.2827	2.3660	1.5361	2.2300e-003		0.0245	0.0245		0.0230	0.0230	0.0000	200.9872	200.9872	0.0499	0.0000	202.0341

3.5 Building Construction - 2016

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	0.0225	0.0623	0.3098	7.0000e-005	5.3000e-004	3.0000e-004	8.2000e-004	1.6000e-004	2.7000e-004	4.3000e-004	0.0000	5.7395	5.7395	1.0000e-004	0.0000	5.7415
Worker	0.0305	7.0800e-003	0.1000	5.0000e-005	1.7300e-003	1.1000e-004	1.8400e-003	4.8000e-004	1.0000e-004	5.7000e-004	0.0000	3.7828	3.7828	4.5000e-004	0.0000	3.7923
Total	0.0530	0.0693	0.4098	1.2000e-004	2.2600e-003	4.1000e-004	2.6600e-003	6.4000e-004	3.7000e-004	1.0000e-003	0.0000	9.5222	9.5222	5.5000e-004	0.0000	9.5339

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0222	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.6 Paving - 2016

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	3.9000e-004	9.0000e-005	1.2900e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	1.0000e-005	0.0000	0.0490
Total	3.9000e-004	9.0000e-005	1.2900e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	1.0000e-005	0.0000	0.0490

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	0.0209	0.2239	0.1482	2.2000e-004		1.8900e-003	1.8900e-003		1.7400e-003	1.7400e-003	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0222	0.2239	0.1482	2.2000e-004		1.8900e-003	1.8900e-003		1.7400e-003	1.7400e-003	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.6 Paving - 2016

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	3.9000e-004	9.0000e-005	1.2900e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	1.0000e-005	0.0000	0.0490
Total	3.9000e-004	9.0000e-005	1.2900e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	1.0000e-005	0.0000	0.0490

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4872					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6800e-003	0.0237	0.0188	3.0000e-005		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596
Total	1.4909	0.0237	0.0188	3.0000e-005		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596

3.7 Architectural Coating - 2016

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	7.3000e-004	1.7000e-004	2.4100e-003	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0912	0.0912	1.0000e-005	0.0000	0.0914
Total	7.3000e-004	1.7000e-004	2.4100e-003	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0912	0.0912	1.0000e-005	0.0000	0.0914

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	1.4872					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6800e-003	0.0237	0.0188	3.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596
Total	1.4909	0.0237	0.0188	3.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596

3.7 Architectural Coating - 2016

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	7.3000e-004	1.7000e-004	2.4100e-003	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0912	0.0912	1.0000e-005	0.0000	0.0914
Total	7.3000e-004	1.7000e-004	2.4100e-003	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0912	0.0912	1.0000e-005	0.0000	0.0914

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	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069
Unmitigated	0.4609	0.9808	4.5041	9.3900e-003	0.6778	0.0126	0.6903	0.1812	0.0116	0.1928	0.0000	719.3835	719.3835	0.0297	0.0000	720.0069

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	184.52	200.48	169.96	412,363	412,363
Condo/Townhouse	632.64	687.36	582.72	1,413,815	1,413,815
Parking Lot	0.00	0.00	0.00		
Total	817.16	887.84	752.68	1,826,177	1,826,177

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551854	0.058218	0.185395	0.123453	0.029544	0.004438	0.012761	0.022956	0.001780	0.001269	0.006045	0.000523	0.001763

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	181.1107	181.1107	8.1900e-003	1.6900e-003	181.8080
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	181.1107	181.1107	8.1900e-003	1.6900e-003	181.8080
NaturalGas Mitigated	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1200e-003	116.5817
NaturalGas Unmitigated	0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1200e-003	116.5817

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					
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
Apartments Low Rise	301881	1.6300e-003	0.0139	5.9200e-003	9.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	16.1095	16.1095	3.1000e-004	3.0000e-004	16.2076
Condo/Townhouse	1.86956e+006	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.7670	99.7670	1.9100e-003	1.8300e-003	100.3741
Total		0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1300e-003	116.5817

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
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
Apartments Low Rise	301881	1.6300e-003	0.0139	5.9200e-003	9.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	16.1095	16.1095	3.1000e-004	3.0000e-004	16.2076
Condo/Townhouse	1.86956e+006	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.7670	99.7670	1.9100e-003	1.8300e-003	100.3741
Total		0.0117	0.1001	0.0426	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8765	115.8765	2.2200e-003	2.1300e-003	116.5817

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	103088	29.9895	1.3600e-003	2.8000e-004	30.1049
Condo/Townhouse	413875	120.4010	5.4400e-003	1.1300e-003	120.8646
Parking Lot	105600	30.7203	1.3900e-003	2.9000e-004	30.8385
Total		181.1107	8.1900e-003	1.7000e-003	181.8080

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	103088	29.9895	1.3600e-003	2.8000e-004	30.1049
Condo/Townhouse	413875	120.4010	5.4400e-003	1.1300e-003	120.8646
Parking Lot	105600	30.7203	1.3900e-003	2.9000e-004	30.8385
Total		181.1107	8.1900e-003	1.7000e-003	181.8080

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797
Unmitigated	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797

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	0.1487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2834					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.2000e-004	0.0000	2.0000e-005	0.0000		2.9000e-004	2.9000e-004		2.8000e-004	2.8000e-004	0.0000	4.1133	4.1133	8.0000e-005	8.0000e-005	4.1384
Landscaping	0.0292	0.0109	0.9328	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.5093	1.5093	1.5200e-003	0.0000	1.5413
Total	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2834					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.2000e-004	0.0000	2.0000e-005	0.0000		2.9000e-004	2.9000e-004		2.8000e-004	2.8000e-004	0.0000	4.1133	4.1133	8.0000e-005	8.0000e-005	4.1384
Landscaping	0.0292	0.0109	0.9328	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.5093	1.5093	1.5200e-003	0.0000	1.5413
Total	1.4617	0.0109	0.9328	5.0000e-005		5.3500e-003	5.3500e-003		5.3400e-003	5.3400e-003	0.0000	5.6227	5.6227	1.6000e-003	8.0000e-005	5.6797

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	20.4666	0.2640	6.3700e-003	27.9868
Unmitigated	20.4666	0.2641	6.3800e-003	27.9909

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.82431 / 1.15011	4.6215	0.0596	1.4400e-003	6.3205
Condo/Townhouse	6.25479 / 3.94323	15.8451	0.2044	4.9400e-003	21.6704
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		20.4666	0.2641	6.3800e-003	27.9909

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.82431 / 1.15011	4.6215	0.0596	1.4400e-003	6.3196
Condo/Townhouse	6.25479 / 3.94323	15.8451	0.2044	4.9300e-003	21.6672
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		20.4666	0.2640	6.3700e-003	27.9868

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.5786	0.6843	0.0000	25.9484
Unmitigated	11.5786	0.6843	0.0000	25.9484

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.88	2.6145	0.1545	0.0000	5.8593
Condo/Townhouse	44.16	8.9641	0.5298	0.0000	20.0891
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		11.5786	0.6843	0.0000	25.9484

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.88	2.6145	0.1545	0.0000	5.8593
Condo/Townhouse	44.16	8.9641	0.5298	0.0000	20.0891
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		11.5786	0.6843	0.0000	25.9484

9.0 Operational Offroad

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

496/500 Sam Cava Avenue and 280 Dillon Avenue, Campbell, CA (HRA)

Santa Clara 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	0.85	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.85	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.85	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.85	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.85	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.85	0.85	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	1	1	Level 3	0.00
Concrete/Industrial Saws	Diesel	No Change	1	1	Level 3	0.00
Cranes	Diesel	No Change	1	1	Level 3	0.00
Excavators	Diesel	No Change	4	4	Level 3	0.00
Forklifts	Diesel	No Change	3	3	Level 3	0.00
Generator Sets	Diesel	No Change	1	1	Level 3	0.00
Graders	Diesel	No Change	1	1	Level 3	0.00
Pavers	Diesel	No Change	2	2	Level 3	0.00
Paving Equipment	Diesel	No Change	2	2	Level 3	0.00
Rollers	Diesel	No Change	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	No Change	6	6	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	10	10	Level 3	0.00
Welders	Diesel	No Change	1	1	Level 3	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	3.68000E-003	2.37200E-002	1.88400E-002	3.00000E-005	1.97000E-003	1.97000E-003	0.00000E+000	2.55325E+000	2.55325E+000	3.00000E-004	0.00000E+000	2.55958E+000
Concrete/Industrial Saws	7.12000E-003	4.99400E-002	3.80300E-002	6.00000E-005	3.88000E-003	3.88000E-003	0.00000E+000	5.37657E+000	5.37657E+000	5.80000E-004	0.00000E+000	5.38869E+000
Cranes	8.44400E-002	1.00118E+000	3.49620E-001	6.50000E-004	4.55400E-002	4.18900E-002	0.00000E+000	6.18987E+001	6.18987E+001	1.86000E-002	0.00000E+000	6.22892E+001
Excavators	1.77000E-002	2.06760E-001	1.46170E-001	2.20000E-004	1.02100E-002	9.39000E-003	0.00000E+000	2.14196E+001	2.14196E+001	6.39000E-003	0.00000E+000	2.15539E+001
Forklifts	9.23300E-002	7.94100E-001	5.03930E-001	6.10000E-004	6.65200E-002	6.12000E-002	0.00000E+000	5.74577E+001	5.74577E+001	1.72600E-002	0.00000E+000	5.78202E+001
Generator Sets	8.83800E-002	6.60090E-001	5.05540E-001	8.70000E-004	4.69500E-002	4.69500E-002	0.00000E+000	7.48900E+001	7.48900E+001	7.15000E-003	0.00000E+000	7.50401E+001
Graders	1.32700E-002	1.35850E-001	6.22600E-002	8.00000E-005	7.64000E-003	7.03000E-003	0.00000E+000	7.45101E+000	7.45101E+000	2.22000E-003	0.00000E+000	7.49772E+000
Pavers	8.02000E-003	9.02600E-002	5.70400E-002	9.00000E-005	4.49000E-003	4.13000E-003	0.00000E+000	8.50987E+000	8.50987E+000	2.57000E-003	0.00000E+000	8.56378E+000
Paving Equipment	6.14000E-003	7.13400E-002	5.08600E-002	8.00000E-005	3.54000E-003	3.26000E-003	0.00000E+000	7.56019E+000	7.56019E+000	2.28000E-003	0.00000E+000	7.60807E+000
Rollers	6.74000E-003	6.22600E-002	4.02700E-002	5.00000E-005	4.58000E-003	4.22000E-003	0.00000E+000	4.94376E+000	4.94376E+000	1.49000E-003	0.00000E+000	4.97507E+000
Rubber Tired Dozers	6.04700E-002	6.83380E-001	5.21380E-001	4.20000E-004	3.18800E-002	2.93300E-002	0.00000E+000	4.02443E+001	4.02443E+001	1.20100E-002	0.00000E+000	4.04966E+001
Tractors/Loaders/Backhoes	1.41750E-001	1.35251E+000	9.80300E-001	1.26000E-003	1.04960E-001	9.65600E-002	0.00000E+000	1.19662E+002	1.19662E+002	3.59200E-002	0.00000E+000	1.20416E+002
Welders	7.76600E-002	2.41970E-001	2.63990E-001	3.40000E-004	1.95600E-002	1.95600E-002	0.00000E+000	2.49393E+001	2.49393E+001	6.32000E-003	0.00000E+000	2.50719E+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	3.68000E-003	2.37200E-002	1.88400E-002	3.00000E-005	2.90000E-004	2.90000E-004	0.00000E+000	2.55325E+000	2.55325E+000	3.00000E-004	0.00000E+000	2.55957E+000
Concrete/Industrial Saws	7.12000E-003	4.99400E-002	3.80300E-002	6.00000E-005	5.80000E-004	5.80000E-004	0.00000E+000	5.37657E+000	5.37657E+000	5.80000E-004	0.00000E+000	5.38869E+000
Cranes	8.44400E-002	1.00118E+000	3.49620E-001	6.50000E-004	6.83000E-003	6.28000E-003	0.00000E+000	6.18986E+001	6.18986E+001	1.86000E-002	0.00000E+000	6.22892E+001
Excavators	1.77000E-002	2.06760E-001	1.46170E-001	2.20000E-004	1.53000E-003	1.41000E-003	0.00000E+000	2.14196E+001	2.14196E+001	6.39000E-003	0.00000E+000	2.15539E+001
Forklifts	9.23300E-002	7.94100E-001	5.03930E-001	6.10000E-004	9.98000E-003	9.18000E-003	0.00000E+000	5.74576E+001	5.74576E+001	1.72600E-002	0.00000E+000	5.78201E+001
Generator Sets	8.83800E-002	6.60090E-001	5.05540E-001	8.70000E-004	7.04000E-003	7.04000E-003	0.00000E+000	7.48899E+001	7.48899E+001	7.15000E-003	0.00000E+000	7.50400E+001
Graders	1.32700E-002	1.35850E-001	6.22600E-002	8.00000E-005	1.15000E-003	1.05000E-003	0.00000E+000	7.45100E+000	7.45100E+000	2.22000E-003	0.00000E+000	7.49771E+000
Pavers	8.02000E-003	9.02600E-002	5.70400E-002	9.00000E-005	6.70000E-004	6.20000E-004	0.00000E+000	8.50986E+000	8.50986E+000	2.57000E-003	0.00000E+000	8.56377E+000
Paving Equipment	6.14000E-003	7.13400E-002	5.08600E-002	8.00000E-005	5.30000E-004	4.90000E-004	0.00000E+000	7.56018E+000	7.56018E+000	2.28000E-003	0.00000E+000	7.60807E+000
Rollers	6.74000E-003	6.22600E-002	4.02700E-002	5.00000E-005	6.90000E-004	6.30000E-004	0.00000E+000	4.94375E+000	4.94375E+000	1.49000E-003	0.00000E+000	4.97507E+000
Rubber Tired Dozers	6.04700E-002	6.83380E-001	5.21380E-001	4.20000E-004	4.78000E-003	4.40000E-003	0.00000E+000	4.02442E+001	4.02442E+001	1.20100E-002	0.00000E+000	4.04966E+001
Tractors/Loaders/Balckhoes	1.41750E-001	1.35251E+000	9.80300E-001	1.26000E-003	1.57400E-002	1.44800E-002	0.00000E+000	1.19662E+002	1.19662E+002	3.59200E-002	0.00000E+000	1.20416E+002
Welders	7.76600E-002	2.41970E-001	2.63990E-001	3.40000E-004	2.93000E-003	2.93000E-003	0.00000E+000	2.49392E+001	2.49392E+001	6.32000E-003	0.00000E+000	2.50719E+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	8.52792E-001	8.52792E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	3.90689E-006
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50515E-001	8.50515E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50022E-001	8.50084E-001	0.00000E+000	1.13088E-006	1.13088E-006	0.00000E+000	0.00000E+000	1.12379E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50147E-001	8.49840E-001	0.00000E+000	9.33723E-007	9.33723E-007	0.00000E+000	0.00000E+000	1.39186E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.49970E-001	8.50000E-001	0.00000E+000	1.21829E-006	1.21829E-006	0.00000E+000	0.00000E+000	1.21065E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50053E-001	8.50053E-001	0.00000E+000	1.20176E-006	1.20176E-006	0.00000E+000	0.00000E+000	1.19936E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.49476E-001	8.50640E-001	0.00000E+000	1.34210E-006	1.34210E-006	0.00000E+000	0.00000E+000	1.33374E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50780E-001	8.49879E-001	0.00000E+000	1.17511E-006	1.17511E-006	0.00000E+000	0.00000E+000	1.16771E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50282E-001	8.49693E-001	0.00000E+000	1.32272E-006	1.32272E-006	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.49345E-001	8.50711E-001	0.00000E+000	2.02275E-006	2.02275E-006	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50063E-001	8.49983E-001	0.00000E+000	1.24241E-006	1.24241E-006	0.00000E+000	0.00000E+000	1.23467E-006
Tractors/Loaders/Balckhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50038E-001	8.50041E-001	0.00000E+000	1.16996E-006	1.16996E-006	0.00000E+000	0.00000E+000	1.16263E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.50204E-001	8.50204E-001	0.00000E+000	1.20292E-006	1.20292E-006	0.00000E+000	0.00000E+000	1.19656E-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	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00	
No	Water Exposed Area	PM10 Reduction	0.00	PM2.5 Reduction	0.00	Frequency (per day)

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		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	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Fugitive Dust	0.01	0.00	0.01	0.00	0.00	0.00
Demolition	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	0.08	0.04	0.08	0.04	0.00	0.00
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00
Site Preparation	Fugitive Dust	0.09	0.05	0.09	0.05	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

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	0.00	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	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.16	0.01
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
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.08	0.29		
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)	100.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
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		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

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

Average Annual Daily Criteria Pollutant Emissions

Construction duration, days 654

Construction Emissions

Condition	Total Emissions, tons per year				Average Emissions, lb/day			
	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)	ROG	NO _x	PM ₁₀ (exhaust)	PM _{2.5} (exhaust)
Unmitigated	2.966	11.45	0.7	0.66	9.1	35.0	2.1	2.0

Construction Health Risk Assessment

Condition	Total PM10 (exhaust), tpy	Average PM10 (exhaust), lb/day	Average PM10 (exhaust), g/s
Unmitigated	0.3524	1.1	0.0057
Mitigated	0.0535	0.2	0.0009

Operational Emissions

Condition	Total Emissions, tons per year				Average Emissions, lb/day			
	ROG	NOX	PM10 exh	PM2.5 exh	ROG	NOX	PM10 exh	PM2.5 exh
Unmitigated	1.9343	1.0917	0.026	0.025	10.6	6.0	0.1	0.1

Appendix B

ISCST3 Model

Inputs and Results

- Unmitigated Construction Scenario
- Mitigated Construction Scenario
- Operational Scenario (Railroad)

PROJECT TITLE:

**496/500 Sam Cava Lane and 280 Dillon Avenue
Annual Unmitigated Construction (DPM) Emissions Concentrations**



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m³

Max: 1.3E-01 [ug/m³] at (593749.50, 4127010.00)



COMMENTS:	SOURCES:	COMPANY NAME:	
	1	Environmental Science Associates	
	RECEPTORS:	MODELER:	
	9	Daniel J. Sloat	
OUTPUT TYPE:	SCALE:	1:2,500	
Concentration			
MAX:	DATE:	PROJECT NO.:	
1.3E-01 ug/m³	9/30/2016		

```

**
*****
**
** ISCST3 Input Produced by:
** AERMOD View Ver. 9.0.0
** Lakes Environmental Software Inc.
** Date: 9/28/2016
** File: C:\Users\dsloat\Desktop\D140404_Const_Unmit\D140404_Const_Unmit.INP
**
*****
**
**
*****
** ISCST3 Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct
  MODELOPT DFAULT CONC  RURAL
  AVERTIME 24 ANNUAL
  POLLUTID PM_10
  TERRHGTS ELEV
  FLAGPOLE 1.80
  RUNORNOT RUN
  ERRORFIL D14040~1.ERR
CO FINISHED
**
*****
** ISCST3 Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION PAREA1      AREAPOLY      593790.825      4127011.892      60.970
** DESCRSRC Construction Site
** Source Parameters **
  SRCPARAM PAREA1      4.7726E-07      4.572      14
  AREAVERT PAREA1      593790.825      4127011.892      593772.201      4126979.869
  AREAVERT PAREA1      593756.758      4126988.499      593735.863      4126952.842
  AREAVERT PAREA1      593783.784      4126923.317      593757.439      4126903.104
  AREAVERT PAREA1      593719.284      4126923.999      593665.911      4126837.922
  AREAVERT PAREA1      593697.253      4126823.841      593772.428      4126826.339
  AREAVERT PAREA1      593890.755      4126938.761      593902.338      4126959.656
  AREAVERT PAREA1      593851.919      4126990.544      593833.977      4126988.045

** Variable Emissions Type: "By Season / Hour / Day (SHRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
** Winter

```



```

EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
** Fall
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOWN 0.0 0.0 0.0 0.0 0.0 0.0
SRCGROUP ALL

```

SO FINISHED

**

** ISCST3 Receptor Pathway

**

**

RE STARTING

** DESCRREC "" ""

DISCCART	593670.42	4126919.89	61.00	1.80
DISCCART	593693.80	4126922.48	61.00	1.80
DISCCART	593700.19	4126935.77	61.00	1.80
DISCCART	593711.49	4126946.09	61.00	1.80
DISCCART	593717.07	4126961.80	61.00	1.80
DISCCART	593727.41	4126980.18	61.00	1.80
DISCCART	593749.51	4127009.96	60.93	1.80
DISCCART	593825.50	4127010.09	60.10	1.80
DISCCART	593846.14	4127005.08	59.51	1.80

RE FINISHED

**

** ISCST3 Meteorology Pathway

**

**

ME STARTING

INPUTFIL ..\SJA97300.met

ANEMHGHT 10 METERS

SURFDATA 7902 1997

UAIRDATA 7902 1997

ME FINISHED

**

** ISCST3 Output Pathway

**

**

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 24 1ST

** Auto-Generated Plotfiles

PLOTFILE 24 ALL 1ST D14040~1.IS\24H1GALL.PLT 31

**Output Options Selected:

Model Outputs Tables of ANNUAL Averages by Receptor
 Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
 Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
 m for Missing Hours
 b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
 Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
 Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: D140404_Const_Unmit.INP
 **Output Print File: D140404_Const_Unmit.OUT
 **Detailed Error/Message File: D14040~1.ERR

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
 *** 15:51:28
 **MODELOPTs: PAGE 2
 CONC RURAL ELEV FLGPOL DFAULT

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
PAREA1	0	0.47726E-06	593790.8	4127012.0	61.0	4.57	14	0.00	SHRDOW

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
 *** 15:51:28
 **MODELOPTs: PAGE 3
 CONC RURAL ELEV FLGPOL DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL PAREA1 ,

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16

**MODELOPTs:

CONC RURAL ELEV FLGPOL DFAULT

* SOURCE EMISSION RATE SCALARS WHICH VARY SEASONALLY, DIURNALLY AND BY DAY OF WEEK (SHRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

HR	SCAL	HR	SCAL	HR	SCAL	HR	SCAL	HR	SCAL	HR	SCAL	HR	SCAL	HR	SCAL
SEASON = WINTER; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SPRING; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SUMMER; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = FALL ; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = WINTER; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SPRING; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SUMMER; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = FALL ; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = WINTER; DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SPRING; DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SUMMER; DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00

STABILITY CATEGORY	WIND SPEED CATEGORY					
	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY					
	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** ISCST3 - VERSION 02035 ***

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**MODELOPTs:

CONC

RURAL ELEV FLGPOL DFAULT

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*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: ..\SJA97300.met

FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)

SURFACE STATION NO.: 7902

UPPER AIR STATION NO.: 7902

NAME: UNKNOWN

NAME: UNKNOWN

YEAR: 1997

YEAR: 1997

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M)		USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
								RURAL	URBAN					
97	01	01	01	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	02	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	03	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	04	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	05	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	06	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	07	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	08	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	09	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	10	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00

97 01 01 11	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 12	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 13	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 14	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 15	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 16	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 17	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 18	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 19	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 20	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 21	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 22	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 23	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 24	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

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**MODELOPTs: PAGE 8
CONC RURAL ELEV FLGPOL DFAULT

*** THE ANNUAL (1 YRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREAL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
593670.44	4126920.00	0.09406	593693.81	4126922.50	0.11602
593700.19	4126935.75	0.12114	593711.50	4126946.00	0.12672
593717.06	4126961.75	0.12424	593727.44	4126980.25	0.12772
593749.50	4127010.00	0.13339	593825.50	4127010.00	0.12042
593846.13	4127005.00	0.10755			

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
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CONC RURAL ELEV FLGPOL DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREAL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
593670.44	4126920.00	0.56178	(97012024)	593693.81	4126922.50	0.66126	(97012024)
593700.19	4126935.75	0.65239	(97012024)	593711.50	4126946.00	0.68468	(97122624)
593717.06	4126961.75	0.72488	(97122624)	593727.44	4126980.25	0.76632	(97020624)
593749.50	4127010.00	0.81745	(97111824)	593825.50	4127010.00	0.89991	(97012324)
593846.13	4127005.00	0.85790	(97101424)				

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
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 **MODELOPTs: PAGE 10
 CONC RURAL ELEV FLGPOL DFAULT

*** THE SUMMARY OF MAXIMUM ANNUAL (1 YRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.13339 AT (593749.50, 4127010.00,	60.93, 1.80)	DC NA
	2ND HIGHEST VALUE IS	0.12772 AT (593727.44, 4126980.25,	61.00, 1.80)	DC NA
	3RD HIGHEST VALUE IS	0.12672 AT (593711.50, 4126946.00,	61.00, 1.80)	DC NA
	4TH HIGHEST VALUE IS	0.12424 AT (593717.06, 4126961.75,	61.00, 1.80)	DC NA
	5TH HIGHEST VALUE IS	0.12114 AT (593700.19, 4126935.75,	61.00, 1.80)	DC NA
	6TH HIGHEST VALUE IS	0.12042 AT (593825.50, 4127010.00,	60.10, 1.80)	DC NA
	7TH HIGHEST VALUE IS	0.11602 AT (593693.81, 4126922.50,	61.00, 1.80)	DC NA
	8TH HIGHEST VALUE IS	0.10755 AT (593846.13, 4127005.00,	59.51, 1.80)	DC NA
	9TH HIGHEST VALUE IS	0.09406 AT (593670.44, 4126920.00,	61.00, 1.80)	DC NA
	10TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00,	0.00, 0.00)	

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR
 BD = BOUNDARY

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 **MODELOPTs: PAGE 11
 CONC RURAL ELEV FLGPOL DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
----------	--------------	-----------------	---------------------------------	---------	-----------------

ALL HIGH 1ST HIGH VALUE IS 0.89991 ON 97012324: AT (593825.50, 4127010.00, 60.10, 1.80) DC NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
*** *** *** 15:51:28

**MODELOPTs: RURAL ELEV FLGPOL DFAULT PAGE 12
CONC

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 65 Informational Message(s)
A Total of 65 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

PROJECT TITLE:

**496/500 Sam Cava Lane and 280 Dillon Avenue
Annual Mitigated Construction (DPM) Emissions Concentrations**



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m³

Max: 2.1E-02 [ug/m³] at (593749.50, 4127010.00)



COMMENTS:	SOURCES: 1	COMPANY NAME: Environmental Science Associates	
	RECEPTORS: 9	MODELER: Daniel J. Sloat	
	OUTPUT TYPE: Concentration	SCALE: 1:2,500 0  0.05 km	
	MAX: 2.1E-02 ug/m³	DATE: 9/30/2016	PROJECT NO.:

```

**
*****
**
** ISCAST3 Input Produced by:
** AERMOD View Ver. 9.0.0
** Lakes Environmental Software Inc.
** Date: 9/28/2016
** File: C:\Users\dsloat\Desktop\D140404_Const_Mit\D140404_Const_Mit.INP
**
*****
**
**
*****
** ISCAST3 Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct
  MODELOPT DFAULT CONC RURAL
  AVERTIME 24 ANNUAL
  POLLUTID PM_10
  TERRHGTS ELEV
  FLAGPOLE 1.80
  RUNORNOT RUN
  ERRORFIL D14040~1.ERR
CO FINISHED
**
*****
** ISCAST3 Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION PAREA1 AREAPOLY 593790.825 4127011.892 60.970
** DESCRSRC Construction Site
** Source Parameters **
  SRCPARAM PAREA1 7.4138E-08 4.572 14
  AREAVERT PAREA1 593790.825 4127011.892 593772.201 4126979.869
  AREAVERT PAREA1 593756.758 4126988.499 593735.863 4126952.842
  AREAVERT PAREA1 593783.784 4126923.317 593757.439 4126903.104
  AREAVERT PAREA1 593719.284 4126923.999 593665.911 4126837.922
  AREAVERT PAREA1 593697.253 4126823.841 593772.428 4126826.339
  AREAVERT PAREA1 593890.755 4126938.761 593902.338 4126959.656
  AREAVERT PAREA1 593851.919 4126990.544 593833.977 4126988.045

** Variable Emissions Type: "By Season / Hour / Day (SHRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
** Winter

```



```

EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Fall
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA1      SHRDOW 0.0 0.0 0.0 0.0 0.0 0.0
SRCGROUP ALL

```

SO FINISHED

**

** ISCST3 Receptor Pathway

**

**

RE STARTING

** DESCRREC "" ""

DISCCART	593670.42	4126919.89	61.00	1.80
DISCCART	593693.80	4126922.48	61.00	1.80
DISCCART	593700.19	4126935.77	61.00	1.80
DISCCART	593711.49	4126946.09	61.00	1.80
DISCCART	593717.07	4126961.80	61.00	1.80
DISCCART	593727.41	4126980.18	61.00	1.80
DISCCART	593749.51	4127009.96	60.93	1.80
DISCCART	593825.50	4127010.09	60.10	1.80
DISCCART	593846.14	4127005.08	59.51	1.80

RE FINISHED

**

** ISCST3 Meteorology Pathway

**

**

ME STARTING

INPUTFIL ..\SJA97300.met

ANEMHGHT 10 METERS

SURFDATA 7902 1997

UAIRDATA 7902 1997

ME FINISHED

**

** ISCST3 Output Pathway

**

**

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 24 1ST

** Auto-Generated Plotfiles

PLOTFILE 24 ALL 1ST D14040~1.IS\24H1GALL.PLT 31

**Output Options Selected:

Model Outputs Tables of ANNUAL Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: D140404_Const_Mit.INP
**Output Print File: D140404_Const_Mit.OUT
**Detailed Error/Message File: D14040~1.ERR

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
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**MODELOPTs: PAGE 2
CONC RURAL ELEV FLGPOL DFAULT

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
PAREA1	0	0.74138E-07	593790.8	4127012.0	61.0	4.57	14	0.00	SHRDOW

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
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**MODELOPTs: PAGE 3
CONC RURAL ELEV FLGPOL DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL PAREA1 ,

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16

**MODELOPTs:
CONC

RURAL ELEV FLGPOL DFAULT

* SOURCE EMISSION RATE SCALARS WHICH VARY SEASONALLY, DIURNALLY AND BY DAY OF WEEK (SHRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

HR	SC	HR	SC	HR	SC	HR	SC	HR	SC	HR	SC	HR	SC	HR	SC
SEASON = WINTER; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SPRING; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SUMMER; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = FALL ; DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = WINTER; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SPRING; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SUMMER; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = FALL ; DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = WINTER; DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SPRING; DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
SEASON = SUMMER; DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00

STABILITY CATEGORY	WIND SPEED CATEGORY					
	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY					
	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

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 **MODELOPTs: RURAL ELEV FLGPOL DFAULT PAGE 7
 CONC

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: ..\SJA97300.met
 FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
 SURFACE STATION NO.: 7902 UPPER AIR STATION NO.: 7902
 NAME: UNKNOWN NAME: UNKNOWN
 YEAR: 1997 YEAR: 1997

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M)	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
97	01	01	01	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	02	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	03	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	04	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	05	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	06	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	07	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	08	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	09	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00
97	01	01	10	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0 0.00

97 01 01 11	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 12	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 13	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 14	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 15	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 16	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 17	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 18	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 19	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 20	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 21	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 22	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 23	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00
97 01 01 24	0.0	0.00	293.0	3	300.0	300.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

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**MODELOPTs: PAGE 8
CONC RURAL ELEV FLGPOL DFAULT

*** THE ANNUAL (1 YRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREAL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
593670.44	4126920.00	0.01461	593693.81	4126922.50	0.01802
593700.19	4126935.75	0.01882	593711.50	4126946.00	0.01968
593717.06	4126961.75	0.01930	593727.44	4126980.25	0.01984
593749.50	4127010.00	0.02072	593825.50	4127010.00	0.01871
593846.13	4127005.00	0.01671			

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**MODELOPTs: PAGE 9
CONC RURAL ELEV FLGPOL DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREAL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
593670.44	4126920.00	0.08727	(97012024)	593693.81	4126922.50	0.10272	(97012024)
593700.19	4126935.75	0.10134	(97012024)	593711.50	4126946.00	0.10636	(97122624)
593717.06	4126961.75	0.11260	(97122624)	593727.44	4126980.25	0.11904	(97020624)
593749.50	4127010.00	0.12698	(97111824)	593825.50	4127010.00	0.13979	(97012324)
593846.13	4127005.00	0.13327	(97101424)				

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 CONC

*** THE SUMMARY OF MAXIMUM ANNUAL (1 YRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.02072 AT (593749.50, 4127010.00,	60.93, 1.80)	DC NA
	2ND HIGHEST VALUE IS	0.01984 AT (593727.44, 4126980.25,	61.00, 1.80)	DC NA
	3RD HIGHEST VALUE IS	0.01968 AT (593711.50, 4126946.00,	61.00, 1.80)	DC NA
	4TH HIGHEST VALUE IS	0.01930 AT (593717.06, 4126961.75,	61.00, 1.80)	DC NA
	5TH HIGHEST VALUE IS	0.01882 AT (593700.19, 4126935.75,	61.00, 1.80)	DC NA
	6TH HIGHEST VALUE IS	0.01871 AT (593825.50, 4127010.00,	60.10, 1.80)	DC NA
	7TH HIGHEST VALUE IS	0.01802 AT (593693.81, 4126922.50,	61.00, 1.80)	DC NA
	8TH HIGHEST VALUE IS	0.01671 AT (593846.13, 4127005.00,	59.51, 1.80)	DC NA
	9TH HIGHEST VALUE IS	0.01461 AT (593670.44, 4126920.00,	61.00, 1.80)	DC NA
	10TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00,	0.00, 0.00)	

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR
 BD = BOUNDARY

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 *** *** *** *** 15:56:50
 **MODELOPTs: RURAL ELEV FLGPOL DFAULT PAGE 11
 CONC

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
----------	--------------	-----------------	---------------------------------	---------	-----------------

ALL HIGH 1ST HIGH VALUE IS 0.13979 ON 97012324: AT (593825.50, 4127010.00, 60.10, 1.80) DC NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404 Construction\D140404 Construct *** 09/28/16
*** *** *** 15:56:50

**MODELOPTs: RURAL ELEV FLGPOL DFAULT PAGE 12
CONC

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 65 Informational Message(s)
A Total of 65 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

PROJECT TITLE:

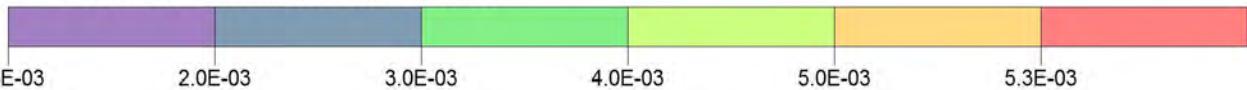
**496/500 Sam Cava Lane and 280 Dillon Avenue
Annual Diesel Particulate Matter (PM10) Emissions Concentrations from Nearby Railroad**



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m³

Max: 5.3E-03 [ug/m³] at (593735.88, 4126953.00)



COMMENTS:

SOURCES:

COMPANY NAME:

1

Environmental Science Associates

RECEPTORS:

MODELER:

16

Daniel J. Sloat

OUTPUT TYPE:

SCALE:

1:5,000

Concentration



MAX:

DATE:

PROJECT NO.:

5.3E-03 ug/m³

9/28/2016

D140404.01

```

**
*****
**
** IS CST3 Input Produced by:
** AERMOD View Ver. 9.0.0
** Lakes Environmental Software Inc.
** Date: 9/28/2016
** File: C:\Lakes\AERMOD View\Projects\D140404\D140404.INP
**
*****
**
**
*****
** IS CST3 Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Projects\D140404\D140404.isc
  MODELOPT DFAULT CONC  RURAL
  AVERTIME 24 ANNUAL
  POLLUTID PM_10
  TERRHGTS ELEV
  FLAGPOLE 1.80
  RUNORNOT RUN
  ERRORFIL D140404.err
CO FINISHED
**
*****
** IS CST3 Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Railroad
** PREFIX
** Length of Side = 3.67
** Configuration = Adjacent
** Emission Rate = 0.0000853
** Elevated
** Building Height = 3.05
** SZINIT = 1.42
** Nodes = 2
** 593435.440, 4126680.810, 61.89, 3.05, 1.71
** 593763.240, 4127235.260, 56.87, 3.05, 1.71
** -----
  LOCATION L0000001      VOLUME    593436.374 4126682.390 61.88

```

LOCATION	L0000002	VOLUME	593438.242	4126685.549	61.85
LOCATION	L0000003	VOLUME	593440.109	4126688.708	61.82
LOCATION	L0000004	VOLUME	593441.977	4126691.867	61.79
LOCATION	L0000005	VOLUME	593443.845	4126695.026	61.76
LOCATION	L0000006	VOLUME	593445.713	4126698.185	61.73
LOCATION	L0000007	VOLUME	593447.580	4126701.345	61.70
LOCATION	L0000008	VOLUME	593449.448	4126704.504	61.68
LOCATION	L0000009	VOLUME	593451.316	4126707.663	61.65
LOCATION	L0000010	VOLUME	593453.184	4126710.822	61.62
LOCATION	L0000011	VOLUME	593455.051	4126713.981	61.59
LOCATION	L0000012	VOLUME	593456.919	4126717.141	61.56
LOCATION	L0000013	VOLUME	593458.787	4126720.300	61.53
LOCATION	L0000014	VOLUME	593460.655	4126723.459	61.50
LOCATION	L0000015	VOLUME	593462.522	4126726.618	61.48
LOCATION	L0000016	VOLUME	593464.390	4126729.777	61.45
LOCATION	L0000017	VOLUME	593466.258	4126732.936	61.42
LOCATION	L0000018	VOLUME	593468.126	4126736.096	61.39
LOCATION	L0000019	VOLUME	593469.993	4126739.255	61.36
LOCATION	L0000020	VOLUME	593471.861	4126742.414	61.33
LOCATION	L0000021	VOLUME	593473.729	4126745.573	61.30
LOCATION	L0000022	VOLUME	593475.597	4126748.732	61.28
LOCATION	L0000023	VOLUME	593477.465	4126751.891	61.25
LOCATION	L0000024	VOLUME	593479.332	4126755.051	61.22
LOCATION	L0000025	VOLUME	593481.200	4126758.210	61.19
LOCATION	L0000026	VOLUME	593483.068	4126761.369	61.16
LOCATION	L0000027	VOLUME	593484.936	4126764.528	61.13
LOCATION	L0000028	VOLUME	593486.803	4126767.687	61.10
LOCATION	L0000029	VOLUME	593488.671	4126770.846	61.07
LOCATION	L0000030	VOLUME	593490.539	4126774.006	61.05
LOCATION	L0000031	VOLUME	593492.407	4126777.165	61.02
LOCATION	L0000032	VOLUME	593494.274	4126780.324	60.99
LOCATION	L0000033	VOLUME	593496.142	4126783.483	60.96
LOCATION	L0000034	VOLUME	593498.010	4126786.642	60.93
LOCATION	L0000035	VOLUME	593499.878	4126789.802	60.90
LOCATION	L0000036	VOLUME	593501.745	4126792.961	60.87
LOCATION	L0000037	VOLUME	593503.613	4126796.120	60.85
LOCATION	L0000038	VOLUME	593505.481	4126799.279	60.82
LOCATION	L0000039	VOLUME	593507.349	4126802.438	60.79
LOCATION	L0000040	VOLUME	593509.216	4126805.597	60.76
LOCATION	L0000041	VOLUME	593511.084	4126808.757	60.73
LOCATION	L0000042	VOLUME	593512.952	4126811.916	60.70
LOCATION	L0000043	VOLUME	593514.820	4126815.075	60.67
LOCATION	L0000044	VOLUME	593516.687	4126818.234	60.65
LOCATION	L0000045	VOLUME	593518.555	4126821.393	60.62
LOCATION	L0000046	VOLUME	593520.423	4126824.552	60.59
LOCATION	L0000047	VOLUME	593522.291	4126827.712	60.56
LOCATION	L0000048	VOLUME	593524.158	4126830.871	60.53
LOCATION	L0000049	VOLUME	593526.026	4126834.030	60.50
LOCATION	L0000050	VOLUME	593527.894	4126837.189	60.47
LOCATION	L0000051	VOLUME	593529.762	4126840.348	60.45
LOCATION	L0000052	VOLUME	593531.629	4126843.508	60.42
LOCATION	L0000053	VOLUME	593533.497	4126846.667	60.39

LOCATION	L0000054	VOLUME	593535.365	4126849.826	60.36
LOCATION	L0000055	VOLUME	593537.233	4126852.985	60.33
LOCATION	L0000056	VOLUME	593539.100	4126856.144	60.30
LOCATION	L0000057	VOLUME	593540.968	4126859.303	60.27
LOCATION	L0000058	VOLUME	593542.836	4126862.463	60.25
LOCATION	L0000059	VOLUME	593544.704	4126865.622	60.22
LOCATION	L0000060	VOLUME	593546.572	4126868.781	60.19
LOCATION	L0000061	VOLUME	593548.439	4126871.940	60.16
LOCATION	L0000062	VOLUME	593550.307	4126875.099	60.13
LOCATION	L0000063	VOLUME	593552.175	4126878.258	60.10
LOCATION	L0000064	VOLUME	593554.043	4126881.418	60.07
LOCATION	L0000065	VOLUME	593555.910	4126884.577	60.05
LOCATION	L0000066	VOLUME	593557.778	4126887.736	60.02
LOCATION	L0000067	VOLUME	593559.646	4126890.895	59.99
LOCATION	L0000068	VOLUME	593561.514	4126894.054	59.96
LOCATION	L0000069	VOLUME	593563.381	4126897.213	59.93
LOCATION	L0000070	VOLUME	593565.249	4126900.373	59.90
LOCATION	L0000071	VOLUME	593567.117	4126903.532	59.87
LOCATION	L0000072	VOLUME	593568.985	4126906.691	59.84
LOCATION	L0000073	VOLUME	593570.852	4126909.850	59.82
LOCATION	L0000074	VOLUME	593572.720	4126913.009	59.79
LOCATION	L0000075	VOLUME	593574.588	4126916.169	59.76
LOCATION	L0000076	VOLUME	593576.456	4126919.328	59.73
LOCATION	L0000077	VOLUME	593578.323	4126922.487	59.70
LOCATION	L0000078	VOLUME	593580.191	4126925.646	59.67
LOCATION	L0000079	VOLUME	593582.059	4126928.805	59.64
LOCATION	L0000080	VOLUME	593583.927	4126931.964	59.62
LOCATION	L0000081	VOLUME	593585.794	4126935.124	59.59
LOCATION	L0000082	VOLUME	593587.662	4126938.283	59.56
LOCATION	L0000083	VOLUME	593589.530	4126941.442	59.53
LOCATION	L0000084	VOLUME	593591.398	4126944.601	59.50
LOCATION	L0000085	VOLUME	593593.265	4126947.760	59.47
LOCATION	L0000086	VOLUME	593595.133	4126950.919	59.44
LOCATION	L0000087	VOLUME	593597.001	4126954.079	59.42
LOCATION	L0000088	VOLUME	593598.869	4126957.238	59.39
LOCATION	L0000089	VOLUME	593600.736	4126960.397	59.36
LOCATION	L0000090	VOLUME	593602.604	4126963.556	59.33
LOCATION	L0000091	VOLUME	593604.472	4126966.715	59.30
LOCATION	L0000092	VOLUME	593606.340	4126969.875	59.27
LOCATION	L0000093	VOLUME	593608.207	4126973.034	59.24
LOCATION	L0000094	VOLUME	593610.075	4126976.193	59.22
LOCATION	L0000095	VOLUME	593611.943	4126979.352	59.19
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LOCATION	L0000097	VOLUME	593615.678	4126985.670	59.13
LOCATION	L0000098	VOLUME	593617.546	4126988.830	59.10
LOCATION	L0000099	VOLUME	593619.414	4126991.989	59.07
LOCATION	L0000100	VOLUME	593621.282	4126995.148	59.04
LOCATION	L0000101	VOLUME	593623.150	4126998.307	59.02
LOCATION	L0000102	VOLUME	593625.017	4127001.466	58.99
LOCATION	L0000103	VOLUME	593626.885	4127004.625	58.96
LOCATION	L0000104	VOLUME	593628.753	4127007.785	58.93
LOCATION	L0000105	VOLUME	593630.621	4127010.944	58.90

LOCATION	L0000106	VOLUME	593632.488	4127014.103	58.87
LOCATION	L0000107	VOLUME	593634.356	4127017.262	58.84
LOCATION	L0000108	VOLUME	593636.224	4127020.421	58.82
LOCATION	L0000109	VOLUME	593638.092	4127023.580	58.79
LOCATION	L0000110	VOLUME	593639.959	4127026.740	58.76
LOCATION	L0000111	VOLUME	593641.827	4127029.899	58.73
LOCATION	L0000112	VOLUME	593643.695	4127033.058	58.70
LOCATION	L0000113	VOLUME	593645.563	4127036.217	58.67
LOCATION	L0000114	VOLUME	593647.430	4127039.376	58.64
LOCATION	L0000115	VOLUME	593649.298	4127042.536	58.61
LOCATION	L0000116	VOLUME	593651.166	4127045.695	58.59
LOCATION	L0000117	VOLUME	593653.034	4127048.854	58.56
LOCATION	L0000118	VOLUME	593654.901	4127052.013	58.53
LOCATION	L0000119	VOLUME	593656.769	4127055.172	58.50
LOCATION	L0000120	VOLUME	593658.637	4127058.331	58.47
LOCATION	L0000121	VOLUME	593660.505	4127061.491	58.44
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LOCATION	L0000123	VOLUME	593664.240	4127067.809	58.39
LOCATION	L0000124	VOLUME	593666.108	4127070.968	58.36
LOCATION	L0000125	VOLUME	593667.976	4127074.127	58.33
LOCATION	L0000126	VOLUME	593669.843	4127077.286	58.30
LOCATION	L0000127	VOLUME	593671.711	4127080.446	58.27
LOCATION	L0000128	VOLUME	593673.579	4127083.605	58.24
LOCATION	L0000129	VOLUME	593675.447	4127086.764	58.21
LOCATION	L0000130	VOLUME	593677.314	4127089.923	58.19
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LOCATION	L0000132	VOLUME	593681.050	4127096.241	58.13
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LOCATION	L0000139	VOLUME	593694.124	4127118.356	57.93
LOCATION	L0000140	VOLUME	593695.992	4127121.515	57.90
LOCATION	L0000141	VOLUME	593697.860	4127124.674	57.87
LOCATION	L0000142	VOLUME	593699.728	4127127.833	57.84
LOCATION	L0000143	VOLUME	593701.595	4127130.992	57.81
LOCATION	L0000144	VOLUME	593703.463	4127134.152	57.79
LOCATION	L0000145	VOLUME	593705.331	4127137.311	57.76
LOCATION	L0000146	VOLUME	593707.199	4127140.470	57.73
LOCATION	L0000147	VOLUME	593709.066	4127143.629	57.70
LOCATION	L0000148	VOLUME	593710.934	4127146.788	57.67
LOCATION	L0000149	VOLUME	593712.802	4127149.947	57.64
LOCATION	L0000150	VOLUME	593714.670	4127153.107	57.61
LOCATION	L0000151	VOLUME	593716.537	4127156.266	57.59
LOCATION	L0000152	VOLUME	593718.405	4127159.425	57.56
LOCATION	L0000153	VOLUME	593720.273	4127162.584	57.53
LOCATION	L0000154	VOLUME	593722.141	4127165.743	57.50
LOCATION	L0000155	VOLUME	593724.008	4127168.903	57.47
LOCATION	L0000156	VOLUME	593725.876	4127172.062	57.44
LOCATION	L0000157	VOLUME	593727.744	4127175.221	57.41

LOCATION	L0000158	VOLUME	593729.612	4127178.380	57.38
LOCATION	L0000159	VOLUME	593731.479	4127181.539	57.36
LOCATION	L0000160	VOLUME	593733.347	4127184.698	57.33
LOCATION	L0000161	VOLUME	593735.215	4127187.858	57.30
LOCATION	L0000162	VOLUME	593737.083	4127191.017	57.27
LOCATION	L0000163	VOLUME	593738.950	4127194.176	57.24
LOCATION	L0000164	VOLUME	593740.818	4127197.335	57.21
LOCATION	L0000165	VOLUME	593742.686	4127200.494	57.18
LOCATION	L0000166	VOLUME	593744.554	4127203.653	57.16
LOCATION	L0000167	VOLUME	593746.421	4127206.813	57.13
LOCATION	L0000168	VOLUME	593748.289	4127209.972	57.10
LOCATION	L0000169	VOLUME	593750.157	4127213.131	57.07
LOCATION	L0000170	VOLUME	593752.025	4127216.290	57.04
LOCATION	L0000171	VOLUME	593753.892	4127219.449	57.01
LOCATION	L0000172	VOLUME	593755.760	4127222.608	56.98
LOCATION	L0000173	VOLUME	593757.628	4127225.768	56.96
LOCATION	L0000174	VOLUME	593759.496	4127228.927	56.93
LOCATION	L0000175	VOLUME	593761.363	4127232.086	56.90
LOCATION	L0000176	VOLUME	593763.231	4127235.245	56.87

** End of LINE VOLUME Source ID = SLINE1

** Source Parameters **

** LINE VOLUME Source ID = SLINE1

SRCPARAM	L0000001	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000002	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000003	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000006	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000007	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000008	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000009	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000010	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000011	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000012	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000013	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000014	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000015	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000016	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000017	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000018	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000019	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000020	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000021	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000022	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000023	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000024	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000025	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000026	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000027	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000028	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000029	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000030	0.0000004847	3.05	1.71	1.42

SRCPARAM	L0000135	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000136	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000137	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000138	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000139	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000143	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000145	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000146	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000152	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000156	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000157	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000158	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000160	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000164	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000165	0.0000004847	3.05	1.71	1.42
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SRCPARAM	L0000167	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000168	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000169	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000170	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000171	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000172	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000173	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000174	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000175	0.0000004847	3.05	1.71	1.42
SRCPARAM	L0000176	0.0000004847	3.05	1.71	1.42

**-----

SRCGROUP ALL

SO FINISHED

**

** ISCST3 Receptor Pathway

**

**

RE STARTING

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** DESCRREC "" ""
DISCCART 593757.16 4126988.46 60.92 1.80
DISCCART 593735.87 4126953.06 60.89 1.80
DISCCART 593791.05 4127011.76 60.97 1.80
DISCCART 593719.30 4126923.91 61.00 1.80
DISCCART 593665.95 4126837.75 61.00 1.80
DISCCART 593697.34 4126823.67 60.95 1.80
DISCCART 593772.59 4126826.05 60.50 1.80
DISCCART 593783.60 4126923.29 61.00 1.80
DISCCART 593757.48 4126902.91 60.91 1.80
DISCCART 593834.08 4126988.22 59.83 1.80
DISCCART 593815.47 4126954.98 60.71 1.80
DISCCART 593835.77 4126943.05 60.30 1.80
DISCCART 593855.29 4126974.07 59.55 1.80
DISCCART 593852.36 4126989.95 59.45 1.80
DISCCART 593902.33 4126959.51 59.53 1.80
DISCCART 593890.67 4126938.32 59.98 1.80

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RE FINISHED

**

** ISCST3 Meteorology Pathway

**

**

ME STARTING

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INPUTFIL C:\Users\dsloat\Desktop\SJA97300.met
ANEMHGHT 10 METERS
SURFDATA 7902 1997
UAIRDATA 7902 1997

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ME FINISHED

**

** ISCST3 Output Pathway

**

**

OU STARTING

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RECTABLE ALLAVE 1ST
RECTABLE 24 1ST
** Auto-Generated Plotfiles
PLOTFILE 24 ALL 1ST D140404.IS\24H1GALL.PLT 31
PLOTFILE ANNUAL ALL D140404.IS\AN00GALL.PLT 32

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OU FINISHED

*** Message Summary For ISC3 Model Setup ***

----- Summary of Total Messages -----

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A Total of          0 Fatal Error Message(s)
A Total of          1 Warning Message(s)
A Total of          0 Informational Message(s)

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L0000013	0	0.48470E-06	593458.8	4126720.2	61.5	3.05	1.71	1.42
L0000014	0	0.48470E-06	593460.6	4126723.5	61.5	3.05	1.71	1.42
L0000015	0	0.48470E-06	593462.5	4126726.5	61.5	3.05	1.71	1.42
L0000016	0	0.48470E-06	593464.4	4126729.8	61.5	3.05	1.71	1.42
L0000017	0	0.48470E-06	593466.2	4126733.0	61.4	3.05	1.71	1.42
L0000018	0	0.48470E-06	593468.1	4126736.0	61.4	3.05	1.71	1.42
L0000019	0	0.48470E-06	593470.0	4126739.2	61.4	3.05	1.71	1.42
L0000020	0	0.48470E-06	593471.9	4126742.5	61.3	3.05	1.71	1.42
L0000021	0	0.48470E-06	593473.8	4126745.5	61.3	3.05	1.71	1.42
L0000022	0	0.48470E-06	593475.6	4126748.8	61.3	3.05	1.71	1.42
L0000023	0	0.48470E-06	593477.4	4126752.0	61.2	3.05	1.71	1.42
L0000024	0	0.48470E-06	593479.3	4126755.0	61.2	3.05	1.71	1.42
L0000025	0	0.48470E-06	593481.2	4126758.2	61.2	3.05	1.71	1.42
L0000026	0	0.48470E-06	593483.1	4126761.3	61.2	3.05	1.71	1.42
L0000027	0	0.48470E-06	593484.9	4126764.5	61.1	3.05	1.71	1.42
L0000028	0	0.48470E-06	593486.8	4126767.8	61.1	3.05	1.71	1.42
L0000029	0	0.48470E-06	593488.7	4126770.8	61.1	3.05	1.71	1.42
L0000030	0	0.48470E-06	593490.6	4126774.0	61.0	3.05	1.71	1.42
L0000031	0	0.48470E-06	593492.4	4126777.2	61.0	3.05	1.71	1.42
L0000032	0	0.48470E-06	593494.2	4126780.3	61.0	3.05	1.71	1.42
L0000033	0	0.48470E-06	593496.1	4126783.5	61.0	3.05	1.71	1.42
L0000034	0	0.48470E-06	593498.0	4126786.8	60.9	3.05	1.71	1.42
L0000035	0	0.48470E-06	593499.9	4126789.8	60.9	3.05	1.71	1.42
L0000036	0	0.48470E-06	593501.8	4126793.0	60.9	3.05	1.71	1.42
L0000037	0	0.48470E-06	593503.6	4126796.0	60.8	3.05	1.71	1.42
L0000038	0	0.48470E-06	593505.5	4126799.3	60.8	3.05	1.71	1.42
L0000039	0	0.48470E-06	593507.4	4126802.5	60.8	3.05	1.71	1.42
L0000040	0	0.48470E-06	593509.2	4126805.5	60.8	3.05	1.71	1.42

*** ISCST3 - VERSION 02035 ***

*** C:\Lakes\AERMOD View\Projects\D140404\D140404.isc

09/28/16

15:03:27

**MODELOPTs:

CONC

RURAL ELEV FLGPOL DFAULT

PAGE 3

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
L0000041	0	0.48470E-06	593511.1	4126808.8	60.7	3.05	1.71	1.42	
L0000042	0	0.48470E-06	593512.9	4126812.0	60.7	3.05	1.71	1.42	
L0000043	0	0.48470E-06	593514.8	4126815.0	60.7	3.05	1.71	1.42	
L0000044	0	0.48470E-06	593516.7	4126818.3	60.7	3.05	1.71	1.42	
L0000045	0	0.48470E-06	593518.6	4126821.5	60.6	3.05	1.71	1.42	
L0000046	0	0.48470E-06	593520.4	4126824.5	60.6	3.05	1.71	1.42	
L0000047	0	0.48470E-06	593522.3	4126827.8	60.6	3.05	1.71	1.42	
L0000048	0	0.48470E-06	593524.2	4126830.8	60.5	3.05	1.71	1.42	
L0000049	0	0.48470E-06	593526.0	4126834.0	60.5	3.05	1.71	1.42	

L0000050	0	0.48470E-06	593527.9	4126837.3	60.5	3.05	1.71	1.42
L0000051	0	0.48470E-06	593529.8	4126840.2	60.5	3.05	1.71	1.42
L0000052	0	0.48470E-06	593531.6	4126843.5	60.4	3.05	1.71	1.42
L0000053	0	0.48470E-06	593533.5	4126846.8	60.4	3.05	1.71	1.42
L0000054	0	0.48470E-06	593535.4	4126849.8	60.4	3.05	1.71	1.42
L0000055	0	0.48470E-06	593537.3	4126853.0	60.3	3.05	1.71	1.42
L0000056	0	0.48470E-06	593539.1	4126856.3	60.3	3.05	1.71	1.42
L0000057	0	0.48470E-06	593540.9	4126859.2	60.3	3.05	1.71	1.42
L0000058	0	0.48470E-06	593542.8	4126862.5	60.2	3.05	1.71	1.42
L0000059	0	0.48470E-06	593544.7	4126865.5	60.2	3.05	1.71	1.42
L0000060	0	0.48470E-06	593546.6	4126868.8	60.2	3.05	1.71	1.42
L0000061	0	0.48470E-06	593548.4	4126872.0	60.2	3.05	1.71	1.42
L0000062	0	0.48470E-06	593550.3	4126875.0	60.1	3.05	1.71	1.42
L0000063	0	0.48470E-06	593552.2	4126878.2	60.1	3.05	1.71	1.42
L0000064	0	0.48470E-06	593554.1	4126881.5	60.1	3.05	1.71	1.42
L0000065	0	0.48470E-06	593555.9	4126884.5	60.0	3.05	1.71	1.42
L0000066	0	0.48470E-06	593557.8	4126887.8	60.0	3.05	1.71	1.42
L0000067	0	0.48470E-06	593559.6	4126891.0	60.0	3.05	1.71	1.42
L0000068	0	0.48470E-06	593561.5	4126894.0	60.0	3.05	1.71	1.42
L0000069	0	0.48470E-06	593563.4	4126897.2	59.9	3.05	1.71	1.42
L0000070	0	0.48470E-06	593565.2	4126900.3	59.9	3.05	1.71	1.42
L0000071	0	0.48470E-06	593567.1	4126903.5	59.9	3.05	1.71	1.42
L0000072	0	0.48470E-06	593569.0	4126906.8	59.8	3.05	1.71	1.42
L0000073	0	0.48470E-06	593570.9	4126909.8	59.8	3.05	1.71	1.42
L0000074	0	0.48470E-06	593572.8	4126913.0	59.8	3.05	1.71	1.42
L0000075	0	0.48470E-06	593574.6	4126916.2	59.8	3.05	1.71	1.42
L0000076	0	0.48470E-06	593576.4	4126919.3	59.7	3.05	1.71	1.42
L0000077	0	0.48470E-06	593578.3	4126922.5	59.7	3.05	1.71	1.42
L0000078	0	0.48470E-06	593580.2	4126925.8	59.7	3.05	1.71	1.42
L0000079	0	0.48470E-06	593582.1	4126928.8	59.6	3.05	1.71	1.42
L0000080	0	0.48470E-06	593583.9	4126932.0	59.6	3.05	1.71	1.42

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**MODELOPTs:
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RURAL ELEV FLGPOL DFAULT

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
L0000081	0	0.48470E-06	593585.8	4126935.0	59.6	3.05	1.71	1.42	
L0000082	0	0.48470E-06	593587.7	4126938.2	59.6	3.05	1.71	1.42	
L0000083	0	0.48470E-06	593589.5	4126941.5	59.5	3.05	1.71	1.42	
L0000084	0	0.48470E-06	593591.4	4126944.5	59.5	3.05	1.71	1.42	
L0000085	0	0.48470E-06	593593.2	4126947.8	59.5	3.05	1.71	1.42	
L0000086	0	0.48470E-06	593595.1	4126951.0	59.4	3.05	1.71	1.42	

L0000087	0	0.48470E-06	593597.0	4126954.0	59.4	3.05	1.71	1.42
L0000088	0	0.48470E-06	593598.9	4126957.2	59.4	3.05	1.71	1.42
L0000089	0	0.48470E-06	593600.8	4126960.5	59.4	3.05	1.71	1.42
L0000090	0	0.48470E-06	593602.6	4126963.5	59.3	3.05	1.71	1.42
L0000091	0	0.48470E-06	593604.5	4126966.8	59.3	3.05	1.71	1.42
L0000092	0	0.48470E-06	593606.3	4126970.0	59.3	3.05	1.71	1.42
L0000093	0	0.48470E-06	593608.2	4126973.0	59.2	3.05	1.71	1.42
L0000094	0	0.48470E-06	593610.1	4126976.2	59.2	3.05	1.71	1.42
L0000095	0	0.48470E-06	593611.9	4126979.2	59.2	3.05	1.71	1.42
L0000096	0	0.48470E-06	593613.8	4126982.5	59.2	3.05	1.71	1.42
L0000097	0	0.48470E-06	593615.7	4126985.8	59.1	3.05	1.71	1.42
L0000098	0	0.48470E-06	593617.6	4126988.8	59.1	3.05	1.71	1.42
L0000099	0	0.48470E-06	593619.4	4126992.0	59.1	3.05	1.71	1.42
L0000100	0	0.48470E-06	593621.3	4126995.2	59.0	3.05	1.71	1.42
L0000101	0	0.48470E-06	593623.1	4126998.2	59.0	3.05	1.71	1.42
L0000102	0	0.48470E-06	593625.0	4127001.5	59.0	3.05	1.71	1.42
L0000103	0	0.48470E-06	593626.9	4127004.8	59.0	3.05	1.71	1.42
L0000104	0	0.48470E-06	593628.8	4127007.8	58.9	3.05	1.71	1.42
L0000105	0	0.48470E-06	593630.6	4127011.0	58.9	3.05	1.71	1.42
L0000106	0	0.48470E-06	593632.5	4127014.0	58.9	3.05	1.71	1.42
L0000107	0	0.48470E-06	593634.4	4127017.2	58.8	3.05	1.71	1.42
L0000108	0	0.48470E-06	593636.3	4127020.5	58.8	3.05	1.71	1.42
L0000109	0	0.48470E-06	593638.1	4127023.5	58.8	3.05	1.71	1.42
L0000110	0	0.48470E-06	593639.9	4127026.8	58.8	3.05	1.71	1.42
L0000111	0	0.48470E-06	593641.8	4127030.0	58.7	3.05	1.71	1.42
L0000112	0	0.48470E-06	593643.7	4127033.0	58.7	3.05	1.71	1.42
L0000113	0	0.48470E-06	593645.6	4127036.2	58.7	3.05	1.71	1.42
L0000114	0	0.48470E-06	593647.4	4127039.5	58.6	3.05	1.71	1.42
L0000115	0	0.48470E-06	593649.3	4127042.5	58.6	3.05	1.71	1.42
L0000116	0	0.48470E-06	593651.2	4127045.8	58.6	3.05	1.71	1.42
L0000117	0	0.48470E-06	593653.1	4127048.8	58.6	3.05	1.71	1.42
L0000118	0	0.48470E-06	593654.9	4127052.0	58.5	3.05	1.71	1.42
L0000119	0	0.48470E-06	593656.8	4127055.2	58.5	3.05	1.71	1.42
L0000120	0	0.48470E-06	593658.6	4127058.2	58.5	3.05	1.71	1.42

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
L0000121	0	0.48470E-06	593660.5	4127061.5	58.4	3.05	1.71	1.42	
L0000122	0	0.48470E-06	593662.4	4127064.8	58.4	3.05	1.71	1.42	
L0000123	0	0.48470E-06	593664.3	4127067.8	58.4	3.05	1.71	1.42	

L0000124	0	0.48470E-06	593666.1	4127071.0	58.4	3.05	1.71	1.42
L0000125	0	0.48470E-06	593668.0	4127074.2	58.3	3.05	1.71	1.42
L0000126	0	0.48470E-06	593669.8	4127077.2	58.3	3.05	1.71	1.42
L0000127	0	0.48470E-06	593671.7	4127080.5	58.3	3.05	1.71	1.42
L0000128	0	0.48470E-06	593673.6	4127083.5	58.2	3.05	1.71	1.42
L0000129	0	0.48470E-06	593675.4	4127086.8	58.2	3.05	1.71	1.42
L0000130	0	0.48470E-06	593677.3	4127090.0	58.2	3.05	1.71	1.42
L0000131	0	0.48470E-06	593679.2	4127093.0	58.2	3.05	1.71	1.42
L0000132	0	0.48470E-06	593681.1	4127096.2	58.1	3.05	1.71	1.42
L0000133	0	0.48470E-06	593682.9	4127099.5	58.1	3.05	1.71	1.42
L0000134	0	0.48470E-06	593684.8	4127102.5	58.1	3.05	1.71	1.42
L0000135	0	0.48470E-06	593686.6	4127105.8	58.0	3.05	1.71	1.42
L0000136	0	0.48470E-06	593688.5	4127109.0	58.0	3.05	1.71	1.42
L0000137	0	0.48470E-06	593690.4	4127112.0	58.0	3.05	1.71	1.42
L0000138	0	0.48470E-06	593692.2	4127115.2	58.0	3.05	1.71	1.42
L0000139	0	0.48470E-06	593694.1	4127118.2	57.9	3.05	1.71	1.42
L0000140	0	0.48470E-06	593696.0	4127121.5	57.9	3.05	1.71	1.42
L0000141	0	0.48470E-06	593697.9	4127124.8	57.9	3.05	1.71	1.42
L0000142	0	0.48470E-06	593699.8	4127127.8	57.8	3.05	1.71	1.42
L0000143	0	0.48470E-06	593701.6	4127131.0	57.8	3.05	1.71	1.42
L0000144	0	0.48470E-06	593703.4	4127134.2	57.8	3.05	1.71	1.42
L0000145	0	0.48470E-06	593705.3	4127137.2	57.8	3.05	1.71	1.42
L0000146	0	0.48470E-06	593707.2	4127140.5	57.7	3.05	1.71	1.42
L0000147	0	0.48470E-06	593709.1	4127143.8	57.7	3.05	1.71	1.42
L0000148	0	0.48470E-06	593710.9	4127146.8	57.7	3.05	1.71	1.42
L0000149	0	0.48470E-06	593712.8	4127150.0	57.6	3.05	1.71	1.42
L0000150	0	0.48470E-06	593714.7	4127153.0	57.6	3.05	1.71	1.42
L0000151	0	0.48470E-06	593716.6	4127156.2	57.6	3.05	1.71	1.42
L0000152	0	0.48470E-06	593718.4	4127159.5	57.6	3.05	1.71	1.42
L0000153	0	0.48470E-06	593720.2	4127162.5	57.5	3.05	1.71	1.42
L0000154	0	0.48470E-06	593722.1	4127165.8	57.5	3.05	1.71	1.42
L0000155	0	0.48470E-06	593724.0	4127169.0	57.5	3.05	1.71	1.42
L0000156	0	0.48470E-06	593725.9	4127172.0	57.4	3.05	1.71	1.42
L0000157	0	0.48470E-06	593727.8	4127175.2	57.4	3.05	1.71	1.42
L0000158	0	0.48470E-06	593729.6	4127178.5	57.4	3.05	1.71	1.42
L0000159	0	0.48470E-06	593731.5	4127181.5	57.4	3.05	1.71	1.42
L0000160	0	0.48470E-06	593733.4	4127184.8	57.3	3.05	1.71	1.42

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RURAL ELEV FLGPOL DFAULT

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY

L0000161	0	0.48470E-06	593735.2	4127187.8	57.3	3.05	1.71	1.42
L0000162	0	0.48470E-06	593737.1	4127191.0	57.3	3.05	1.71	1.42
L0000163	0	0.48470E-06	593738.9	4127194.2	57.2	3.05	1.71	1.42
L0000164	0	0.48470E-06	593740.8	4127197.2	57.2	3.05	1.71	1.42
L0000165	0	0.48470E-06	593742.7	4127200.5	57.2	3.05	1.71	1.42
L0000166	0	0.48470E-06	593744.6	4127203.8	57.2	3.05	1.71	1.42
L0000167	0	0.48470E-06	593746.4	4127206.8	57.1	3.05	1.71	1.42
L0000168	0	0.48470E-06	593748.3	4127210.0	57.1	3.05	1.71	1.42
L0000169	0	0.48470E-06	593750.2	4127213.2	57.1	3.05	1.71	1.42
L0000170	0	0.48470E-06	593752.0	4127216.2	57.0	3.05	1.71	1.42
L0000171	0	0.48470E-06	593753.9	4127219.5	57.0	3.05	1.71	1.42
L0000172	0	0.48470E-06	593755.8	4127222.5	57.0	3.05	1.71	1.42
L0000173	0	0.48470E-06	593757.6	4127225.8	57.0	3.05	1.71	1.42
L0000174	0	0.48470E-06	593759.5	4127229.0	56.9	3.05	1.71	1.42
L0000175	0	0.48470E-06	593761.4	4127232.0	56.9	3.05	1.71	1.42
L0000176	0	0.48470E-06	593763.3	4127235.2	56.9	3.05	1.71	1.42

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*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID

SOURCE IDs

ALL L0000001, L0000002, L0000003, L0000004, L0000005, L0000006, L0000007, L0000008, L0000009, L0000010, L0000011, L0000012, L0000013, L0000014, L0000015, L0000016, L0000017, L0000018, L0000019, L0000020, L0000021, L0000022, L0000023, L0000024, L0000025, L0000026, L0000027, L0000028, L0000029, L0000030, L0000031, L0000032, L0000033, L0000034, L0000035, L0000036, L0000037, L0000038, L0000039, L0000040, L0000041, L0000042, L0000043, L0000044, L0000045, L0000046, L0000047, L0000048, L0000049, L0000050, L0000051, L0000052, L0000053, L0000054, L0000055, L0000056, L0000057, L0000058, L0000059, L0000060, L0000061, L0000062, L0000063, L0000064, L0000065, L0000066, L0000067, L0000068, L0000069, L0000070, L0000071, L0000072, L0000073, L0000074, L0000075, L0000076, L0000077, L0000078, L0000079, L0000080, L0000081, L0000082, L0000083, L0000084, L0000085, L0000086, L0000087, L0000088, L0000089, L0000090, L0000091, L0000092, L0000093, L0000094, L0000095, L0000096, L0000097, L0000098, L0000099, L0000100, L0000101, L0000102, L0000103, L0000104, L0000105, L0000106, L0000107, L0000108, L0000109, L0000110, L0000111, L0000112, L0000113, L0000114, L0000115, L0000116, L0000117, L0000118, L0000119, L0000120, L0000121, L0000122, L0000123, L0000124, L0000125, L0000126, L0000127, L0000128, L0000129, L0000130, L0000131, L0000132,

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY					
	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY					
	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

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RURAL ELEV FLGPOL DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\Users\dsloat\Desktop\SJA97300.met
 FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
 SURFACE STATION NO.: 7902 UPPER AIR STATION NO.: 7902
 NAME: UNKNOWN NAME: UNKNOWN
 YEAR: 1997 YEAR: 1997

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
97	01	01	01	0.0	0.00	293.0	3	300.0 300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	02	0.0	0.00	293.0	3	300.0 300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	03	0.0	0.00	293.0	3	300.0 300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	04	0.0	0.00	293.0	3	300.0 300.0	0.0000	0.0	0.0000	0	0.00
97	01	01	05	0.0	0.00	293.0	3	300.0 300.0	0.0000	0.0	0.0000	0	0.00

RURAL ELEV FLGPOL DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): L0000001, L0000002, L0000003, L0000004, L0000005, L0000006, L0000007,
 L0000008, L0000009, L0000010, L0000011, L0000012, L0000013, L0000014, L0000015, L0000016, L0000017, L0000018, L0000019,
 L0000020, L0000021, L0000022, L0000023, L0000024, L0000025, L0000026, L0000027, L0000028, L0000029, L0000030, . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

		** CONC OF PM ₁₀ IN MICROGRAMS/M**3				**	
X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
593757.19	4126988.50	0.01338	(97011524)	593735.88	4126953.00	0.01315	(97011524)
593791.06	4127011.75	0.01251	(97011524)	593719.31	4126924.00	0.01298	(97032024)
593665.94	4126837.75	0.01241	(97032024)	593697.31	4126823.75	0.01046	(97032024)
593772.56	4126826.00	0.00824	(97032024)	593783.62	4126923.25	0.01057	(97032024)
593757.50	4126903.00	0.01094	(97032024)	593834.06	4126988.25	0.00963	(97011524)
593815.50	4126955.00	0.01007	(97032024)	593835.75	4126943.00	0.00912	(97032024)
593855.31	4126974.00	0.00833	(97011524)	593852.38	4126990.00	0.00861	(97011524)
593902.31	4126959.50	0.00706	(97011524)	593890.69	4126938.25	0.00705	(97011524)

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404\D140404.isc *** 09/28/16
 *** *** *** 15:03:27
 **MODELOPTs: PAGE 13
 CONC RURAL ELEV FLGPOL DFAULT

*** THE SUMMARY OF MAXIMUM ANNUAL (1 YRS) RESULTS ***

		** CONC OF PM ₁₀ IN MICROGRAMS/M**3				**		NETWORK		
GROUP ID	AVERAGE CONC	RECEPTOR	(XR, YR, ZELEV, ZFLAG)	OF	TYPE	GRID-ID				
ALL	1ST HIGHEST VALUE IS	0.00529 AT (	593735.88, 4126953.00,	60.89,	1.80)	DC	NA			
	2ND HIGHEST VALUE IS	0.00527 AT (	593719.31, 4126924.00,	61.00,	1.80)	DC	NA			
	3RD HIGHEST VALUE IS	0.00525 AT (	593757.19, 4126988.50,	60.92,	1.80)	DC	NA			
	4TH HIGHEST VALUE IS	0.00507 AT (	593665.94, 4126837.75,	61.00,	1.80)	DC	NA			
	5TH HIGHEST VALUE IS	0.00446 AT (	593791.06, 4127011.75,	60.97,	1.80)	DC	NA			
	6TH HIGHEST VALUE IS	0.00413 AT (	593697.31, 4126823.75,	60.95,	1.80)	DC	NA			
	7TH HIGHEST VALUE IS	0.00397 AT (	593757.50, 4126903.00,	60.91,	1.80)	DC	NA			
	8TH HIGHEST VALUE IS	0.00366 AT (	593783.62, 4126923.25,	61.00,	1.80)	DC	NA			
	9TH HIGHEST VALUE IS	0.00327 AT (	593815.50, 4126955.00,	60.71,	1.80)	DC	NA			
	10TH HIGHEST VALUE IS	0.00301 AT (	593834.06, 4126988.25,	59.83,	1.80)	DC	NA			

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART

DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404\D140404.isc *** 09/28/16
*** *** *** *** 15:03:27
**MODELOPTs: PAGE 14
CONC RURAL ELEV FLGPOL DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.01338 ON 97011524:	AT (593757.19, 4126988.50, 60.92,	1.80) DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR
 BD = BOUNDARY

*** ISCST3 - VERSION 02035 *** *** C:\Lakes\AERMOD View\Projects\D140404\D140404.isc *** 09/28/16
*** *** *** *** 15:03:27
**MODELOPTs: PAGE 15
CONC RURAL ELEV FLGPOL DFAULT

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 1 Warning Message(s)
A Total of 65 Informational Message(s)

A Total of 65 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
RE W282 434 CHK_EL:RecElev < SrcBase; See non-DFAULT HE>ZI option in MCB#9

*** ISCST3 Finishes Successfully ***

Appendix C

RAST Model

Inputs and Results

- Unmitigated Construction Scenario
- Mitigated Construction Scenario
- Operational Scenario (Railroad)

HARP2 - HRACalc (dated 16088) 9/29/2016 8:49:36 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully

RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 2

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Calculating cancer risk
Cancer risk saved to: C:\Users\dsloat\Desktop\500SamCava_Const_Mit_CancerRisk.csv

500SamCava_Const_Mit_OUTPUT.txt

Calculating chronic risk

Chronic risk saved to:

C:\Users\dsloat\Desktop\500SamCava_Const_Mit_NCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\dsloat\Desktop\500SamCava_Const_Mit_NCAcuteRisk.csv

HRA ran successfully

HARP2 - HRACalc (dated 16088) 9/29/2016 8:51:36 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully

RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 2

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Calculating cancer risk
Cancer risk saved to: C:\Users\dsloat\Desktop\500SamCava_Const_Mit_CancerRisk.csv

500SamCava_Const_Mit_OUTPUT.txt

Calculating chronic risk

Chronic risk saved to:

C:\Users\dsloat\Desktop\500SamCava_Const_Mit_NCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\dsloat\Desktop\500SamCava_Const_Mit_NCAcuteRisk.csv

HRA ran successfully

GLCs loaded successfully
Pollutants loaded successfully

RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 70

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 0
16 to 70 Years Bin: 54

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

TIER 2 SETTINGS
Tier2 not used.

calculating cancer risk

500SamCava_Railroad_Output.txt
Cancer risk saved to: C:\Users\dsloat\Desktop\500SamCava_Railroad_CancerRisk.csv
Calculating chronic risk
Chronic risk saved to: C:\Users\dsloat\Desktop\500SamCava_Railroad_NCChronicRisk.csv
Calculating acute risk
Acute risk saved to: C:\Users\dsloat\Desktop\500SamCava_Railroad_NCAcuteRisk.csv
HRA ran successfully

Cancer Risk

Unmitigated Construction

*HARP - HRACalc v16088 9/28/2016 3:51:53 PM - Cancer Risk

POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	INH_RISK
9901	DieselExhPM	0.13339	3.88E-05	2YrCancerDerived	3.88E-05

Mitigated Construction

*HARP - HRACalc v16088 9/28/2016 3:58:23 PM - Cancer Risk

POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	INH_RISK
9901	DieselExhPM	0.02072	6.02E-06	2YrCancerDerived	6.02E-06

Operational (Railroad)

*HARP - HRACalc v16088 9/28/2016 3:03:51 PM - Cancer Risk

POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	INH_RISK
9901	DieselExhPM	0.00529	5.22E-06	70YrCancerDerived	5.22E-06

Chronic Risk

Unmitigated Construction

*HARP - HRACalc v16088 9/28/2016 3:51:53 PM - Chronic Risk

POLID	POLABBREV	CONC	SCENARIO	RESP
9901	DieselExhPM	0.13339	NonCancerChronicDerived	2.67E-02

Mitigated Construction

*HARP - HRACalc v16088 9/28/2016 3:58:23 PM - Chronic Risk

POLID	POLABBREV	CONC	SCENARIO	RESP
9901	DieselExhPM	0.02072	NonCancerChronicDerived	4.14E-03

Operational (Railroad)

*HARP - HRACalc v16088 9/28/2016 3:03:51 PM - Chronic Risk

POLID	POLABBREV	CONC	SCENARIO	RESP
9901	DieselExhPM	0.00529	NonCancerChronicDerived	1.06E-03

Appendix D

Railroad and Locomotive Emissions Calculations

Railroad Emissions

Railway Parameters and Data Assumptions

Parameter	Value
Assumed speed, mph	10
Assumed number of trains per week	3
Miles of track within 1,000 radius	0.40
Hours within 1,000 radius	0.04
Assumed locomotive horsepower	4,300
Assumed locomotive engine tier	2

Line-Haul Locomotives: Emission Factors

Line-Haul Tier	Emissions Factor, g/hp-hr				
	ROG	NOx	PM10	PM2.5	CO
0	1	9.5	0.22	0.22	5
1	0.55	7.4	0.22	0.22	2.2
2	0.3	5.5	0.1	0.1	1.5
3	0.3	5.5	0.1	0.1	1.5
4	0.14	1.3	0.03	0.03	1.5

Source: 40 CFR Part 1033.101

Line-Haul Locomotives: Emissions

Source	Emissions, grams per second
	PM ₁₀
Railroad emissions	0.0000853

ATTACHMENT 2

GEOTECHNICAL EVALUATION

November 8, 2016
Project 2014.0005

Madison Park of Campbell, LLC
2185 The Alameda, Suite 150
San Jose, CA 95126

Geotechnical Evaluation, Perry Property, 500 Sam Cava Lane, Campbell, California

Dear Client,

This letter presents our geotechnical findings and recommendations related to the proposed residential development at 500 Sam Cava Lane, Campbell, California. The subject property, referred to as the Perry property, is bordered on the south, east and west by the Madison Townhomes residential development currently under construction. The north side of the Perry property is bordered by Sam Cava Lane. Our firm previously prepared a geotechnical investigation report, listed below, for the Madison Townhomes project for Madison Park of Campbell, LLC.

- Geotechnical Investigation, Proposed Residential Development, Dillon Avenue Phase I, Dillon Avenue, Sam Cava Lane and Gilman Avenue, Campbell, California, dated March 30, 2015.

1. PROJECT UNDERSTANDING

Development of the Perry property will include one 3-story attached townhomes structure, similar to the adjacent Madison Townhomes development. The project will also include new underground utilities, exterior flatwork, landscaping, and a stormwater management system. We understand the current plan is to install the stormwater management system in the parking stall area at the south end of the Perry property.

2. SUBSURFACE EXPLORATION

On July 6, 2016, three test pits (TP-1, TP-2 and TP-3) were excavated on the Perry property under the supervision of the project environmental consultant. Our staff geologist logged the soils exposed in the test pits.

On September 15, 2016, our representatives observed a test pit (TP-4) excavated in the southeastern corner of the Perry property to look for presence of gypsum debris in this corner of the site.

The approximate locations of the four test pits are shown on the attached Figure 1.

3. SUBSURFACE CONDITIONS

TP-1 was located in the southern portion of the Perry property, roughly parallel to the garage building at the south end of the property (this garage has since been demolished). TP-1 ranged in depth from about 8 feet (east end) to about 13 feet (west end). In TP-1, we observed soil fill to a depth of about 2 to 3 feet below ground surface (bgs), lean clay to sandy lean clay to a depth of about 7 feet bgs, clayey sand with gravel to a depth of about 13 feet, and poorly graded sand and gravel at the bottom of the test pit at about 13 feet bgs. No debris fill was observed in TP-1.

Test pit TP-2 was located in the northeastern portion of the property. TP-2 was up to about 8 feet in depth. In TP-2, we observed soil fill to a depth of about 2 to 3 feet bgs, lean clay to sandy lean clay to a depth of about 6 to 7 feet bgs, and poorly graded gravel with sand and clay to the bottom of the test pit at 8 feet bgs. No debris fill was observed in TP-2.

Test pit TP-3 was located in the northwestern portion of the property. TP-3 was up to about 8 feet in depth. Soils observed in TP-3 are similar to those observed in TP-2, described above. No debris fill was observed in TP-3.

Test pit TP-4 was excavated on September 15, 2016, in the southeastern corner of the Perry property. TP-4 was up to about 6 feet in depth. Soils observed in TP-4 consist of lean clay, sandy lean clay and clayey sand, similar to those observed in the other test pits. No sign of gypsum debris was observed in TP-4.

Groundwater was not encountered in the test pits. In our March 2015 report, depth to historical high groundwater was reported to be about 40 to 50 feet based on our review of Plate 1.2, "Depth to historically high ground water, historical liquefaction sites, and locations of boreholes, San Jose West 7.5-minute Quadrangle, California," Seismic Hazard Zone Report 058, prepared by California Geological Survey, Department of Conservation, 2002.

It should be noted that fluctuations in the groundwater level may occur due to seasonal variations in rainfall and temperature, water level in nearby water courses, pumping from wells, regional groundwater recharge program, irrigation or other factors that were not evident at the time of our investigation.

4. CONCLUSIONS

The project site may be developed as proposed provided our geotechnical recommendations are incorporated in the design and construction of the project. The geotechnical issues for the Perry property are similar to those for the adjacent Madison Townhomes development, as summarized below.

- The property is not located in an Alquist-Priolo Earthquake Fault Zone. Because no active or potentially active faults are known to cross the property, it is reasonable to conclude the risk of fault rupture across the property is low.

- The property is in an area of high seismicity. Based on general knowledge of regional seismicity, it should be anticipated that, during the design life of the improvements, the property will be subject to high intensity ground shaking. The proposed improvements should be designed accordingly using applicable building codes and experience of the design professionals.
- The near-surface soils have low to intermediate plasticity which generally corresponds to low to moderate expansion potential. Refer to our March 2015 report for earthwork and foundation recommendations.
- Prior to construction, existing improvements should be demolished. Excavations resulting from site demolition should be properly backfilled with engineered fill under our observation. Excavations should not undermine nearby existing improvements and structures.
- During design and construction of the new project, the presence of existing improvements on or adjacent to the site should be considered to avoid undermining or surcharging the new or existing improvements.

5. RECOMMENDATIONS

Based on the information reviewed, it is our opinion the geotechnical recommendations presented in our March 30, 2015 geotechnical report are applicable for use in the design and construction of the residential development on the Perry property. Supplemental recommendations are discussed below.

After demolition of existing structures and improvements on the site, the upper 3 feet of soil across the site should be over-excavated. The exposed soil subgrade at the bottom of the over-excavations should be scarified to a depth of 8 inches, moisture conditioned and compacted to the recommendations in our March 2015 report. After the subgrade has been prepared, the over-excavated areas may be raised to design grades by placement of engineered fill.

The basement of the existing house in the northwestern portion of the site should be backfilled with engineered fill meeting the recommendations in our March 2015 report.

Foundation design should consider presence of existing structures and improvements, including existing retaining walls along the site boundary. New foundations should extend below the 1½:1 (horizontal:vertical) line of influence projected up from the foundations of existing structures and outside limits of underground utilities or improvements, including the new stormwater management system.

If the stormwater management system is designed to allow water collected in the system to infiltrate into the underlying soils, the permeability of the underlying soils should be determined by means of field percolation testing. The percolation tests should be performed in the area of the stormwater management system and in the zones of soils targeted for infiltration. If the stormwater management system is designed as a “closed” system which does

not allow water to infiltrate into the underlying soils, the permeability of the underlying soils is not important and no field percolation testing is required.

6. LIMITATIONS

In preparing the findings and professional opinions presented in this letter, Geo-Logic Associates dba Pacific Geotechnical Engineering (GLA) has endeavored to follow generally accepted principles and practices of the geotechnical engineering professions in the area and at the time our services were performed. No warranty, express or implied, is provided.

Sincerely,
Geo-Logic Associates dba Pacific Geotechnical Engineering

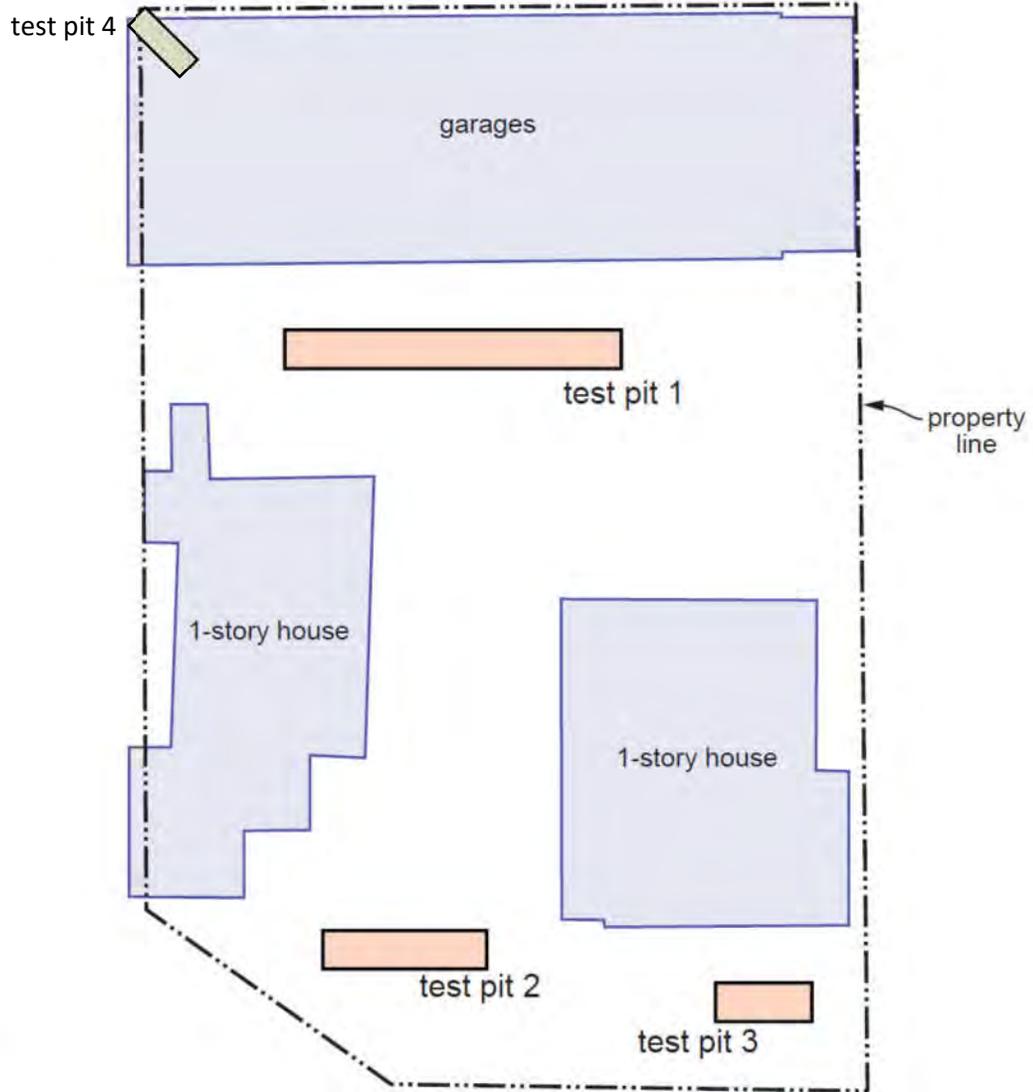


Chalerm (Beeson) Liang
GE 2031



Copies: Addressee (3)

Attachment: Figure 1- Test Pit Location Plan



SAM CAVA LANE

Note: Existing structures to be demolished

	DATE Nov. 2016	TEST PIT LOCATION PLAN 500 SAM CAVA LANE CAMPBELL, CALIFORNIA	FIGURE 1
			PROJECT 2014.0005

ATTACHMENT 3

PHASE I ENVIRONMENTAL SITE ASSESSMENT AND SHALLOW SOIL INVESTIGATIONS

PHASE I ENVIRONMENTAL SITE ASSESSMENT AND SHALLOW SOIL INVESTIGATION

**496 AND 500 SAM CAVA LANE
CAMPBELL, CALIFORNIA**

Prepared for:
Madison Park of Campbell, LLC

Prepared By:
**Ramboll Environ US Corporation
Emeryville, California**

Date
July 2016

Project Number
03-21676GG

SIGNATURE AND ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Anne W. Gates, P.E.

Ramboll Environ US Corporation
2200 Powell Street, Suite 700
Emeryville, California

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FIGURES

Figure 1: Site Location Map

Figure 2: Site Layout

TABLES

Table 1: Metals in Soil Samples

Table 2: Pesticides in Soil Samples

Table 3: TPH in Soil Samples

APPENDICES

Appendix A: Site Photographs

Appendix B: Environmental Database Report

Appendix C: Historical Research Documentation

C.1: Topographic Maps

C.2: Aerial Photographs

C.3: Abstract of City Directories

C.4: Historical Fire Insurance Maps

Appendix D: Environmental Lien Search Report

Appendix E: Laboratory Analytical Reports

Appendix F: Qualifications of Environmental Professionals

1. SUMMARY OF CONCLUSIONS

Ramboll Environ US Corporation (Ramboll Environ) was retained by Madison Park of Campbell, LLC ("Madison Park") to perform a Phase I Environmental Site Assessment (ESA) and shallow soil sampling at the parcel located at 496 and 500 Sam Cava Lane in Campbell, Santa Clara County, California (the "site"). Ramboll Environ's assessment was conducted in connection with the purchase of the site by Madison Park. The objective of the Phase I ESA, which was conducted in conformance with the scope and limitations of ASTM International's *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* E1527-13 (the "ASTM Standard"), was to identify Recognized Environmental Conditions (RECs), as defined in the ASTM Standard (see Section 2.1).

1.1 Recognized Environmental Conditions

Ramboll Environ performed a Phase I ESA of the site at 496 and 500 Sam Cava Lane in Campbell, California in conformance with the scope and limitations of the ASTM Standard. Any exceptions to, or deletions from, this practice are described in Section 7.2 of this report. This assessment has revealed no RECs in connection with unrestricted residential use of the property. No further investigation of the site is warranted at this time.

1.2 Other Findings

Although not a considered REC based on currently available information, Ramboll Environ identified the following other finding. The term "other finding" is not defined by ASTM; rather, Ramboll Environ uses the term to connote areas of contingent risk that are not clearly defined by the ASTM Standard.

- **Undocumented Fill at the Site.** During demolition and grading activities at properties located adjacent to and/or in the vicinity of the site, large quantities of trash, concrete debris, and a white sheetrock-like fill layer were excavated and off-hauled from the properties. Portions of the off-hauled material from the properties contained lead concentrations that exceeded California Hazardous Waste and/or Federal Hazardous Waste levels. During demolition and grading activities of the areas located adjacent to the east and south of the site, Ramboll Environ observed undocumented fill including the aforementioned white sheetrock-like fill layer below the southern portion of the site between approximately 2 and 10 feet bgs. Exploratory trenching performed on July 6, 2016, which was located on a vacant portion of the site, did not identify any undocumented fill. This finding suggests that the region of undocumented fill at the site is likely limited to the southern edge of the site underneath the existing garage. During future construction activities at the site, for geotechnical reasons, the undocumented fill is planned to be excavated prior to site redevelopment.

A discussion of *de minimis* conditions identified during this review are presented in Section 7.1 of this report.

2. INTRODUCTION

2.1 Purpose

Ramboll Environ was retained by Madison Park to perform a Phase I ESA of the parcel located at 496 and 500 Sam Cava Lane in Campbell, California. Ramboll Environ's assessment was conducted in connection with the purchase of the site by Madison Park. The purpose of the assessment was to identify RECs, which are defined in the ASTM Standard as:

"The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions."

2.2 Scope of the Assessment

Ramboll Environ completed the following tasks, consistent with the ASTM Standard, during its Phase I ESA of the property:

- Visits to the site by Jason Kane of Ramboll Environ on July 5, 6, and 19, 2016 to observe the features of the site, identify the uses and conditions specified in the ASTM Standard, and conduct soil sampling during excavation activities. During the site visits, Ramboll Environ observed the adjoining properties from the site or adjacent public thoroughfares. Photographs taken during the site visits are presented in Appendix A.
- A telephone interview was conducted with the site owner, Bill Perry, on July 14, 2016. The aforementioned individual is referred to herein as the "site owner". The site owner interviewed by Ramboll Environ was identified as having good knowledge of the uses and physical characteristics of the site.
- A review of information contained in federal and state environmental databases, as obtained from the sources noted below:
 - A radius report prepared by EDR, Inc. (EDR, see Appendix B), which presents the results of searches of federal and state databases. The search was conducted as part of a similar ESA for Madison Park at adjacent properties (186 Gilman Avenue and 180/186 Dillon Avenue in Campbell, California). The radius searched for each database, as well as the databases themselves, was selected in accordance with the ASTM Standard.
 - The United States Environmental Protection Agency's (USEPA's) Envirofacts database, which provides site information contained in multiple USEPA regulatory databases.
 - The State of California's Regional Water Quality Control Board (RWQCB) Geotracker online database and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) Envirostor online database.
- A review of standard historical sources (included as Appendix C) and local agency inquiries, as defined in the ASTM Standard. The following resources were reviewed:
 - Readily available historical sources, including (where available) historical topographic maps and aerial photographs, city directories, and Sanborn Maps, to develop a history of the previous uses of the site and surrounding area.

- Historical and site-specific information obtained from the Santa Clara County Assessor's Office (Assessor) and Santa Clara County Environmental Health Department (SCCDEH). Ramboll Environ also requested files from the Santa Clara County Fire Department (SCCFD), City of Campbell Building Division (Building Division), and the Santa Clara Valley Water District (SCVWD), but was informed that no records were available.
- A review of physical setting sources, as defined in the ASTM Standard, including:
 - The current United States Geological Survey (USGS) 7.5-minute topographic map that shows the area on which the site is located.
 - Geologic, hydrogeologic, or hydrologic sources as provided in the EDR report and in the previous environmental reports for the site, as listed below.
- A review of the following reports prepared by Ramboll Environ on behalf of Robson Homes or Madison Park:
 - *Phase I Environmental Site Assessment and Subsurface Soil Investigation, Haig Precision Manufacturing Corporation, Campbell, California*, prepared by ENVIRON International Corporation (now Ramboll Environ) on behalf of Robson Homes, dated February 11, 2015. The former Haig Precision Manufacturing Corporation (Haig) property is located adjacent to the south and east of the site and is currently being redeveloped into residential housing by Madison Park. Ramboll Environ is in the process of updating this report to document soil excavation activities conducted as part of residential redevelopment at the property.
 - *Phase I Environmental Site Assessment and Subsurface Soil Investigation, 466, 472, 482, and 488 Sam Cava Lane, Campbell, California*, prepared by ENVIRON International Corporation (now Ramboll Environ) on behalf of Robson Homes, dated May 23, 2014. The former 466, 472, 482, and 488 Sam Cava Lane properties are located adjacent to the west of the site and are currently being redeveloped into residential housing by Madison Park.
 - *Phase I Environmental Site Assessment and Subsurface Soil Investigation, 190 Dillon Avenue, Campbell, California*, prepared by ENVIRON International Corporation (now Ramboll Environ) on behalf of Robson Homes, dated June 2014. 190 Dillon Avenue is located approximately 75 feet south of the site and is currently being redeveloped into residential housing by Madison Park.
 - *Phase I Environmental Site Assessment, 230, 280, and 282 Dillon Avenue, Campbell, California*, prepared by ENVIRON International Corporation (now Ramboll Environ) on behalf of Robson Homes, dated November 24, 2014. 230, 280, and 282 Dillon Avenue are located approximately 150 feet south of the site and are currently being redeveloped into residential housing by Madison Park.
 - *Phase I Environmental Site Assessment and Soil Investigation, 240 and 250 Dillon Avenue, Campbell, California*, prepared by Ramboll Environ on behalf of Robson Homes, dated May 15, 2015. 240 and 250 Dillon Avenue are located approximately 300 feet southwest of the site and are currently being redeveloped into residential housing by Madison Park.
 - *Phase I Environmental Site Assessment and Subsurface Soil Investigation, 260 and 272 Dillon Avenue, Campbell, California*, prepared by ENVIRON International Corporation (now Ramboll Environ) on behalf of Robson Homes, dated April 23, 2015. 260 and 272 Dillon Avenue are located approximately 400 feet southwest of the site and are currently being redeveloped into residential housing by Madison Park.

- *Phase I Environmental Site Assessment and Soil Investigation, Portion of 290 Dillon Avenue, Campbell, California*, prepared by Ramboll Environ on behalf of Robson Homes, dated August 11, 2015. 290 Dillon Avenue is located approximately 450 feet southwest of the site and the portion of the property assessed by Ramboll Environ in 2015 is currently being redeveloped into residential housing by Madison Park.
- A review of *Geotechnical Evaluation, Perry Property, 500 Sam Cava Lane, Campbell, California*, prepared by Geo-Logic Associates dba Pacific Geotechnical Engineering, dated July 14, 2016.
- A review of *Magnetic Investigation at 500 Sam Cava Lane, Campbell, California*, prepared by JR Associates, dated July 27, 2016.
- A review of *ALTA/NSPS Land Title Survey, 500 Sam Cava Lane, Campbell, California*, prepared by Civil Engineering Associates, dated August 24, 2016.
- A review of *280 Dillon Avenue Existing Site plan & Tree Removal Plan, Campbell, California*, prepared by Civil Engineering Associates, dated September 16, 2015.
- A review of the draft *Geotechnical Investigation, Proposed Residential Development, Dillon Avenue, Sam Cava Lane, and Gilman Avenue, Campbell, California*, prepared by Pacific Geotechnical Engineering, dated May 16, 2014.
- A search for environmental liens or other activity and use limitations (AULs) for the site, provided by EDR (as shown in Appendix D). Ramboll Environ ordered the lien search using the parcel number believed to be associated with the site as obtained from the local tax assessor's office and other online resources.
- A review of any information provided by the user of this assessment, including information consistent with Appendix X3 of the ASTM Standard. Pertinent information, if any, is discussed in the appropriate sections of this report.

This assessment was conducted in accordance with the methodology specified in ASTM Standard E1527-13, as agreed upon by Ramboll Environ and Madison Park in June 2016.

2.3 Significant Assumptions

In conducting this review, no significant assumptions were made, except for the following:

- Site-specific field measurements of groundwater gradient are not available. Groundwater flow directions at nearby sites (available in closure documentation for leaking underground storage tank [LUST] cases posted to the RWQCB Geotracker website) indicated a range of groundwater flow directions in the area, ranging from south-southeast to north-northwest, with a depth to groundwater greater than 50 feet below ground surface (bgs). Based on these measurements, the local topographic gradient (generally to the northeast), and the presence of Los Gatos Creek (flowing to the northeast) located to the southeast of the site, Ramboll Environ has assumed that the groundwater flow direction beneath the site is approximately to the northeast. In evaluating potential on-site impacts from off-site sources, those off-site facilities not located adjacent to or within one-quarter mile upgradient of the subject site are not considered to represent a significant concern to the subject site. This interpretation is based on the assumption that a hazardous material released to the subsurface generally does not migrate laterally within the unsaturated soil for a significant distance, although a hazardous material can migrate in the groundwater in a generally downgradient direction.

2.4 Reliance and General Limitations

This report has been prepared for the exclusive use of Madison Park of Campbell, LLC and affiliated entities including Robson Homes, LLC, Santa Clara Development Company, Sun Lakes Construction Company of California, and Vesta Real Estate Company Inc., and such other persons or entities whose reliance is explicitly authorized in writing by Ramboll Environ.

Under the ASTM Standard, this report is considered current only for a period of 180 days from the date of the most recent site inspection on July 19, 2016. The conclusions presented in this report represent Ramboll Environ's best professional judgment based upon the information available and conditions existing as of the date of this report. In performing its assignment, Ramboll Environ must rely upon publicly available information, information provided by the client, and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll Environ was accurate and complete. This review is not intended as legal advice, nor is it an exhaustive review of site conditions or facility compliance.

The scope of work for this assessment did not include an asbestos survey or inspection. According to federal OSHA regulations (29 CFR §1910.1001) and the Model Accreditation Plan (MAP; 40 CFR Part 763, Subpart E, Appendix C), the inspection, testing, evaluation, and/or sampling of suspect asbestos-containing materials must be conducted by an accredited inspector; these activities were not performed as part of this environmental review. Comments in this report regarding the condition of building materials at the site, including presumed or suspect ACM, represent only Ramboll Environ's observations at the time of the site visit and are not intended to be consistent with definitions regarding ACM condition in the Asbestos Hazard Emergency Response Act (AHERA) or in other federal or state asbestos regulations or industry standards.

Other issues considered outside the scope of the ASTM Standard and this review include radon, lead-based paint, lead in drinking water, wetlands, polychlorinated biphenyls (PCBs) in building materials, cultural and historic resources, ecological resources, endangered species, and high voltage power lines.

3. SITE DESCRIPTION

3.1 Site Setting

The subject site consists of one parcel located in Campbell, Santa Clara County, California (the “site”). According to the Santa Clara County Assessor’s Office, the Assessor’s Parcel Number (APN) at the site is 412-08-045. The site is approximately 0.2 acre in total area and located approximately 0.5 mile southeast of downtown Campbell (Figure 1).

The site is accessed from a driveway located at the corner of Sam Cava Lane and Gilman Avenue. Two houses are located on the northern portion of the site and a large garage is located on the southern portion of the site. The westernmost house also contains a small basement underneath the footprint of the house. The remainder of the site consists of concrete or gravel driveways or soil. The site is currently being used to store construction materials for the Madison Park residential development located to the west, south, and east of the site. There are no on-site surface water bodies.

Table A provides an overview of physical setting and utility information for the site.

Table A: Physical Setting and Utility Information		
Conditions	Source	Description
Topography		
Elevation (above mean sea level)	USGS topographic map; Google Earth	Ranging from approximately 202 to 203 feet across the site.
Topographic Gradient	USGS topographic map; visual observations	Relatively flat across the site. Regional topography slopes gently downward to the northeast toward San Francisco Bay.
Hydrology		
Surface Water Runoff	Visual observations	Percolates into the ground surface at unpaved areas or enters catch basins that discharge to the municipal storm sewer system.
Nearest Surface Water Body to the Site	USGS topographic map; Visual observations	Los Gatos Creek is located approximately 200 feet east of site. Los Gatos Creek joins with other creeks in the San Jose area and ultimately drains to San Francisco Bay, located approximately 9.5 miles north-northwest of the site.
Flood Plain	FEMA*; site owner	The site owner reported no known occurrences of flooding at the site. The site is not located within a 500-year flood zone.
Wetlands	NWI*	There are no federally-designated wetlands on-site. Los Gatos Creek, approximately 200 feet to the east of the site, contains federally-designated wetland areas.

Table A: Physical Setting and Utility Information		
Conditions	Source	Description
Geology and Hydrogeology		
Presumed Direction of Shallow Groundwater Flow	LUST case closure documentation for sites within approximately 0.5 mile of the site, reviewed on RWQCB Geotracker online database	Site-specific field measurements of groundwater gradient are not available. Groundwater flow directions at nearby sites (available in closure documentation for LUST cases posted to the RWQCB Geotracker website) indicate a range of groundwater flow directions in the area, varying from south-southeast to north-northwest. Based on these measurements, the local topographic gradient (generally to the northeast), and the presence of Los Gatos Creek (flowing to the northeast) adjacent to the east boundary of the site, Ramboll Environ has assumed that the groundwater flow direction beneath the site is approximately to the northeast.
Depth to Groundwater	2014 geotechnical investigation at the former Haig property, located adjacent to the south and east of the site; LUST case closure documentation reviewed on RWQCB Geotracker online database	Boring logs generated during a 2014 geotechnical investigation at the former Haig property, located adjacent to the south and east of the site, reported that groundwater was not encountered at the depth of boring termination at approximately 45 feet bgs (Pacific Geotechnical Engineering, 2014). Groundwater depth data reviewed in LUST case closure documentation for sites within approximately 0.5 mile of the site indicate that the depth to groundwater in the area typically ranges from approximately 70 to 100 feet below ground surface.
On-site Wells	Visual observations	There are no on-site monitoring wells.
Nearest Groundwater Supply Wells	EDR database report	18 state-registered wells and 8 federally-registered wells are present within one mile of the site; none are registered as public water supply wells.
Geologic Conditions	Visual observations; 2014 geotechnical investigation at the former Haig property, located adjacent to the south and east of the site.	Visual observations during exploratory trenching activities at the site indicate sandy clay fill materials from ground surface to approximately 6 to 8 feet bgs followed by clayey sand to approximately 13 feet bgs. Boring logs generated during a 2014 geotechnical investigation at the former Haig property indicate clayey sand fill materials from ground surface to approximately 2 feet bgs, clayey sand from approximately 2 to 10 feet bgs, and sands and gravels from approximately 10 to 45 feet bgs.
Site Utility Information		
Electricity Supplier	Site owner	Pacific Gas & Electric (PG&E)

Table A: Physical Setting and Utility Information		
Conditions	Source	Description
Natural Gas Supplier	Site owner	PG&E
Use of Fuel Oil for Building Heat	Site owner	No current or former use of fuel oil reported.
Water Supplier	Site owner	San Jose Water Company
Sanitary Sewer	Site owner	West Valley Sanitation District
Septic Systems	Site owner	There are no known current or former septic tanks or leach fields at the site.
<p>Notes: FEMA = Federal Emergency Management Agency; NCSS = National Cooperative Soil Survey ; NWI = National Wetlands Inventory * - Source was provided in the EDR database report.</p>		

3.2 Current Use of Property

The two houses and portions of the open spaces surrounding the houses are currently used to store construction materials for the Madison Park residential development located adjacent to the west, south, and east of the site. The large garage located on the southern portion of the site is currently vacant.

3.3 Current Uses of Adjoining Properties

The property is located in a mixed commercial/industrial/residential land use area. The nearest residential area is located adjacent to the north of the site. Based on Ramboll Environ’s visual observations from the property boundary and public rights-of-way, and a limited review of publicly available information, a general determination of the current use of adjacent properties was developed, as described Table B.

Table B: Current Use of Adjacent Properties		
Direction	Property/Land Use	Ramboll Environ’s Observations
North	Residential townhomes across Sam Cava Lane and Gilman Avenue.	No apparent exterior manufacturing or chemical storage operations were observed. No concerns noted.
East	Madison Park residential development and Sunstone Construction Inc. and Pacific Helix Distributing Inc., a construction contractor and construction distributor, respectively.	Parking lot behind Sunstone Construction and Pacific Helix Distributing building used to store construction equipment and heavy machinery. No apparent exterior manufacturing or chemical storage operations were observed. No concerns noted.

Table B: Current Use of Adjacent Properties		
Direction	Property/Land Use	Ramboll Environ's Observations
South and west	Madison Park residential development.	No apparent exterior manufacturing or chemical storage operations were observed. No concerns noted.
Notes: Ramboll Environ walked or drove by the borders and did not enter these properties that are shared with the subject site with the exception of the parcels owned by Madison Park, which Ramboll Environ was provided full access.		

4. REVIEW OF PUBLIC RECORDS AND OTHER INFORMATION SOURCES

4.1 Environmental Regulatory Database Review

Ramboll Environ contracted with EDR in June 2016 to prepare a summary of listings in federal and state agency databases for the site and facilities within applicable radii of the property, as specified by the ASTM standard.¹ A copy of the EDR report is presented in Appendix B.

4.1.1 Database Review for Site

Ramboll Environ reviewed the results of the state and federal environmental database searches performed by EDR (see Appendix B) and searched the California Geotracker and Envirostor databases. There were no database listings for the subject site.

4.1.2 Database Review for Surrounding Properties

There are several listings in the EDR report for off-site facilities within applicable ASTM search radii. Several of these listings (i.e., RCRA hazardous waste generators, underground storage tanks [USTs], compliance listings), by themselves, are not necessarily indicative of a contamination concern and, therefore, are not discussed herein and were not further evaluated for purposes of this assessment. A number of facilities appear on databases indicating potential contamination concerns (i.e., Geotracker's Leaking Underground Fuel Tank Report [LUST], Fuel Leak Site Activity Report [HIST LUST], and Hazardous Waste & Substance Site List [HIST CORTESE]). Of the sites representing a potential environmental concern, Ramboll Environ has discussed below only 1) facilities that are located adjoining to the site; and 2) facilities that are located potentially upgradient of the site.

Ramboll Environ's analysis of adjoining sites was based on observations made during the site reconnaissance (as discussed in Table B) and location information for off-site listings as presented in the EDR report. The discussion of adjoining and non-adjoining sites does not include (if applicable) listings for certain databases that are (by themselves) not necessarily indicative of a contamination concern (e.g., compliance listings without indication of a release or chemical mishandling, such as RCRA hazardous waste generators or registered storage tanks). Also, for purposes of this analysis, Ramboll Environ considers as "adjoining" properties that are immediately adjacent, even if separated by a road or other physical barrier.

As noted in Table A, shallow groundwater beneath the site likely flows to the northeast. Within this section, Ramboll Environ did not discuss herein any off-site non-adjoining property that is presumed to be downgradient or crossgradient of the subject site. This analysis was based on the assumption that a hazardous material released to the subsurface generally does not migrate laterally within the unsaturated soil for a significant distance, but a hazardous material can migrate in the groundwater in a generally downgradient direction.

- **Wolfe Property/Fire-Matic Systems.** The Wolfe Property/Fire-Matic Systems property is located at 190 Dillon Avenue in Campbell, California, approximately 75 feet south of the site, and is currently being redeveloped for residential purposes by Madison Park. The property is listed on the LUST, HIST LUST, HIST CORTESE, and the Recovered Government Archive Leaking

¹ EDR uses the term "radii" to refer to the ASTM terminology "approximate minimum search distance" in the environmental database report.

Underground Storage Tank (RGA LUST) databases. According to records reviewed by Ramboll Environ during a Phase I ESA and subsurface soil investigation for Robson Homes at 190 Dillon Avenue in 2014, the listings pertain to the removal of a 1,000-gallon gasoline UST and 500-gallon paint thinner UST that were removed in 1989. Following over-excavation of tank pits, soil samples were collected under the oversight of the City of Campbell Fire Department. Low concentrations of xylene (up to 56 parts per million [ppm]) were detected in two of the soil samples, while benzene, toluene, ethylbenzene, and total petroleum hydrocarbons (TPH) were not detected. Three soil borings were also advanced in the area to depths up to 45 feet and groundwater was not encountered. Benzene, toluene, ethylbenzene, and xylenes (BTEX) and TPH were not detected in the soil samples analyzed from the soil borings. The 190 Dillon Avenue property was granted a case closure letter on November 30, 1990 by the RWQCB - San Francisco Bay Region.

As part of the 2014 Ramboll Environ investigation at the 190 Dillon Avenue property, soil and soil gas samples were collected throughout the property. Soil samples were analyzed for metals, TPH, organochlorine pesticides, and PCBs. Soil gas samples were analyzed for volatile organic compounds (VOCs). Elevated concentrations of PCBs and arsenic were reported in separate shallow soil samples, respectively. Step-out samples collected in the immediate vicinity of the elevated PCB and arsenic concentrations indicated the results were localized anomalies and were not of concern. Analytical results of the remaining soil and soil gas samples did not report any concentrations of concern. The 190 Dillon Avenue property is not considered to be of concern for the site.

- **Dillon Avenue Property.** The Dillon Avenue property is located at 230, 280, and 282 Dillon Avenue in Campbell, California, approximately 150 feet south of the site, and is currently being redeveloped for residential purposes by Madison Park. The property is listed on the Statewide Spills, Leaks, Investigations and Cleanup Cases (SLIC) and RWQCB Geotracker online databases as "Completed – Case Closed as of November 18, 2014". Ramboll Environ discovered buried waste materials at the property during excavation of test pits to investigate geophysical anomalies as part of a Phase I ESA and subsurface soil investigation conducted at the property for Robson Homes in 2013. During subsequent trenching and environmental sampling investigations, discolored soil, concrete, ash, metal debris and other waste materials were discovered buried across the central portion of the site. Soil samples collected from within the waste debris and adjacent areas had concentrations of lead, arsenic, TPH and PCBs above environmental regulatory screening levels for residential land use. In addition, lead concentrations exceeded California Hazardous Waste Levels and Federal Hazardous Waste Levels in several samples.

In August 2013, the property was entered into a Voluntary Cleanup Agreement (VCA) under regulatory oversight by SCCDEH. Site Cleanup Goals (SCGs) for specific contaminants of concern (COCs) were established for the property and soil excavation and debris removal was conducted at the property from July to September 2014. Excavated soil was sampled and transported off-site for appropriate landfill disposal. Debris segregated from soil during excavation was also transported off-site for appropriate landfill disposal. Concrete was crushed and stockpiled for reuse. Following excavation, confirmation soil samples were collected from the bases and sidewalls of excavation areas and analyzed for site COCs. Results of confirmation soil sampling indicated that the soil excavation had successfully removed impacted soil and SCGs for site COCs had been achieved. SCCDEH issued a case closure letter approving soil and debris removal activities at the property in a letter dated November 18, 2014.

The property was previously listed on the Facility and Manifest Data (HAZNET) database, which reported that contaminated soil was removed from the site for disposal after a site cleanup in 1997. The incident contact is listed as EH Canfield and Sons, which is a trucking company out of Eugene, Oregon. According to facility personnel, the cleanup was conducted after the fuel tank of a delivery truck hit the road curb while exiting the site after delivering wooden roofing materials. A fuel spill of less than 20 gallons of fuel resulted from the truck tank contacting the curb. Emergency services were immediately notified and the soil removal was conducted in order to address contaminated soil resulting from the fuel spill. Based on available information, the 230, 280, and 282 Dillon Avenue property is not considered to be of concern for the site.

- **Draeger Construction Inc./Stinson Construction Inc.** The Draeger Construction/Stinson Construction listing is located at 260 Dillon Avenue in Campbell, California, approximately 400 feet southwest of the site, and is currently being redeveloped for residential purposes by Madison Park. The property is listed on the Historical Substance Storage Container Database (HIST UST), Facility Inventory Database (CA FID UST), and Statewide Environmental Evaluation and Planning System UST Listing (SWEEPS UST) for an 8,000-gallon gasoline UST historically associated with the property. No LUST case or any case closure documentation was available on the RWQCB Geotracker online database.

Ramboll Environ conducted a Phase I ESA at the site on behalf of Robson Homes in 2015. Based on documents reviewed at SCCFD, the UST was 5,000 gallons in volume and used to store gasoline. The UST was installed in 1981 and located in the northern portion of the parking lot at the property. A leak monitoring system was installed in 1986. An Inspection Notice from SCCFD indicates the UST and associated piping was removed on January 22, 1998. The UST was reportedly slightly corroded, though no discolorations or odors were observed in the soil beneath the UST and associated piping. Two soil samples were collected beneath the UST and one soil sample was collected beneath the associated piping. Analytical results of the soil samples did not detect TPH as gasoline (TPH-G), methyl tert-butyl ether (MTBE), or BTEX above laboratory reporting limits. SCCFD issued case closure on February 10, 1998. Based on available information, the 260 Dillon Avenue property is not considered to be of concern for the site.

- **City of Campbell Service Center.** The City of Campbell Service Center, also known as the Corporate Yard, is located at 290 Dillon Avenue in Campbell, California, approximately 450 southwest of the site. A portion of the property is currently being redeveloped for residential purposes by Madison Park. The property is listed on the HIST CORTESE, LUST, HIST LUST, HIST UST, CA FID UST, Certified Unified Program Agency (CUPA Listings) database, SWEEPS UST, Recovered Government Archive LUST (RGA LUST), Emissions Inventory Data (EMI), and HAZNET databases. Environ conducted a Phase I ESA and soil investigation on a small portion of the Corporate Yard on behalf Robson Homes in 2014.

The LUST listings refer to a closed underground fuel leak case. Other UST database listings refer to fuel or waste USTs currently or historically in use at the Corporate Yard. According to SCCFD and one of the environmental databases (SWEEPS UST), five USTs are known to have been installed at the central portion of the 290 Dillon property between 1969 and 1975, including one 10,000-gallon and one 1,000-gallon gasoline UST, a 1,000-gallon diesel UST, and a 250-gallon waste oil UST. A second environmental database pertaining to USTs (HIST UST) indicated that in addition to the USTs listed above, a 200-gallon "waste" UST was also installed at the Corporate Yard in 1970. No confirmation for this UST was found in the available SCCFD records or other sources.

The 10,000-gallon gasoline UST and the 1,000-gallon diesel UST were removed in 1987 and were the subject of a LUST case. The LUST case was closed in 1999 after soil sampling indicated that any residual impacts to soil appeared to have been naturally attenuated, and groundwater did not appear to have been impacted. According to case closure documentation, the 1,000-gallon diesel UST may have previously been used as a gasoline UST, suggesting that the reported 1,000-gallon gasoline UST could have been the same tank as the 1,000-gallon diesel UST that was removed.

The 250-gallon waste oil UST and associated underground piping were removed under fire department oversight in 1998 and a closure letter was issued by the fire department. Fuel dispensers and associated underground fuel piping were removed and replaced under fire department oversight in 1999.

No further UST installation or removal documentation was available, and it is not known if either of the other two reported USTs (i.e., the reported 1,000-gallon gasoline UST and the reported 200-gallon "waste" UST) ever existed at the Corporate Yard, and if they did, whether they have been abandoned in place or removed. There is no current LUST case at the Corporate Yard.

The Corporate Yard is currently permitted to operate a double-chambered UST for gasoline and diesel storage, which is equipped with leak monitoring systems and inspected annually, with leak monitoring system testing performed every three years. The Vehicle and Equipment Maintenance Supervisor of the City of Campbell Public Works Maintenance Division indicated that there are no other USTs currently in use at the Corporate Yard.

The CUPA Listings and HIST CORTESE database listings are related to the prior LUST case. The EMI listing indicates that the site holds a permit from the Bay Area Air Quality Management District (BAAQMD) for emission of particulate matter, carbon monoxide, oxides of nitrogen, reactive organic gases, and/or total organic hydrocarbon gases. The listing indicates that permits were issued from 2009 through 2012.

The HAZNET listings are related to hazardous wastes historically generated by the Corporate Yard, which generally have included waste oil, waste hydrocarbon solvent (i.e., benzene), unspecified mixed solvent, off-specification or surplus organic liquids, and unspecified alkaline solutions. There is no indication that any chlorinated solvents were used or disposed from the property.

However, the HAZNET listings also include two disposals of PCBs or materials containing PCBs in 2009. Based on information from facility personnel, the PCB waste disposal events in 2009 were related to the removal of a hydraulic lift from the southern portion of the garage building at the Corporate Yard site. Facility personnel indicated that while the lift was being removed, the hydraulic cylinder was found to be leaking oil into an underground concrete vault. A sample of the oil was removed from the cylinder and analytical testing indicated that the oil contained PCBs. A hazardous materials contractor performed removal of the oil and all oil-containing equipment, and performed cleaning of the underground concrete vault into which the oil had leaked. After completion of cleaning, a rinsate sample was collected and analytical results indicated that PCBs were not detected. The vault was subsequently sealed with concrete, and all of the PCB-containing oil, related equipment, decontamination solutions, and other related wastes potentially contaminated with PCBs were disposed at Evergreen oil recycling facility in Newark, California.

In September and October 2014, Environ conducted a Phase I ESA and limited soil investigation on a portion of the Corporate Yard site. No RECs were identified. The investigation at the Corporate Yard included the collection of soil samples at a depth of approximately 2 feet bgs and the observation of three test pits that were excavated to approximately 9 to 11 feet bgs. Soil samples were also collected from the base of the test pits and from the soil excavated from the

test pits. Soil samples were analyzed for metals, TPH, organochlorine pesticides, and PCBs. Analytical results of the soil samples did not report any concentrations that were of concern. Based on available information, the Corporate Yard property is not considered to be of concern for the site.

- **300 Railway Avenue.** The 300 Railway Avenue property is located approximately 900 feet southwest of the site. The property is listed on the HIST CORTESE, LUST, HIST LUST, and CUPA Listing, databases for multiple auto repair businesses including Swedish Auto Service, B&J Automotive Repair, Mike's Auto Body, and Stan Nilsson Incorporated. The LUST database indicates that Swedish Auto Service was responsible for a LUST cleanup case. Information obtained from the Geotracker online database indicates that a 500-gallon waste oil UST was removed from the property in March 1987. The tank was noted to have no holes upon removal. The soil underneath the tank was observed to have no petroleum odor or staining. Soil samples collected underneath the tank contained low concentrations of TPH as diesel (TPH-D), oil and grease, and dichlorobenzene. Due to the low concentrations of the contaminants, SCVWD determined that the beneficial uses of groundwater should not be threatened by the residual soil contamination if left in place. The case was granted closure by SCVWD in November 1995. The remaining database listings for the site are consistent with the operation of auto repair businesses and do not necessarily indicate a release at the site. Based on available information, the 300 Railway Avenue property is not considered to be of concern for the site.
- **Railway Distributing, Inc.** The Railway Distributing, Inc. listing is located at 261-264 Railway Avenue in Campbell, California, approximately 950 feet southwest of the site. The Railway Distributing property is listed in the SLIC database for petroleum hydrocarbon impacts to soil. The case status is listed as "Open – Inactive". The property is listed on the CA FID UST, SWEEPS UST, and HIST UST databases for a 1,000-gallon waste tank used for number 6 fuel oil. According to documents reviewed by Ramboll Environ on the Geotracker online database, soil samples collected in 1988 in the vicinity of a former drum storage area reported concentrations of total oil and grease of up to 240 parts per million (ppm). The deepest soil samples, collected between 41 and 51 feet bgs, did not detect total oil and grease concentrations above laboratory reporting limits and groundwater was not encountered in the soil boring from which the samples were collected. The most recent documentation available states that case oversight was transferred to RWQCB in 1992 and the case is listed as "Open – Inactive". Based on the low concentrations of total oil and grease in soil, the distance of the Railway Distributing property from the site, and the fact that groundwater was not encountered at the depth of the soil boring termination, this matter is not a concern to the subject site.
- **Henry Little Tractor Service.** The Henry Little Tractor Service listing is located at 310 Railway Avenue in Campbell, California, approximately 1,000 feet southwest of the site. The property is listed on the HIST CORTESE, LUST, CUPA Listings, LUST, and HIST LUST databases. The LUST database and review of the Geotracker online database indicate one 4,000-gallon gasoline UST, one 4,000-gallon diesel UST, one 2,000-gallon gasoline UST and associated piping were removed from the property in November 1990. Soil samples collected at a depth of 8 feet bgs below the fill end of the 2,000-gallon gasoline UST reported concentrations of TPH-D and TPH-G to be 1,100 and 150 ppm, respectively. Soil was excavated from the location underneath the fill area of the 2,000-gallon UST. A confirmation sample collected following the excavation at a depth of 12 feet bgs did not report any contaminant concentrations greater than the laboratory reporting limits. Minor concentrations of contaminants (6.6 ppm TPH-D) were reportedly left in place in soil beneath the former location of the 4,000-gallon gasoline UST. SCVWD granted the site case

closure in January 1995. Based on available information, the property is not considered to be of concern for the site.

- **500 Railway Avenue.** The 500 Railway Avenue property is located approximately 0.25 mile southwest of the site. The property is listed on the LUST, CA FID UST, HIST LUST, SWEEPS UST, HIST UST, and HIST CORTESE databases as the Department of Food and Agriculture Pest Detection [sic], Western Gravel, and U-Save Rockery properties. The LUST database and review of the Geotracker online database indicate that nine USTs, ranging in size between 290 and 10,000 gallons, were removed from the site between approximately 1987 and 1992. The tanks were reportedly used to store gasoline, diesel, waste oil, and kerosene. Contaminated soil was observed during the removal of the USTs and soil samples collected underneath the former locations of the USTs reported concentrations of TPH-G, TPH-D, and TPH as motor oil (TPH-MO) to be 1,765, 119, and 15,000 ppm, respectively. Groundwater samples collected from on-site monitoring wells reported minor concentrations (<1 ppm) of TPH-D and BTEX. Approximately 38,000 cubic yards of soil at the property was excavated and approximately 150,000 gallons of groundwater at the property was extracted and treated. Following soil and groundwater remediation, concentrations of TPH-G, TPH-D, and TPH-MO in soil were 39.3, 22, and 26 ppm, respectively, and concentrations of TPH-D and BTEX in groundwater were not detected above laboratory reporting limits. SCVWD granted the site case closure in January 1994. Based on available information, the property is not considered to be of concern for the site.

The EDR report indicates that poor or inadequate address information was available for two properties located in the vicinity of the subject site; therefore, these sites could not be readily mapped by EDR. Ramboll Environ reviewed the list of unmapped sites and verified that none appeared to be adjacent to or within 0.25 mile of the subject site.

4.2 Historical Uses of the Site and Surrounding Area

4.2.1 Interview with Site Owner

Bill Perry purchased the site in approximately 1970. At the time the site was purchased, a commercial automobile body repair shop operated out of the garage at the site. Mr. Perry reported that throughout his ownership of the site, the garage was also used for minor automobile repair and as a body repair shop, which included painting, although the operation was not registered as a commercial business. The garage was also used to store Mr. Perry's personal automobiles. The two houses located on the northern portion of the site were occupied by various tenants and used for residential purposes.

Mr. Perry reported an October 2015 incident during which a residential tenant at the site reportedly dumped battery acid and motor oil behind the westernmost house. According to Mr. Perry, the tenant was disgruntled with having to vacate the site. Documents regarding the dumping incident were also provided to Ramboll Environ by SCCDEH and the incident is further discussed in Table D and Section 5.2.1.

A summary of Ramboll Environ's key observations from the available historical sources is presented in Table C.

Table C: Summary of Key Observations from Historical Sources for the Subject Site	
Historical Source	Key Observations Regarding Site History
Sanborn Maps (1920, 1928, 1935, 1950)	The site is not depicted in the 1920 map. The remaining maps are generally the same and show the houses on-site as they generally exist today while the garage is approximately the width of the westernmost house. No concerns are noted.
Aerial Photographs (1939, 1948, 1956, 1968, 1974, 1982, 1993, 1999, 2005, 2006, 2009, 2010) Satellite Imagery ¹ (1993, 2000, 2002-2016)	In the earliest photographs, the site appears to be consistent with that of the Sanborn maps as described above with some trees located on-site. In the 1956 photo, the garage appears to have been expanded to its current size. The remaining photos depict the site to be generally the same as it is today. No concerns are noted.
Topographic Maps (1899, 1953, 1961, 1968, 1973, 1980)	No development is depicted on the maps until 1953. No concerns are noted.
City Directory Abstracts (1957, 1963, 1970, 1974, 1975, 1980, 1982, 1985, 1986, 1991, 1996, 2001, 2008, 2013)	The occupant of 496 Sam Cava Lane is listed in 1980, 1985, 1986, 1991, and 1996 as Dardanelli Dennis or Dardanelli Dennis Custom Painting. No listings were provided for 500 Sam Cava Lane.
¹ In addition to aerial photographs provided by EDR, Ramboll Environ viewed historical satellite imagery provided via Google Earth. Printed copies were not obtained, and imagery dates were not independently verified.	

4.2.2 Past Uses of Adjacent Sites

The properties in the vicinity of the site were primarily used for agricultural and residential purposes as early as the 1920s. Beginning in the 1950s, commercial buildings began to be constructed in the vicinity of the site. According to Mr. Daniel Sarkisian, the former property owner of the properties located adjacent to the east and south of the site, the site and general vicinity was used for waste disposal many years prior to the acquisition of the property adjacent to the site by Mr. Sarkisian's family. During demolition and grading activities at the property located adjacent to the east and south of the site, the property located at 190 Dillon Avenue (approximately 75 feet south of the site), and the property located at 280 and 282 Dillon Avenue (approximately 150 feet south of the site), large quantities of trash, concrete debris, and a white sheetrock-like fill layer were excavated and off-hauled from the properties. Portions of the off-hauled material from the properties contained lead concentrations that exceeded California Hazardous Waste and/or Federal Hazardous Waste levels and were properly disposed of at appropriate landfills.

4.3 Review of Local and State Agency Information

Ramboll Environ visited or otherwise contacted local governmental agencies and regulatory bodies for information relating to the site. An overview of the findings of this review is presented in Table D.

Table D: Local Agency Information for the Site	
Agency Contacted / Document Reviewed	Information Obtained
Santa Clara County Tax Assessor	Documents reviewed online using the Santa Clara County Tax Assessor's website included assessment roll information and a tax map. The map indicates that the APN for the site is 412-08-045.
City of Campbell Building Division	Ramboll Environ reviewed available public records maintained in an online database by the City of Campbell Building Division. Online building department records included a list of case activity for the site including 2002 and 2008 listings the resident at the time was running a commercial auto repair business at the site. Ramboll Environ was informed that no microfiche records were available for the site.
Santa Clara County Fire Department	Ramboll Environ requested any available records from the Santa Clara County Fire Department. Ramboll Environ was informed that no records were found for the site addresses.
Santa Clara County Department of Environmental Health (SCCDEH)	Ramboll Environ requested records from SCCDEH for information regarding soil or groundwater investigations, USTs, LUSTs, hazardous materials inspections, or violations/permits for the property. Ramboll Environ was given records pertaining to an anonymous tip that was provided to the USEPA and subsequently California EPA (Cal/EPA) Department of Toxic Substances Control (DTSC) in October 2015 regarding the dumping of used motor oil and approximately four gallons of battery acid at the site. The motor oil was reportedly dumped in the dirt "behind the house" and the battery acid was reportedly dumped "in the front yard". Records were also provided that document the ensuing site inspection by SCCDEH on November 3, 2015. According to the inspection record, the SCCDEH Inspector was unable to enter the property and observed and photographed all exterior portions of the site. The Inspector was unable to identify the locations of the battery acid and used motor oil dumping. Ramboll Environ also searched SCCDEH's online database of LUST, solvent release, and cleanup cases. The database contained no records for the site.
Santa Clara Valley Water District (SCVWD)	Ramboll Environ requested records from the Santa Clara Valley Water District and was referred to the SCVWD online database of solvent files prior to 2004, at which time local agency oversight was transferred to the Department of Environmental Health. No records related to the site addresses were found on the online database.

4.4 Previous Environmental Assessments and Activities

No previous environmental assessments have been conducted at the site.

4.5 Environmental Lien Record Search

A review of EDR Environmental Lien Search Report dated July 7, 2016 to identify environmental liens or AULs imposed by judicial authorities with respect to the site parcel. No environmental liens or AULs were found.

4.6 User-Provided Information

Ramboll Environ provided Madison Park with a User Questionnaire (consistent with Appendix X3 of the ASTM Standard) that requested information relating to environmental liens, AULs, specialized

PHASE I ENVIRONMENTAL SITE ASSESSMENT
AND SOIL EXCAVATION REPORT

knowledge of the property, property value diminution, chain-of-title, or any other commonly known or obvious indications of site contamination, that was not otherwise provided to Ramboll Environ. The user did not provide any information that was not otherwise obtained and reviewed by Ramboll Environ.

5. SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

Ramboll Environ conducted visits to the site on July 5, 6, and 19, 2016. During the visits, observations were made to evaluate if any RECs, as defined in Chapter 2, are present.

5.2 General Site Setting and Observations

Ramboll Environ made observations concerning all of the interior and exterior issues specified in Sections 9.4.2 through 9.4.4 of the ASTM E1527-13 Standard. The presence or absence of each issue of environmental interest or concern is noted in Table E. Additional information regarding observed and historical items is provided in the sections following the table.

Table E: Summary of Site Reconnaissance Observations		
Issue	ASTM Section	Observation
Interior and Exterior Issues		
Current use(s) of the property	9.4.2.1	See Section 3.2
Past use(s) of the property	9.4.2.2	See Section 4.2
Hazardous substances and petroleum products used, treated, stored, disposed of, or generated on the property in connection with identified present or past uses	9.4.2.3	Formerly Present, Present (see Section 5.2.1)
Storage tanks: Underground storage tanks (fill ports, vent pipes, manholes) Aboveground storage tanks	9.4.2.4	Absent Absent
Odors (strong, pungent or noxious)	9.4.2.5	Absent
Pools of liquid, standing surface water or sumps	9.4.2.6	Absent
Drums of hazardous substances or petroleum products (five-gallon, 55-gallon or totes)	9.4.2.7	Absent
Hazardous substance and petroleum product containers (not necessarily in connection with identified uses)	9.4.2.8	Absent
Unidentified substance containers suspected of containing hazardous substances or petroleum products	9.4.2.9	Absent
Polychlorinated biphenyls (PCBs) Electrical equipment on-site (e.g., transformers, capacitors) Electrical equipment known or likely to contain PCBs Hydraulic equipment on-site (e.g., elevators, truck dock lifts) Hydraulic equipment known or likely to contain PCBs	9.4.2.10	Absent Absent Absent Absent

Table E: Summary of Site Reconnaissance Observations		
Issue	ASTM Section	Observation
Interior Issues		
Heating/cooling systems	9.4.3.1	Absent
Stains or corrosion on interior floors, walls or ceilings (except for staining from water)	9.4.3.2	Present (see Section 5.2.2)
Floor drains and interior sumps	9.4.3.3	Absent
Exterior Issues		
Pits, ponds or lagoons on property or adjacent sites	9.4.4.1	Absent
Stained soil or pavement	9.4.4.2	Present (see Section 5.2.2)
Stressed vegetation (from other than insufficient water)	9.4.4.3	Absent
On-site solid waste disposal; areas apparently filled or graded by non-natural causes; or mounds or depressions suggesting solid waste disposal	9.4.4.4	Present (see Section 5.2.3)
Wastewater or other liquid (including storm water) or any discharge into a drain, ditch, underground injection system or stream on or adjacent to the property	9.4.4.5	Absent
Wells (including dry wells, irrigation wells, injection wells, abandoned wells, or other wells)	9.4.4.6	Absent
Septic systems or cesspools	9.4.4.7	Absent
<p>Notes:</p> <p>Observations noted in this table and discussed further below are based on information obtained during the site visit and from a review of the sources summarized in Section 4.</p> <p>See the ASTM Standard for a detailed description of the issues included in each referenced ASTM section.</p> <p>Per the ASTM Standard, fluorescent light ballasts likely to contain PCBs do not need to be noted.</p>		

5.2.1 Hazardous Substances and Petroleum Products

The westernmost house at the site is used to store construction materials and equipment including small quantities (i.e., less than five gallons) of paint for Madison Park. Historically, the garage at the site was used for minor automobile repair and as an automobile body shop, including the painting of cars in the westernmost bay of the garage. Historical hazardous material use and storage included petroleum fuels, oils, and lubricants and automobile paint. *De minimis* amounts of minor staining related to the former use of the property for minor automobile repair and as an automobile body shop,

as discussed in Section 5.2.2, were observed. Based on the available information, current and historical hazardous material storage and use at the site is not a concern.

As discussed in section 4.2.1 and Table D, Ramboll Environ reviewed SCCDEH documentation and interviewed the site owner regarding an October 2015 incident during which a residential tenant at the site reportedly dumped battery acid and motor oil near the westernmost house. During a site inspection by SCCDEH on November 3, 2015, all exterior portions of the site were observed and photographed but the SCCDEH Inspector was unable to identify the locations of the battery acid and used motor oil dumping. SCCDEH did not conduct any further investigation into the reported dumping incident. During Ramboll Environ's site visit in July 2016, the reported dumping location(s) could not be identified. Based on the reportedly small quantities that were dumped at the site, the fact that SCCDEH and Ramboll Environ personnel did not observe the dumping location(s) during inspections, and the fact that SCCDEH did not conduct any further investigation into the reported dumping incident after their inspection of the site, the reported dumping incident is not a concern for the site.

5.2.2 Interior and Exterior Staining

De minimis amounts of minor staining related to the former use of the property for minor automobile repair and as a body shop were observed in the garage and driveways of the site. The concrete in the locations of the staining was observed to be in good condition, free of cracking and/or holes. Staining was also observed on plywood flooring located northwest of the garage. The plywood flooring appeared to be from a former shed that had a sink and toilet connection in the floor. The plywood flooring was removed and the underlying soil was observed to be free of staining. Based on the available information, the minor staining at the site is not a concern.

5.2.3 Historical On-site Waste Disposal

As discussed in Section 4.2.2, the former co-owner of the adjacent property, Mr. Daniel Sarkisian, stated the site and general vicinity was used for waste disposal many years prior to the acquisition of the site parcels by Haig. During demolition and grading activities at the properties located adjacent to and/or in the vicinity of the site, large quantities of trash, concrete debris, and a white sheetrock-like fill layer were excavated and off-hauled from the properties. Portions of the off-hauled material from the properties contained lead concentrations that exceeded California Hazardous Waste and/or Federal Hazardous Waste levels and were properly disposed of at appropriate landfills.

During demolition and grading activities of the areas located adjacent to the east and south of the site, Ramboll Environ observed undocumented fill including the aforementioned white sheetrock-like fill layer below the southern portion of the site between approximately 2 and 10 feet bgs. As discussed in Section 6, exploratory trenching was performed at the site on July 6, 2016 to identify the extent of the undocumented fill.

6. EXPLORATORY TRENCHING AND SOIL SAMPLING

As discussed in Section 5.2.3, Ramboll Environ previously observed undocumented fill below the southern portion of the site between approximately 2 and 10 feet bgs. On July 6, 2016, exploratory trenching was performed at the site to identify the extent of the undocumented fill. In total, three trenches (Trench 1 through Trench 3) were excavated on-site until native soil was encountered. The location of the three trenches are shown in Figure 2.

6.1 Exploratory Trenching

The three trenching locations were selected with the purpose of identifying and, if encountered, delineating any areas of undocumented fill at the site. On July 6, 2016, the exploratory trenching was performed with an excavator and observed by Ramboll Environ and Pacific Geotechnical Engineering (Madison Park's geotechnical engineering consultant) personnel. Excavated material from each trench was separately stockpiled for characterization sampling, as discussed in Section 6.2.

Sandy clay fill materials were encountered from ground surface to approximately 6 to 8 feet bgs in each trench. Native material consisting of clayey sand with gravel was identified underneath the fill materials. No undocumented fill, including trash, concrete debris, or white sheetrock-like fill, was observed during the exploratory trenching.

6.2 Soil Sampling

Upon reaching native material, bottom confirmation samples were collected from each trench using an excavator. Three grab samples were collected from each trench and composited by McCampbell Analytical Laboratory (MAI) into one three-point composite sample for each trench (Samples BC01 through BC03 correspond to Trenches 1 through 3, respectively). In addition, a four-point composite grab sample was collected from the excavated fill material from Trench 1 (Sample F01) and three-point composite samples were collected from the excavated fill material from Trenches 2 and 3 (Samples F02 and F03, respectively). Each sample was collected and placed in a laboratory-provided glass jar. The samples were submitted to MAI under chain-of-custody procedures and analyzed for California Assessment Manual (CAM17) metals by Environmental Protection Agency (EPA) method 6020, organochlorine pesticides by EPA method 8081A, PCBs by EPA method 8082, and TPH as gasoline, diesel, and motor oil by EPA method 8015B.

The sample concentrations were compared to applicable EPA Regional Screening Levels (RSLs) or Cal/EPA DTSC modified RSLs for residential land use. For simplicity, RSLs and DTSC-modified RSLs will herein be referred to as "regulatory screening levels". All concentrations were less than respective regulatory screening levels or in the case of arsenic, below typical, naturally-occurring background levels. The results of soil sampling are presented in Tables 1 through 3. The laboratory analytical reports are provided in Appendix E.

7. FINDINGS, OPINION, AND CONCLUSIONS

Ramboll Environ performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the Madison Park property located at 496 and 500 Sam Cava Lane in Campbell, California. The objective of the ESA was to identify RECs, as defined in the ASTM Standard. A list of key definitions presented in the ASTM Standard is provided in Chapter 9 at the end of this report. Any exceptions to, or deletions from, this practice are described in Section 7.2.

7.1 Findings, Opinions, and Conclusions

7.1.1 Recognized Environmental Conditions

Ramboll Environ has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the Madison Park property located at 496 and 500 Sam Cava Lane in Campbell, California. Any exceptions to, or deletions from, this practice are described in Section 7.2 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with unrestricted residential use of the property. No further investigation of the site is warranted at this time.

7.1.2 Other Findings

The following additional findings related to potential contamination concerns were identified:

- **Undocumented Fill at the Site.** During demolition and grading activities at properties located adjacent to and/or in the vicinity of the site, large quantities of trash, concrete debris, and a white sheetrock-like fill layer were excavated and off-hauled from the properties. Portions of the off-hauled material from the properties contained lead concentrations that exceeded California Hazardous Waste and/or Federal Hazardous Waste levels. During demolition and grading activities of the areas located adjacent to the east and south of the site, Ramboll Environ observed undocumented fill including the aforementioned white sheetrock-like fill layer below the southern portion of the site between approximately 2 and 10 feet bgs. Exploratory trenching performed on July 6, 2016, which was located on a vacant portion of the site, did not identify any undocumented fill. This finding suggests that the region of undocumented fill at the site is likely limited to the southern edge of the site underneath the existing garage. During future construction activities at the site, for geotechnical reasons, the undocumented fill is planned to be excavated prior to site redevelopment.

7.1.3 De Minimis Conditions

De minimis conditions are those that do not represent a material risk of harm to public health or the environment and that generally would not be the subject of enforcement action if brought to the attention of appropriate governmental agencies. Ramboll Environ identified the following *de minimis* conditions related to the site:

- **Minor Interior and Exterior Staining.** Minor staining related to the former use of the property for minor automobile repair and as a body shop was observed in the garage and driveways of the site. The concrete in the locations of the staining was observed to be in good condition, free of cracking and/or holes. Staining was also observed on plywood flooring located northwest of the garage. The plywood flooring appeared to be from the remnants of a former shed that had a sink and toilet connection. The plywood flooring was removed and the underlying soil was observed to be free of staining. Based on the available information, the minor staining at the site is not a concern.

- **On-site Dumping Incident.** Ramboll Environ reviewed SCCDEH documentation and interviewed the site owner regarding an October 2015 incident during which a residential tenant at the site reportedly dumped used motor oil and four gallons of battery acid near the westernmost house. During a site inspection by SCCDEH on November 3, 2015, all exterior portions of the site were observed and photographed but the SCCDEH Inspector was unable to identify the locations of the battery acid and used motor oil dumping. SCCDEH did not conduct any further investigation into the reported dumping incident. During Ramboll Environ's site visits in July 2016, the reported dumping location(s) could not be identified. Based on the reportedly small quantities that were dumped at the site, the fact that SCCDEH did not conduct any further investigation into the reported dumping incident after their inspection of the site, and since the alleged area of dumping will be excavated as part of site redevelopment, the reported dumping incident is not a concern for the site.

7.2 Analysis of Data Gaps

The ASTM Standard defines a data gap as "a lack of or inability to obtain information required by the practice despite good faith efforts by the environmental professional to gather such information." A data gap is only significant if other information obtained during the ESA, or professional experience, raises reasonable concerns and affects the ability of the environmental professional to identify whether a given issue is a REC. The ASTM Standard requires that the ESA report identify and comment on significant data gaps.

Limiting conditions and deviations to the ASTM Standard for the assessment are discussed below.

- Due to the extended age of the site, it was not possible to interview representatives familiar with the site's use prior to approximately 1970.

None of the exceptions, deletions, deviations, or site reconnaissance limitations noted above are considered to represent significant data gaps.

8. REFERENCES

8.1 Documents

- Civil Engineering Associates (CEA). 2015. Existing Site plan & Tree Removal Plan, Campbell, California. September 16.
- CEA. 2016. ALTA/NSPS Land Title Survey, 500 Sam Cava Lane, Campbell, California. August 24.
- EDR. 2013. "Aerial Photography Print Service: Inquiry Number 3537772.5." March 11.
- EDR. 2013. "City Directory, Abstract, Inquiry Number 3811296.1." December 16.
- EDR. 2013. "Historical Topographic Map Report, Inquiry Number 3537772.4." March 7.
- EDR. 2016. "Radius Map, Inquiry Number: 04640956.2r." June 8.
- EDR. 2016. "Sanborn® Map Report, Inquiry Number 3537772.3." March 7.
- EDR. 2016. "EDR Environmental Lien and AUL Search, Inquiry Number: 4665462.1." July 7.
- ENVIRON. 2014. Phase I Environmental Site Assessment and Subsurface Soil Investigation, 466, 472, 482, and 488 Sam Cava Lane, Campbell, California. May 23.
- ENVIRON. 2014. Phase I Environmental Site Assessment and Subsurface Soil Investigation, 190 Dillon Avenue, Campbell, California. June.
- ENVIRON. 2014. Phase I Environmental Site Assessment, 230, 280, and 282 Dillon Avenue, Campbell, California. November 24.
- ENVIRON. 2015. Phase I Environmental Site Assessment and Subsurface Soil Investigation, Haig Precision Manufacturing Corporation, Campbell, California. February 11.
- ENVIRON. 2015. Phase I Environmental Site Assessment and Subsurface Soil Investigation, 260 and 272 Dillon Avenue, Campbell, California. April 23.
- ENVIRON. 2015. Phase I Environmental Site Assessment and Soil Investigation, Portion of 290 Dillon Avenue, Campbell, California. August 11.
- Geo-Logic Associates dba Pacific Geotechnical Engineering. 2016. Geotechnical Evaluation, Perry Property, 500 Sam Cava Lane, Campbell, California. July 14.
- JR Associates. 2016. Magnetic Investigation at 500 Sam Cava Lane in Campbell, California. July 27.
- Pacific Geotechnical Engineering. 2014. Draft Geotechnical Investigation, Proposed Residential Development, Dillon Avenue, Sam Cava Lane, and Gilman Avenue, Campbell, California. May 16.
- Ramboll Environ. 2015. Phase I Environmental Site Assessment and Soil Investigation, 240 and 250 Dillon Avenue, Campbell, California. May 15.

8.2 Interviews

Bill Perry. Site Owner. 2016. Telephone Interview. July 14.

Daniel Sarkisian. Co-owner and President of Haig. 2013. Personal interview. October 30.

9. ASTM DEFINITIONS

The following definitions are presented in the ASTM Standard:

REC - Recognized Environmental Condition:

The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment.

CREC - Controlled Recognized Environmental Condition:

A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

HREC - Historical Recognized Environmental Condition:

A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

***De minimis* Condition:**

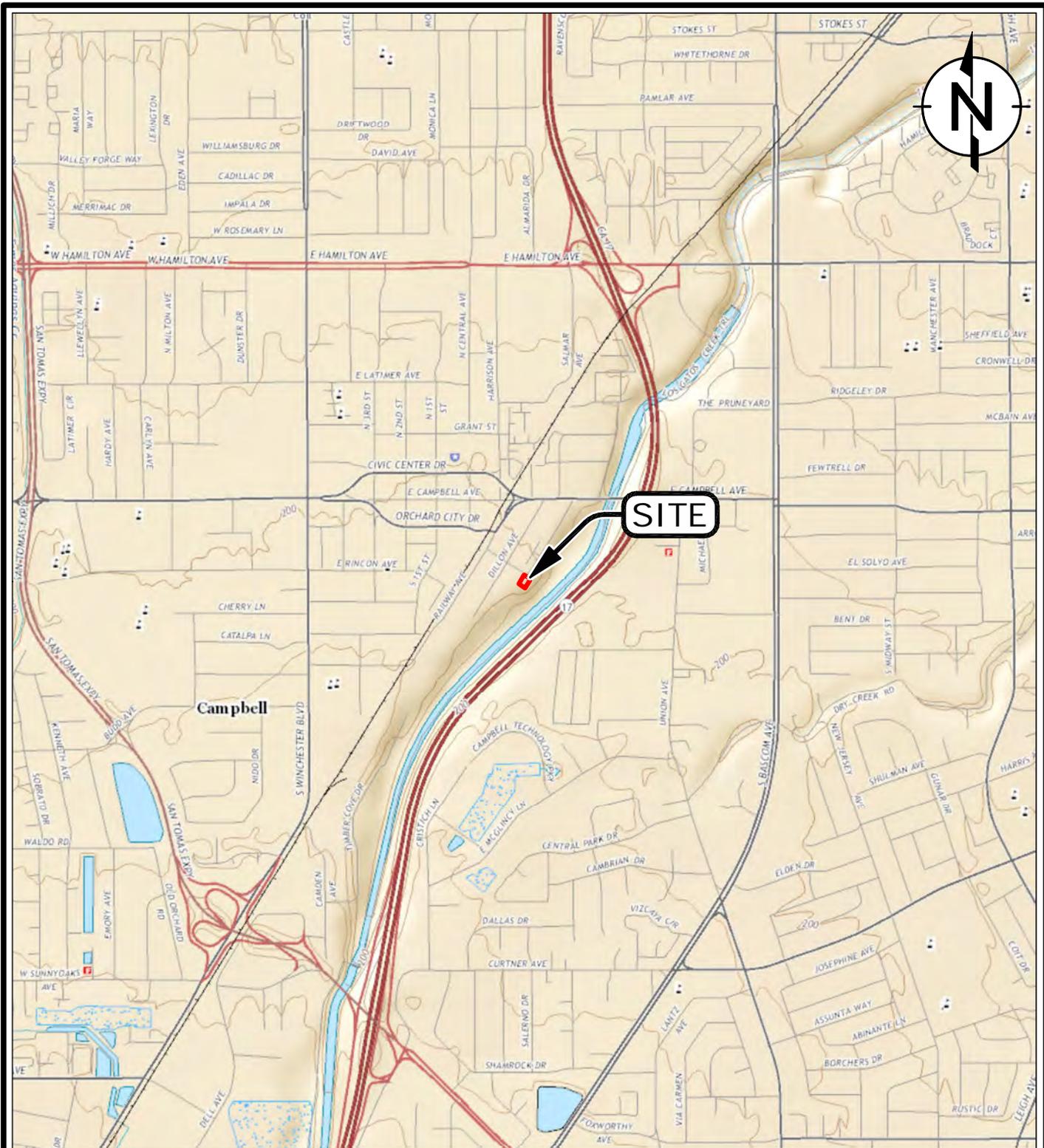
A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

Data Gap / Significant Data Gap:

A lack of or inability to obtain information required by the practice despite good faith efforts by the environmental professional to gather such information. A data gap is significant if other information and/or professional experience raises concerns involving the data gap.

Please note that the term "other finding" is not defined by ASTM; rather, Ramboll Environ uses the term to connote areas of contingent risk that are not clearly defined by the ASTM Standard.

FIGURES

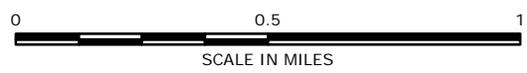


LEGEND:

 PROPERTY BOUNDARY (APPROXIMATE)

NOTES:
CONTOUR INTERVAL = 10 FEET

SOURCE: USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



QUADRANGLE KEY MAP



Site Location Map
496 and 500 Sam Cava Lane
Campbell, California

FIGURE

1

DRAFTED BY: RS

DATE: 7/20/2016

03-21676GG

O:\DRAWINGS\0321676GG\0321676gg-campbell-IOC\MAP.mxd



TABLES

Table 1: Metals in Soil Samples
496 and 500 Sam Cava Lane, Campbell, California

Sample ID	Depth Below Ground Surface (feet)	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Vanadium	Zinc
BC01	8	7/6/2016	ND<0.50	3.6	100	ND<0.50	ND<0.25	65	11	26	5.7	ND<0.050	0.50	69	ND<0.50	59	50
BC02	8	7/6/2016	ND<0.50	4.0	92	ND<0.50	ND<0.25	53	11	29	4.9	ND<0.050	ND<0.50	58	ND<0.50	61	53
BC03	7	7/6/2016	ND<0.50	4.5	96	ND<0.50	0.26	45	9.5	24	6.5	ND<0.050	0.68	62	ND<0.50	39	58
F01	--	7/6/2016	0.56	5.0	120	0.59	ND<0.25	51	10	27	12	ND<0.050	1.0	77	ND<0.50	44	59
F02	--	7/6/2016	ND<0.50	6.6	140	0.58	ND<0.25	57	12	32	9.6	ND<0.050	0.88	81	ND<0.50	54	68
F03	--	7/6/2016	0.85	5.7	160	ND<0.50	0.39	62	11	31	57	0.11	0.87	97	0.59	44	210
Residential SL			31	11	15,000	15	5.2	36,000 ²	23	3,100	80	1.0	390	490	390	390	23,000
SL Source¹			USEPA	Duvergé	USEPA	Cal/EPA	Cal/EPA	Cal/EPA	USEPA	USEPA	Cal/EPA	Cal/EPA	USEPA	Cal/EPA	USEPA	USEPA	USEPA

Notes:

Only compounds detected above the laboratory reporting limit are included in the table and are shown in **bold**.

Metals data are reported in milligrams per kilogram (mg/kg), unless noted otherwise.

California Assessment Manual 17 (CAM17) metals analyzed by EPA Method 6020

1 - Screening Level Sources:

California Environmental Protection Agency (Cal/EPA). 2016. Human Health Risk Assessment (HHRA) Note Number 3, Issue: DTSC recommended methodology for use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment process at hazardous waste sites and permitted facilities. January.

Duvergé, Dylan Jacques. 2011. Establishing Background Arsenic in Soil of the Urbanized San Francisco bay Region.

United States Environmental Protection Agency (USEPA). 2016. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May.

2 - SLs reported for chromium(III), insoluble salts

" -- " = not available

bgs = below ground surface

NA = Not analyzed

ND = not detected at or above the laboratory reporting limit shown

SL = screening level

Table 2: Pesticides in Soil Samples*
496 and 500 Sam Cava Lane, Campbell, California

Sample ID	Depth Below Ground Surface (feet)	Sample Date	a-Chlordane	g-Chlordane	p,p-DDT
BC01	8	7/6/2016	ND<0.0010	ND<0.0010	ND<0.0010
BC02	8	7/6/2016	0.0011	0.0012	ND<0.0010
BC03	7	7/6/2016	ND<0.0010	ND<0.0010	ND<0.0010
F01	--	7/6/2016	ND<0.0010	ND<0.0010	ND<0.0010
F02	--	7/6/2016	0.0014	0.0018	ND<0.0010
F03	--	7/6/2016	0.022	0.012	0.011
Residential SL			0.43	0.43	1.9
SL Source¹			Cal/EPA	Cal/EPA	USEPA

Notes:

*All soil samples were also analyzed for PCBs, no PCBs were detected above the laboratory reporting limits. Only compounds detected above the laboratory reporting limit are included in the table and are shown in **bold**. All data are reported in milligrams per kilogram (mg/kg).

Organochlorine pesticides (OCPs) analyzed by EPA Method 8081A.
 Polychlorinated biphenyls (PCBs) analyzed by EPA Method 8082.

1 - Screening Level Source:

California Environmental Protection Agency (Cal/EPA). 2016. Human Health Risk Assessment (HHRA) Note Number 3, Issue: DTSC recommended methodology for use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment process at hazardous waste sites and permitted facilities. January.

United States Environmental Protection Agency (USEPA). 2016. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May.

" -- " = not available

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenylethylene

DDT = dichlorodiphenyltrichloroethane

ND = not detected at or above the laboratory reporting limit shown

OCP = organochlorine pesticide

PCB = polychlorinated biphenyl

SL = screening level

Table 3: TPH in Soil Samples
496 and 500 Sam Cava Lane, Campbell, California

Sample ID	Depth Below Ground Surface (feet)	Sample Date	Total Petroleum Hydrocarbons (TPH)		
			TPH(g)	TPH(d)	TPH(mo)
BC01	8	7/6/2016	ND<1.0	ND<1.0	ND<5.0
BC02	8	7/6/2016	ND<1.0	ND<1.0	ND<5.0
BC03	7	7/6/2016	ND<1.0	ND<1.0	ND<5.0
F01	--	7/6/2016	ND<1.0	ND<1.0	ND<5.0
F02	--	7/6/2016	ND<1.0	ND<1.0	ND<5.0
F03	--	7/6/2016	ND<1.0	1.3	22
Residential SL¹			82	96	2,500

Notes:

Only compounds detected above the laboratory reporting limit are included in the table and are shown in **bold**.

All data are reported in milligrams per kilogram (mg/kg), unless noted otherwise

Total petroleum hydrocarbons (TPH) analyzed by EPA Method 8015

" -- " = not available

mg/kg = milligrams per kilogram

ND = not detected at or above the laboratory reporting limit shown

SL = screening level

TPH(g) = total petroleum hydrocarbons gasoline range (C6-C12)

TPH(d) = total petroleum hydrocarbons diesel range (C10-C23)

TPH(mo) = total petroleum hydrocarbons motor oil range (C18-C36)

1 - Screening Level Source:

United States Environmental Protection Agency (USEPA). 2016. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May.

Appendices are available at Campbell City
Hall, Planning Division, 70 N 1st St.,
Campbell, CA 95008

APPENDIX A
SITE PHOTOGRAPHS

APPENDIX B ENVIRONMENTAL DATABASE REPORT

NOTES ON ENVIRONMENTAL DATABASE REPORT

EDR conducted its searches for the standard environmental record sources and the minimum search distances, as specified by the ASTM Standard. The ASTM Standard uses the terminology “approximate minimum search distance” to refer to the radii searched in the environmental database report.

EDR conducted the search of environmental databases in June 2016. Because the environmental databases themselves are sometimes not updated by the specific regulatory agencies for periods of up to one year or more (depending on the database and the state), the database search conducted herein will not necessarily list any facility or site for which an environmental investigation/listing has been initiated subsequent to the last update.

APPENDIX C
HISTORICAL RESEARCH DOCUMENTATION

APPENDIX C.1
TOPOGRAPHIC MAPS

APPENDIX C.2
AERIAL PHOTOGRAPHS

APPENDIX C.3
ABSTRACT OF CITY DIRECTORIES

APPENDIX C.4
HISTORICAL FIRE INSURANCE MAPS

APPENDIX D
ENVIRONMENTAL LIEN SEARCH REPORT

APPENDIX E
LABORATORY ANALYTICAL REPORTS

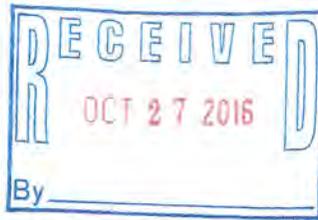
APPENDIX F
QUALIFICATIONS OF ENVIRONMENTAL
PROFESSIONALS

ATTACHMENT 4

"WILL SERVE" LETTERS (4)



1265 S. Bascom Ave.
San Jose, CA 95128-3514



Writer's Direct Line: (408) 279-7874
Email: jim.bariteau@sjwater.com

October 26, 2016

City of Campbell
Department of Public Works
70 North First Street
Campbell, CA 95008

Attention: Daniel Fama

REFERENCE: 6 Lot Subdivision
500 Sam Cava Avenue, Campbell
APN 412-08-045

Gentlemen:

Please be informed that the above-referenced property is within the jurisdiction of San Jose Water Company. We will serve further development of the site in accordance with our rules and regulations in effect and on file with the California Public Utilities Commission.

If you have any questions, or require further information, please contact this office at the number indicated above.

Sincerely,

SAN JOSE WATER COMPANY

A handwritten signature in blue ink that reads 'James R. Bariteau'. The signature is written in a cursive style with a large initial 'J'.

JAMES R. BARITEAU
Senior Water Services Representative

JRB:mmr
500 Sam Cava Avenue (Will Serve).doc

This letter e-mailed and mailed to: Richard Yee w/Robson Homes

September 20, 2016



10900 N Blaney Ave.
Cupertino, CA 95014

Madison Park of Campbell, LLC
2185 The Alameda, Ste 150
San Jose, CA 95126

RE: 500 SAM CAVA LANE, CAMPBELL, CA 95008

This letter has been created to satisfy your request of a Will Serve Letter to the referenced project.

Pacific Gas & Electric Company will be the provider of the electric and gas utility for the above-mentioned project. This letter is to inform you that we have facilities within the area that can be used to serve your project assuming any rights of way, if needed, are secured.

Application, contract, right-of-way, and moneys are due prior to construction. Be certain to keep in close contact with your PG&E Business Representative. This will insure that any changes or delays in your plans will not affect PG&E's ability to design and construct your service facilities in a manner that best meets your needs.

Please call if there are any questions.

Sincerely,

Esteban Macias, Senior New business Rep
PG&E Service Planning Department
E2M6@pge.com
408-725-3326



September 20, 2016

Richard Yee
Madison Park of Campbell, LLC
2185 The Alameda, Suite 150
San Jose, CA 95126
Ryee@robsonhomes.com

Re: 500 Sam Cava Lane, Campbell - Will Serve Letter

Dear Mr. Yee:

This letter will serve as West Valley Sanitation District's (District) "WILL SERVE" for the proposed six townhome development at 500 Sam Cava Lane in the City of Campbell.

Pursuant to District Ordinance Code Section 10.130, the owner is required to pay all applicable fees prior to the recordation of the Final Map. The District will provide clearance for recordation of the Final Map after the fees are paid.

Please contact me at (408)385-3030 or akam@westvalleysan.org if you have any questions regarding this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alan Kam', is written over a light blue horizontal line.

Alan Kam
Senior Civil Engineer



Comcast Cable
3055 Comcast Place
Livermore, CA 94551

October 4, 2016

Richard Yee
Madison Park of Campbell, LLC
2185 The Alameda, Suite 150
San Jose, CA 95126

RE: Comcast Broadband Communications Services Availability at – 500 Sam Cava Lane, Campbell CA 95126.

Dear Richard:

This letter is to confirm that your proposed project located at - 500 Sam Cava Lane, Campbell CA 95126.

Under its present plans, and upon owner's/developer's completion of the service application documents, Comcast expects to be in a position to provide its services to occupants in the referenced projects. Our broadband services include television, high-speed internet, and telephone services.

Arrangements to install the necessary service facilities are being made in accordance with Comcast's wiring infrastructure specifications and requirements.

If you have any further questions, please feel free to give me a call. I look forward to working with you in the near future.

Sincerely,

A handwritten signature in blue ink that reads "Tom Blackburn".

Tom Blackburn
Comcast
MDU Operations
MDU_Opsteam@cable.comcast.com
(925) 424-0147

ATTACHMENT 5

DRAFT ENVIRONMENTAL NOISE FEASIBILITY STUDY