CITY OF CUPERTINO
COMMUNITY DEVELOPMENT DEPARTMENT

CUPERTINO

Orange Avenue Lot Split Project

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

October 2017

RANEY
PLANNING & MANAGEMENT, INC.

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INITIAL STUDY

October 2017

A. BACKGROUND

1. Project Title: Orange Avenue Lot Split Project

2. Lead Agency Name and Address: City of Cupertino
Community Development Department
10300 Torre Avenue
Cupertino, CA 95014-3255

3. Contact Person and Phone Number: Gian Paolo Martire
Associate Planner
(408) 777-3319

4. Project Location: 10206 and 10208 Orange Avenue
Cupertino, CA 95014

5. Project Sponsor's Name and Address: Joseph and Doris C. Adamo Trust
3255 West March Lane, 4th Floor
Cupertino, CA

6. General Plan Designation: Residential (4.4-7.7 du/ac)

7. Zoning Designation: Planned Development [P(Res 4.4-7.7)]

8. Project Description Summary:

The Orange Avenue Lot Split Project is located within the Monta Vista Village Specific Plan area at 10206 and 10208 Orange Avenue in the City of Cupertino, California. The proposed project site is bordered by Orange Avenue to the west, and by existing one- and two-story single-family residential development to the north, east, and south. Additional single-family homes are located west of the site across Orange Avenue. The project would include demolition of a small number of existing on-site structures and subdivision of the 12,960-square-foot property into two approximately 6,000-square-foot lots. The site would be redeveloped with two single-family residences. In addition, the proposed project would include widening of Orange Avenue along the project frontage.

B. SOURCES

All of the technical reports and modeling results used for the project analysis are available upon request at the Cupertino City Hall, located at 10300 Torre Avenue in Cupertino, California. The City Hall is open between 7:30 AM and 5:30 PM, Monday through Thursday, and between 7:30 AM and 4:30 PM on Friday. The following documents are referenced information sources used for purposes of this Initial Study/Mitigated Negative Declaration:

1. Bay Area Air Quality Management District. *California Environmental Quality Act, Air Quality Guidelines.* May 2017.
2. Bay Area Air Quality Management District. *Plans & Climate*. Available at: http://www.baaqmd.gov/plans-and-climate. Accessed September 2017.
3. California Department of Conservation. *Santa Clara County Important Farmland Map 2014.* Published October 2016.
4. California Department of Conservation. *Special Studies Zones, Cupertino Quadrangle.* Effective July 1, 1974.
5. California Department of Forestry and Fire Protection. *Santa Clara County, Very High Fire Hazard Severity Zones in LRA*. October 8, 2008.
6. California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List.* Available at: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm. Accessed March 2017.
7. California Department of Transportation. *California Scenic Highway Mapping System*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed March 2017.
8. California Department of Transportation. *Transportation and Construction Vibration, Guidance Manual.* September 2013.
9. City of Cupertino. *Emergency Operations Plan.* September 2005.
10. City of Cupertino. *General Plan Amendment, Housing Element Update, and Associated Rezoning Draft EIR.* June 18, 2014.
11. City of Cupertino. *General Plan: Community Vision 2015 – 2040.* Adopted October 20, 2015.
12. Institute of Transportation Engineers. *Trip Generation Handbook, 9th Edition*. September 2012.
13. McCloskey Consultants, Inc. *Soil Remediation Plan, 10206 Orange Avenue, Cupertino, California.* September 19, 2017.
14. Running Moose Environmental Consulting, LLC. *Phase I Environmental Site Assessment, 10206 and 10208 Orange Avenue, Cupertino, California 95014.* June 27, 2016.
15. Santa Clara Valley Transportation Authority. 2013 *Congestion Management Program*. October 2013.

C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

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

D. DETERMINATION

On the basis of this initial study:

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

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

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

______________________________	______________________________
Signature	Date
Gian Paolo Martire, Associate Planner	City of Cupertino
Printed Name	For

E. BACKGROUND AND INTRODUCTION

This Initial Study identifies and analyzes the potential environmental impacts of the Orange Avenue Lot Split Project (proposed project). The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. Where the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures are prescribed.

The mitigation measures prescribed for environmental effects described in this Initial Study/Mitigated Negative Declaration (IS/MND) would be implemented in conjunction with the project, as required by CEQA. The mitigation measures would be incorporated into the project through project conditions of approval. The City would adopt findings and a Mitigation Monitoring/Reporting Program for the project in conjunction with approval of the project.

On October 20, 2015, the City of Cupertino adopted an amended General Plan[1] and an associated Environmental Impact Report (EIR).[2] The General Plan EIR is a program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations, Sections 15000 *et seq*.). The General Plan EIR analyzed full implementation of the General Plan and identified measures to mitigate the significant adverse impacts associated with buildout of the General Plan. The proposed project would be consistent with the General Plan; therefore, in accordance with Section 15150 of the CEQA Guidelines (Section 21083.3 of the Public Resources Code), this IS/MND will tier from the previously certified EIR (SCH# 2014032007) prepared for the City's General Plan where appropriate.

F. PROJECT DESCRIPTION

The following provides a description of the project site's current location and setting, as well as the proposed project components and the discretionary actions required for the project.

Project Location and Setting

The proposed project site consists of an approximately 12,960-square-foot (0.3-acre) property located within the Monta Vista Village Specific Plan area at 10206 and 10208 Orange Avenue in the City of Cupertino, California (see Figure 1 and Figure 2). The site is identified by Assessor's Parcel Number (APN) 357-18-032 and is zoned Planned Development [P(Res 4.4-7.7)]. The City's General Plan designates the site as Residential (4.4-7.7 du/ac). The proposed project site is bordered by Orange Avenue to the west, and by existing one- and two-story single-family residential development to the north, east, and south. Additional single-family homes are located west of the site across Orange Avenue. The nearest major roadway, Stevens Creek Boulevard, is located approximately 1,000 feet north of the site along Orange Avenue.

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1 City of Cupertino. *General Plan: Community Vision 2015 – 2040*. Adopted October 20, 2015.

2 City of Cupertino. *General Plan Amendment, Housing Element Update, and Associated Rezoning Draft EIR*. June 18, 2014.

Figure 1
Regional Project Location

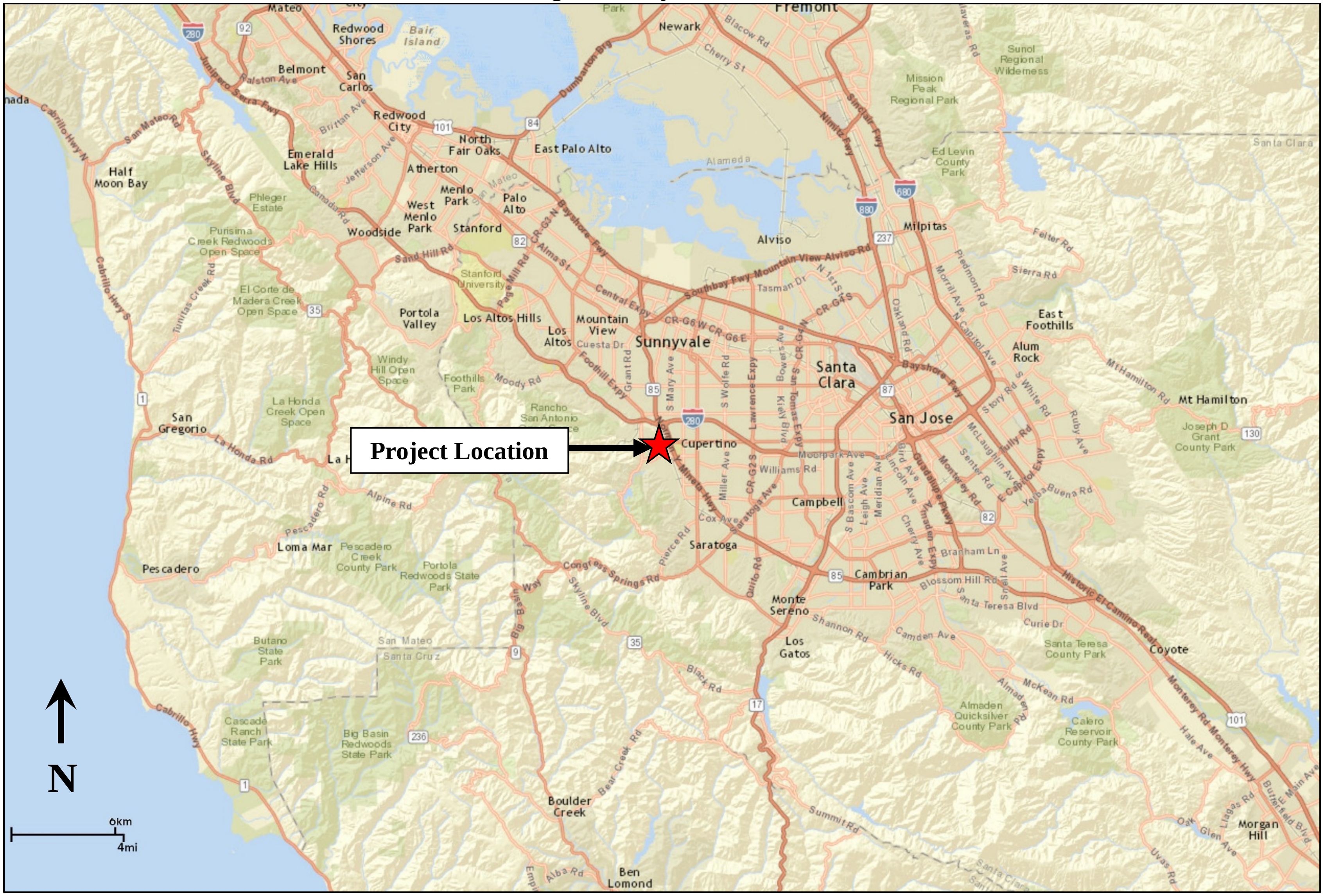
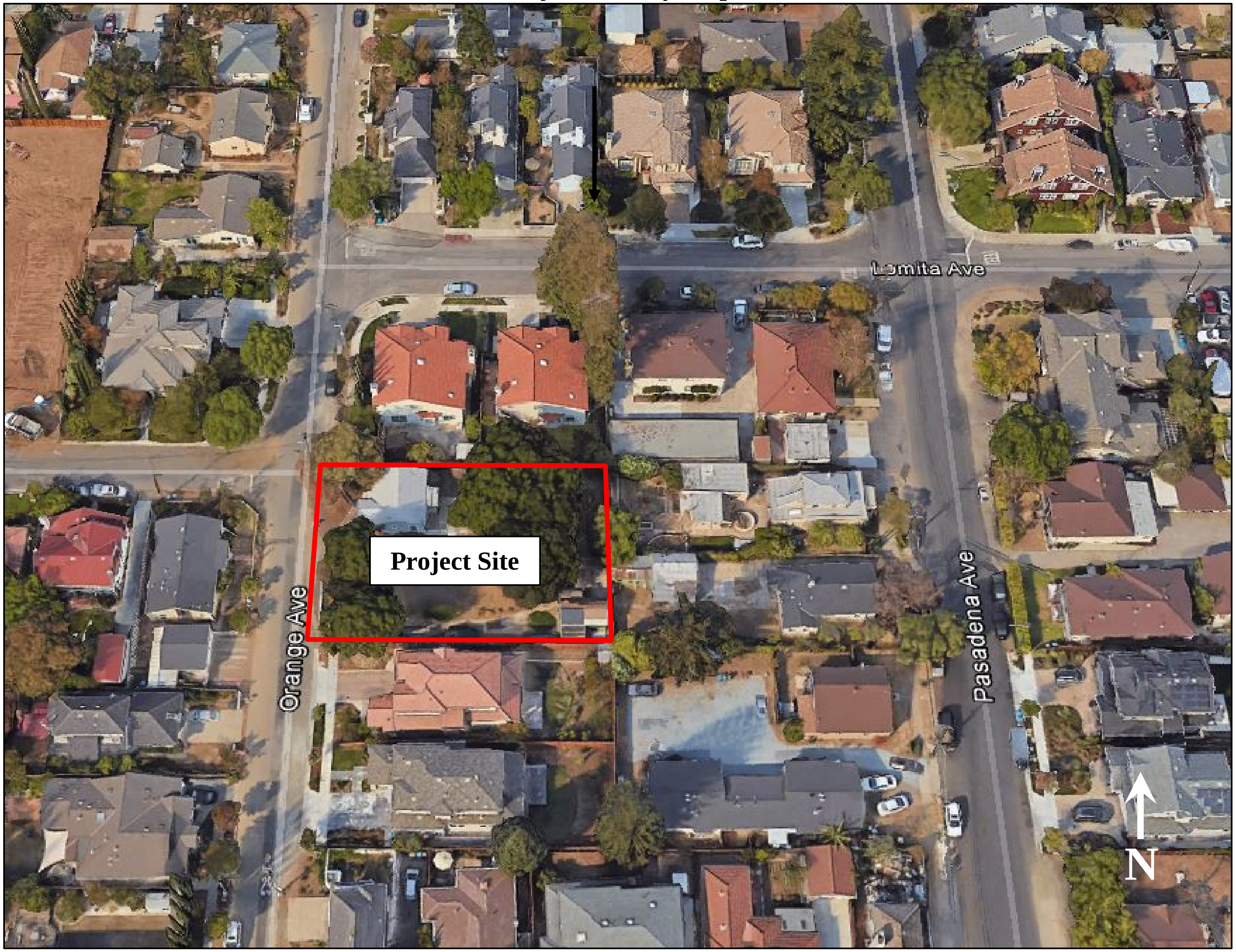


Figure 2
Project Vicinity Map



The proposed project site currently contains two small residential structures (approximately 900 and 400 square feet, respectively), as well as a detached garage that has been converted into a studio (approximately 200 square feet). Access to the garage is provided by a gravel driveway. Both residences are connected to below-ground septic systems. A 100-square-foot shed and a concrete patio are also present on the site. The 900-square-foot residence adjacent to Orange Avenue is currently occupied, while the remaining on-site structures are vacant.

The 400-square-foot residence is located in the southeast portion of the site, and is separated from the remainder of the site by wire fencing. Access to the residence is provided by a dirt driveway that extends eastward from Orange Avenue. A small orchard was present on the undeveloped portion of the site near the residence in the mid-1950s; however, agricultural operations associated with the orchard have long since ceased and the orchard is no longer present.[3] Vegetation present on the site consists of scattered grasses and other weedy vegetation, as well as a small number of trees. The site does not contain any aquatic or riparian habitat.

Project Components

The proposed project would include demolition of the existing on-site structures, removal of on-site trees (as necessary), subdivision of the 12,960-square-foot property into two approximately 6,000-square-foot lots, and redevelopment of the site with two single-family residences (see Figure 3). In addition, the proposed project would include widening of Orange Avenue along the project frontage. The project would be consistent with the existing zoning and General Plan land use designations for the site.

As shown in Figure 4 below, both of the proposed single-family residences would be two stories and would include attached garages and rear patio areas. Sewer and water service for the proposed residences would be provided by the City by way of connections to existing sanitary sewer and water supply lines located in Orange Avenue. Approximately 960 square feet of land along the western portion of the site would be dedicated to the City, and the portion of Orange Avenue fronting the project site would be widened to extend approximately ten feet into the dedicated area (see Figure 3). New paved driveways would connect the garages of the two residences to the widened roadway.

On-site runoff would be captured by a new series of swales bordering the northern and southern sides of both of the proposed residences (see Figure 4). The swales would convey runoff to the backyard area of the residences and route stormwater into a set of new six-inch diameter drywells (see Figure 5). Runoff from the swales would enter the inlets at the top of the drywells and would percolate through a layer of drain rock and filter fabric, allowing for stormwater to slowly infiltrate the underlying soils. Each set of two drywells would be connected by a six-inch perforated pipe set in a dissipation trench.

3 Running Moose Environmental Consulting, LLC. *Phase I Environmental Site Assessment, 10206 and 10208 Orange Avenue, Cupertino, California 95014.* June 27, 2016.

Figure 3
Conceptual Site Plan

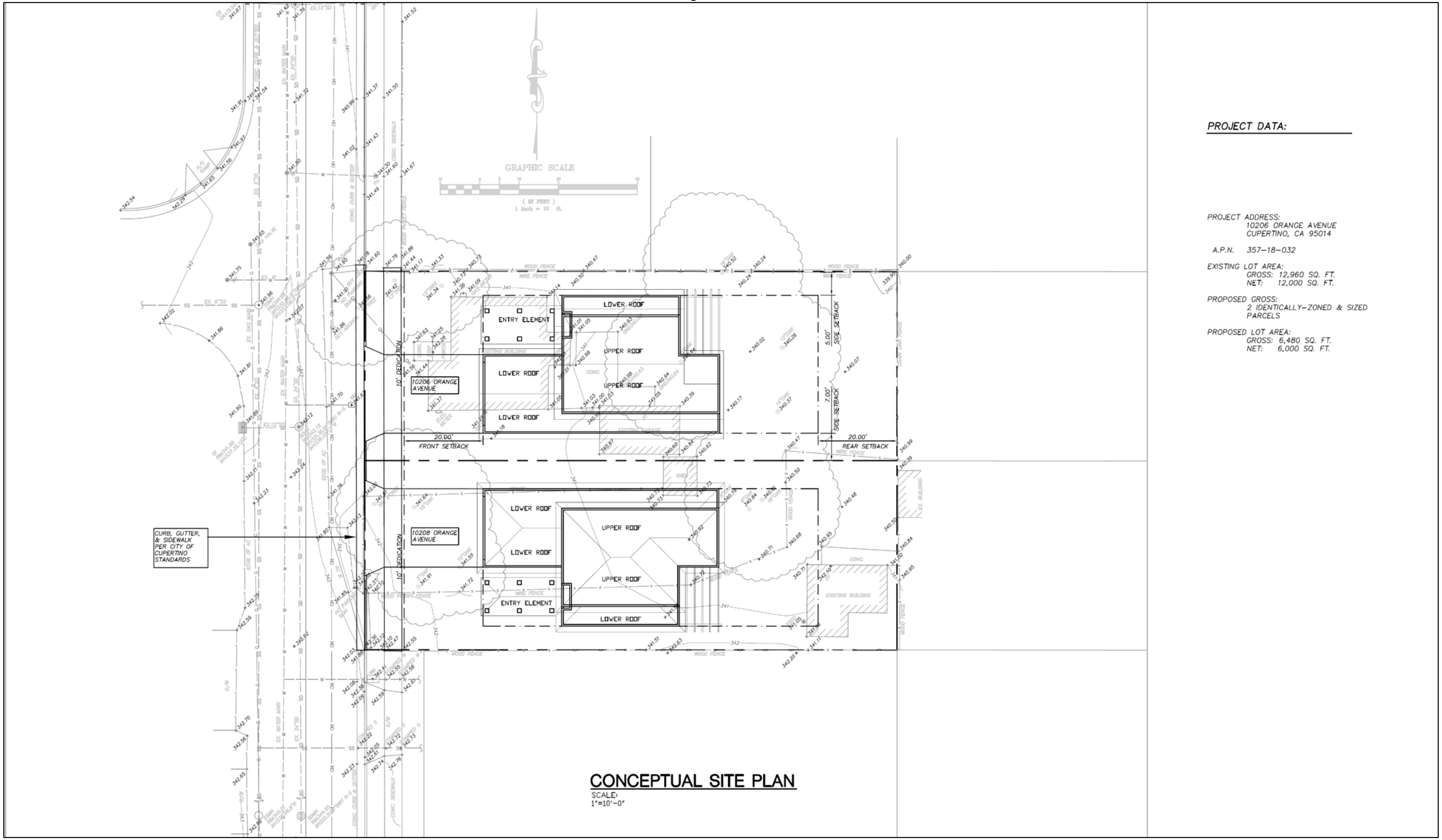


Figure 4
Conceptual Grading and Drainage Plan

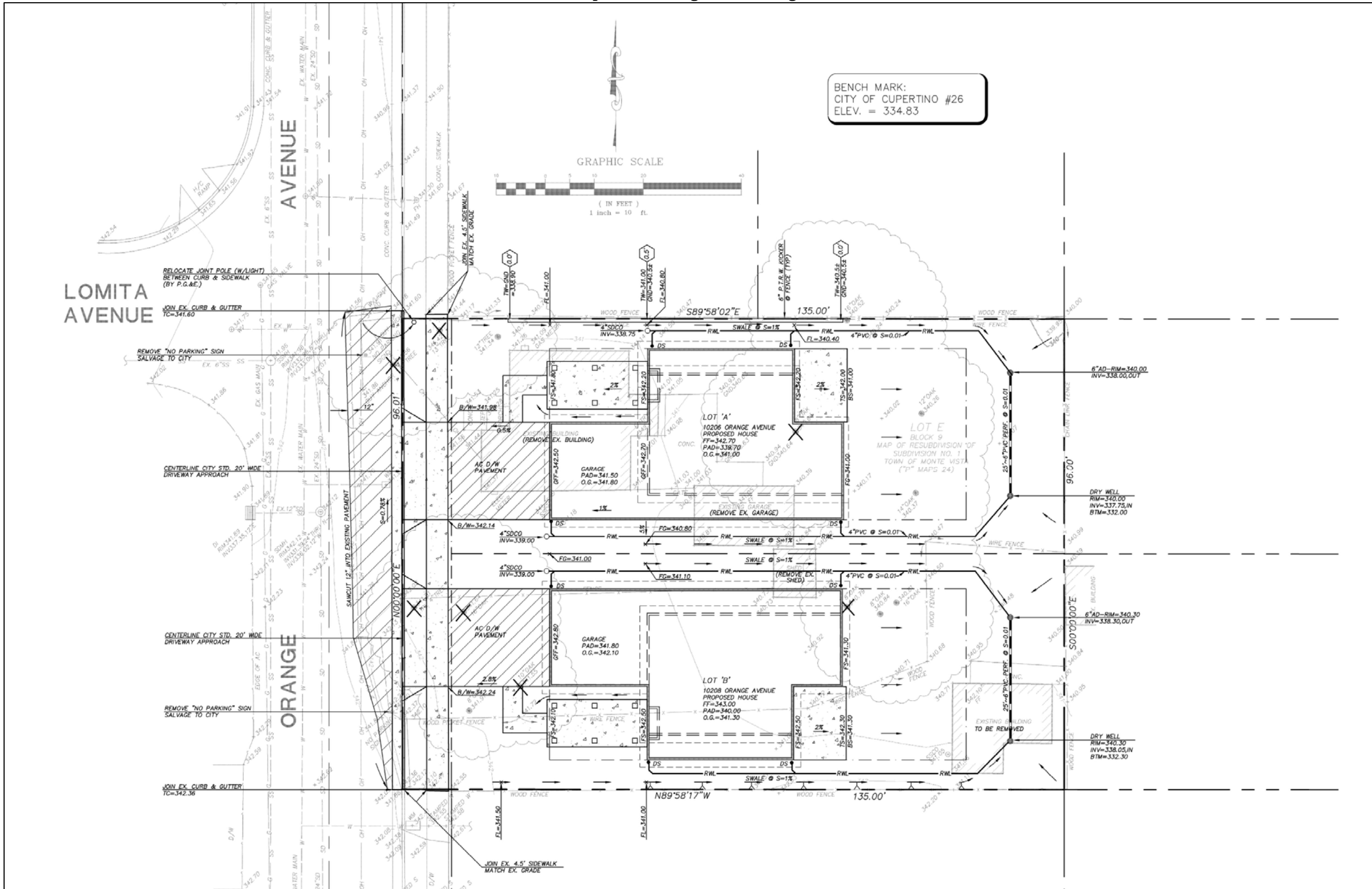
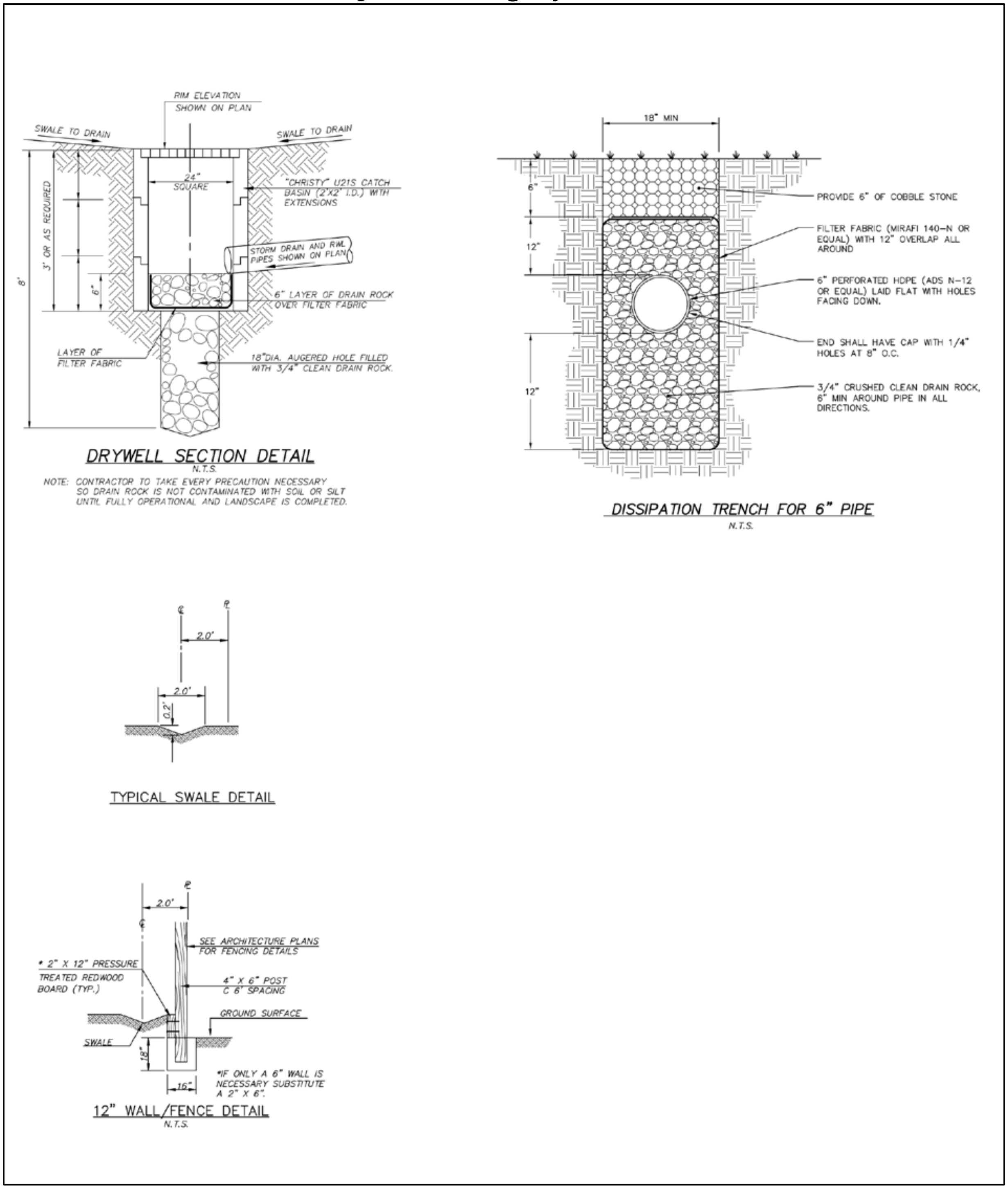


Figure 5
Proposed Drainage System Detail



Discretionary Action

Implementation of the proposed project would require City approval of a Tentative Subdivision Map to subdivide the proposed project site into two approximately 6,000-square-foot lots (see Figure 6).

G. ENVIRONMENTAL CHECKLIST

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are project-specific mitigation measures recommended, as appropriate, as part of the proposed project.

For this checklist, the following designations are used:

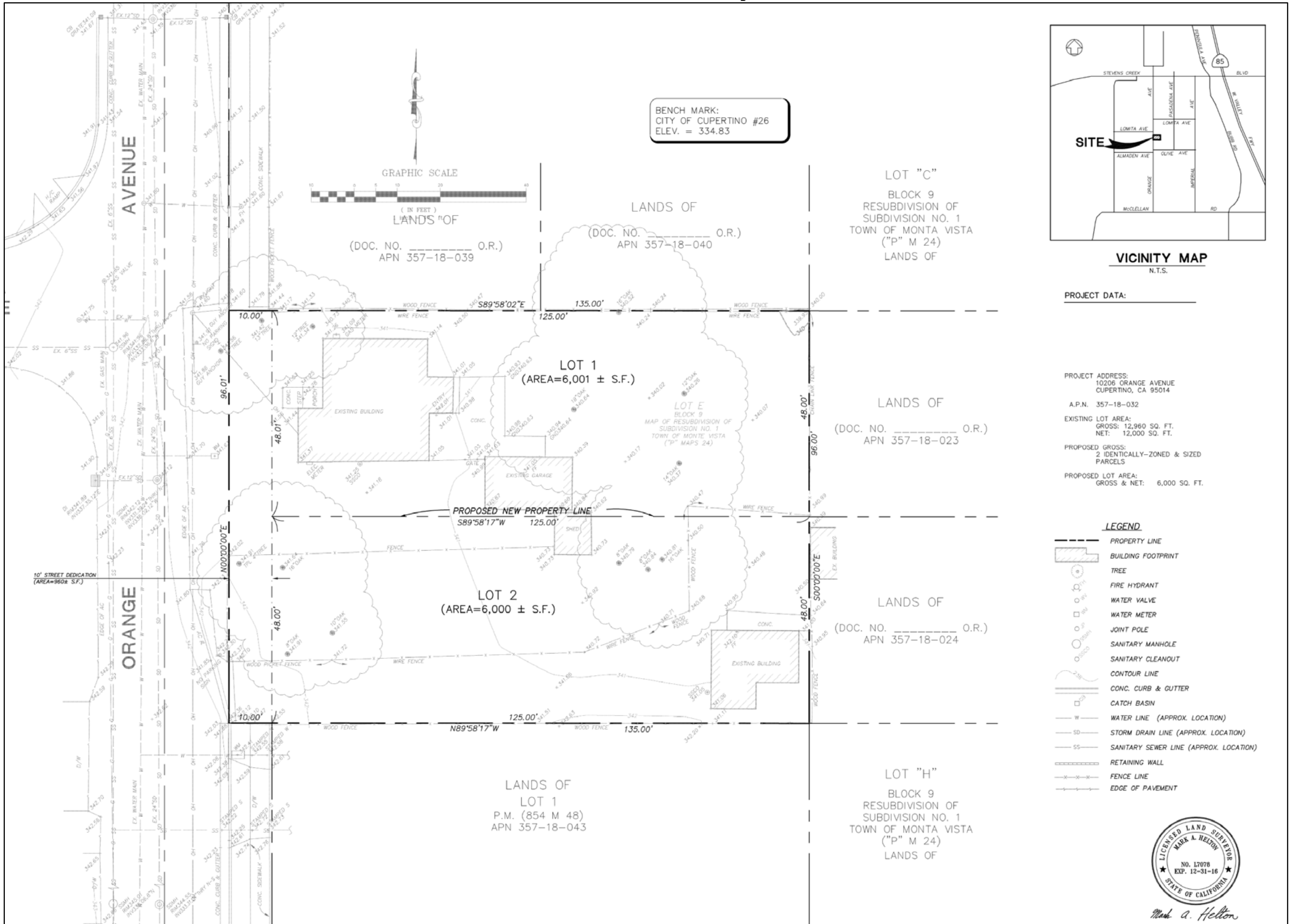
Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

Figure 6
Tentative Subdivision Map



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

Discussion

a,b. Examples of typical scenic vistas would include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project's impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. Given that the proposed project site is currently developed and is located in a residential neighborhood, redevelopment of the site with two single-family homes would not obstruct views of a scenic vista. Furthermore, according to the California Scenic Highway Mapping System, the proposed project site is located approximately 4.4 miles north of the nearest State Scenic Highway, State Route (SR) 9, and approximately 0.85 mile south of Interstate 280 (I-280), an Eligible State Scenic Highway.[4] Neither SR 9, nor Interstate 280, are visible from the project site.

Based on the above discussion, the proposed project would not have a substantial adverse effect on a scenic vista and would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. Thus, ***no impact*** would occur related to such.

c. Distinguishing between public and private views is important when evaluating changes to visual character or quality, because private views are views seen from privately-owned land and are typically associated with individual viewers, including views from private residences. Public views are experienced by the collective public, and include views of significant landscape features and along scenic roads. According to CEQA (Pub. Resources Code, § 21000 et seq.) case law, only public views, not private views, are protected under CEQA. For example, in *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal.App.4th 720 [3 Cal. Rptr.2d 488], the court determined that "we must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. As recognized by the court in *Topanga Beach Renters*

[4] California Department of Transportation. *California Scenic Highway Mapping System*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed March 2017.

Assn. v. Department of General Services (1976) 58 Cal.App.3d 188 [129 Cal.Rptr. 739]: '[A]ll government activity has some direct or indirect adverse effect on some persons. The issue is not whether [the project] will adversely affect particular persons but whether [the project] will adversely affect the environment of persons in general.'" Therefore, the focus in this section is on potential impacts to public views. Sensitive public viewers in the surrounding area would primarily consist of motorists, pedestrians, and bicyclists travelling on Orange Avenue.

Views of the proposed project site from Orange Avenue currently consist of the existing on-site single-family residences, the two existing on-site driveways, and various trees and shrubs located on the southern portion of the site. The project site is bordered on the north and south by two-story single-family residences. The proposed project would include demolition of the existing structures, removal of a majority of the on-site vegetation, and redevelopment of the site with two single-family residences. As discussed previously, Orange Avenue would be widened along the project frontage. The proposed residences would be designed to be visually congruous with the existing residences to the north and south of the project site.

Given that the site is already developed with residential uses, and the project would be consistent with the surrounding single-family residential development, the project would not substantially degrade the aesthetic character or quality of the site for motorists, pedestrians, and bicyclists travelling along Orange Avenue. In addition, the project would be consistent with the site's existing zoning and General Plan land use designation. As such, changes to aesthetic character and quality associated with buildout of the site have been previously analyzed in the General Plan EIR. Therefore, impacts related to degrading the existing visual character of the site and its surroundings would be ***less than significant***.

d. The project site is currently developed with residential structures, and, thus, the site contains existing sources of light and glare associated with such, including, but not limited to, headlights on cars using the on-site driveways, exterior light fixtures, and interior light spilling through windows. In addition, the site is surrounded by existing residential development that currently generates light and glare in the area. Therefore, redevelopment of the site with two residential homes would not introduce new sources of substantial light or glare to the site which would adversely affect day or nighttime views in the area, and implementation of the project would result in a ***less-than-significant*** impact.

II. AGRICULTURE AND FOREST RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	✖
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	✖
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	✖
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	✖
e. Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use?	☐	☐	☐	✖

Discussion

a,e. The proposed project site is currently developed with residential uses and is surrounded by existing residential development. While the project site historically contained an orchard, the site has not been used recently for agricultural production[5] and is currently designated as “Urban and Built-Up Land” on the Santa Clara County Important Farmland map.[6] Furthermore, the site is not zoned or designated in the General Plan for agriculture uses. Given the designation of the site as Urban and Built-Up Land, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, or otherwise result in the loss of Farmland to non-agricultural use. Therefore, ***no impact*** would occur as a result of the proposed project.

b. The proposed project site is not under a Williamson Act contract and is not designated or zoned for agricultural uses. Therefore, buildout of the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and ***no impact*** would occur.

c,d. The project site is not considered forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), and is not zoned Timberland Production (as defined by Government Code section 51104[g]). In

5 Running Moose Environmental Consulting, LLC. *Phase I Environmental Site Assessment, 10206 and 10208 Orange Avenue, Cupertino, California 95014.* June 27, 2016.

6 California Department of Conservation. *Santa Clara County Important Farmland Map 2014.* Published October 2016.

addition, the General Plan land use designation for the site is Low-Density Residential. Therefore, the proposed project would have ***no impact*** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✖	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	✖	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	✖	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✖	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	✖	☐

a-c. The City of Cupertino is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for the State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), and State respirable particulate matter 10 microns in diameter (PM_{10}) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour $PM_{2.5}$ federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal $PM_{2.5}$ AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2010 Clean Air Plan (CAP), adopted on September 15, 2010. The 2010 CAP was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM_{10} standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2010 CAP. The control strategy serves as the backbone of the BAAQMD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD's established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_x), as well as for PM_{10}, and $PM_{2.5}$, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. By exceeding the BAAQMD's mass emission thresholds for operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$ a project would be considered to conflict with or obstruct implementation of the BAAQMD's air quality planning efforts.

Table 1
BAAQMD Thresholds of Significance

	Construction	Operational	
Pollutant	**Average Daily Emissions (lbs/day)**	**Average Daily Emissions (lbs/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

Source: BAAQMD, CEQA Guidelines, May 2017.

The proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2016.3.1 - a Statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition, vehicle mix, trip length, average speed, etc. However, where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's modeling assumed the following:

- Construction was assumed to occur over an approximately eight-month period;
- The total building area to be demolished was assumed to be approximately 1,500 square feet;
- A total of approximately 0.3-acre of land would be disturbed during site preparation;

- A total of 300 cubic yards of material would be exported during site preparation, including soil remediation; and
- The proposed project would comply with the 2016 California Building Energy Efficiency Standards Code.

All CalEEMod results are included in Appendix A to this IS/MND.

The proposed project's estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project's contribution to cumulative air quality conditions is provided below as well.

Construction Emissions

According to the CalEEMod results, the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As shown in the table, the proposed project's construction emissions would be well below the applicable thresholds of significance for ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Table 2
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
ROG	1.72	54	**NO**
NO_X	13.04	54	**NO**
PM_{10} (exhaust)	0.86	82	**NO**
PM_{10} (fugitive)	0.83	None	**N/A**
$PM_{2.5}$ (exhaust)	0.80	54	**NO**
$PM_{2.5}$ (fugitive)	0.44	None	**N/A**

Source: CalEEMod, October 2017 (see Appendix A).

Although thresholds of significance for mass emissions of fugitive dust PM_{10} and $PM_{2.5}$ have not been identified by the City of Cupertino or BAAQMD, the proposed project's estimated fugitive dust emissions have been included for informational purposes. All projects within the jurisdiction of the BAAQMD are required to implement all of the BAAQMD's Basic Construction Mitigation Measures, which include the following:

1. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
2. 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.
3. All vehicle speeds on unpaved roads shall be limited to 15 mph.
4. All roadways, 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.
5. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California

airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer‘s specifications. All equipment shall be checked by a certified visible emissions evaluator.
7. Post a publicly visible sign 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. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project’s required implementation of the BAAQMD’s Basic Construction Mitigation Measures listed above, to the extent that the measures are feasible for the proposed project’s construction activities, would help to further minimize construction-related emissions. Because the proposed project would be below the applicable thresholds of significance for construction emissions, the proposed project would not be considered to result in a significant air quality impact during construction.

Operational Emissions

According to the CalEEMod results, the proposed project would result in maximum unmitigated operational criteria air pollutant emissions as shown in Table 3. As shown in the table, the proposed project’s operational emissions would be below the applicable thresholds of significance. Because the proposed project’s operational emissions would be below the applicable thresholds of significance, the proposed project would result in a less-than-significant air quality impact during operations.

Table 3
Maximum Unmitigated Operational Emissions

Pollutant	**Proposed Project Emissions**		**Threshold of Significance**		**Exceeds Threshold?**
	lbs/day	**tons/yr**	**lbs/day**	**tons/yr**	
ROG	2.21	0.03	54	10	**NO**
NO_X	0.21	0.03	54	10	**NO**
PM_{10} (exhaust)	0.38	0.00	82	15	**NO**
PM_{10} (fugitive)	0.09	0.02	None	None	**N/A**
$PM_{2.5}$ (exhaust)	0.38	0.00	54	10	**NO**
$PM_{2.5}$ (fugitive)	0.03	0.00	None	None	**N/A**

Source: CalEEMod, October 2017 (see Appendix A).

Cumulative Emissions

Past, present and future development projects contribute to the region’s adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project’s individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project’s contribution to the cumulative impact is considerable, then the project’s impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project's emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region's existing air quality conditions. Because the proposed project would result in emissions below the applicable thresholds of significance for both construction and operation, the project would not result in a cumulatively considerable contribution to the region's existing air quality conditions.

<u>Conclusion</u>

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2010 CAP. According to BAAQMD, if a project would not result in significant and unavoidable air quality impacts after the application of all feasible mitigation, the project may be considered consistent with the air quality plans. Because the proposed project would result in emissions below BAAQMD's thresholds of significance, the proposed project would not be considered to conflict with or obstruct the implementation of any regional air quality plans.

Based on the above, the proposed project would not 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. Thus, a ***less-than-significant*** impact would result.

d. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest existing sensitive receptors to the project site would be the single-family residences located immediately to the east, south, and west of the site. In addition, the proposed project would include the construction of housing, and, thus, would be considered a sensitive receptor.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and TAC emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood. CO emissions are particularly related to traffic levels.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- 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;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- 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, underpass, etc.).

As discussed in the Transportation and Circulation section of this IS/MND, the proposed project would not conflict with the Santa Clara Valley Transportation Authority (VTA) Congestion Management Plan (CMP).[7] In addition, the proposed project would be anticipated to generate a total of 19 average daily trips (ADT). Given the relatively small number of trips that would be generated, the project would not substantially affect traffic volumes at intersections in the project vicinity. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area. As such, based on the BAAQMD screening criteria, the proposed project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and

[7] Santa Clara Valley Transportation Authority. 2013 *Congestion Management Program*. October 2013.

constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. However, short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Nevertheless, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. In addition, construction activity (except for street construction) would be limited to daytime hours per Section 10.48.053 of the City’s Municipal Code.

Because construction equipment on-site would not operate for long periods of time and would occur on a relatively small scale, associated emissions of DPM would be minimal. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, sensitive receptors in the area would not be exposed to pollutants for a permanent or substantially extended period of time. Therefore, construction of the proposed project would not be expected to expose nearby sensitive receptors to substantial pollutant concentrations.

Conclusion

Based on the above, the proposed project would not expose any sensitive receptors to substantial concentrations of localized CO or TACs from construction or operation. Therefore, the proposed project would result in a ***less-than-significant*** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

e. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses. Residential land uses, such as the proposed single-family homes, are not typically associated with objectionable odors.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, as discussed above, construction activities would be temporary, and operation of construction equipment would be restricted to daytime hours per the City's Municipal Code. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize air pollutant emissions as well as any associated odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

It should be noted that BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects reduced to less than significant.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors affecting a substantial number of people, and a ***less-than-significant*** impact related to objectionable odors would result.

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

Discussion

a. The proposed project site comprises a 12,960-square-foot property located in a residential neighborhood. The site is currently developed with residential uses and is highly disturbed as a result. Vegetation present on the site consists of scattered grasses and other weedy vegetation, as well as a small number of trees. Landscaping on the site shows signs of stress due to lack of irrigation.[8] The proposed project site does not contain any aquatic or riparian habitat.

A query of CNDDB was performed in order to determine the potential plant and wildlife species that could occur within the proposed project site area. The Cupertino Quad was

[8] Running Moose Environmental Consulting, LLC. *Phase I Environmental Site Assessment, 10206 and 10208 Orange Avenue, Cupertino, California 95014*. June 27, 2016.

used as the search area. The CNDDB query results indicate 18 special-status plant and wildlife species that are known to occur within the project vicinity. However, due to the highly-disturbed nature of the project site, requisite habitat types for these special-status species are not found on-site. The species require aquatic, woodland, chaparral, or proximate open grassland habitat, which does not occur on-site or in the immediate project vicinity.

While special-status species would not occur on-site, migratory birds have the potential to nest within the on-site trees and shrubs. Birds and their nests are protected under California Fish and Wildlife Code (Sections 3503, 3503.5, 3513), and the Migratory Bird Treaty Act (MBTA). The proposed project would include removal of trees during construction, and, thus, could result in impacts to nesting raptors and migratory birds, potentially occurring in the trees. Therefore, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, and a ***potentially significant*** impact could result.

<u>Mitigation Measure(s)</u>
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

IV-1. *A pre-construction survey for nesting birds shall be conducted for the project site and a 250-foot radius around the project site by a qualified biologist not more than two weeks prior to site disturbance during the breeding season (February 1 to August 31). If site disturbance commences outside the breeding season, a pre-construction survey for nesting birds are not required. If active nests of migratory birds are not detected within approximately 250 feet of the project site, further mitigation is not required. Results of the survey shall be submitted to the Community Development Department.*

If nesting raptors or other migratory birds are detected on or within 250 feet of the site during the survey, a suitable construction-free buffer shall be established around all active nests. The dimensions of the buffer shall be a minimum of 75 feet for passerine birds and 250 feet for raptors. The buffer size may vary depending on location and species. The buffer areas shall be enclosed with temporary fencing, and construction equipment and workers shall not enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season or until a qualified biologist has confirmed that all chicks have fledged and are independent of their parents.

b,c. The project site is currently developed with residential uses, and, thus, is highly disturbed. The site does not contain any aquatic features or riparian habitat, and sensitive plant communities, including wetlands, do not exist on or near the site. As a result, the proposed project would not have a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands. Thus, ***no impact*** would occur.

d. The project site is surrounded by existing development and is not linked to any open space areas through which wildlife movement would occur. As noted above, the project does not contain streams or other waterways that could be used by migratory fish or as a wildlife corridor for other wildlife species. As such, the project would not interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Thus, ***no impact*** would occur.

e. Based upon the project plans, it is estimated that a total of 12 trees are located on-site, several of which are oak trees, and thus protected pursuant to Section 14.18.050 of the City's Municipal Code. Development of the project would require removal of on-site protected trees. In order to remove protected trees, the applicant must first obtain a tree removal permit from the City's Community Development Department and pay the permit fee. The information required when submitting a tree removal permit application, includes but is not limited to the following:

a. A drawing outlining the location of the tree(s) and proposed tree replacements.
b. A written explanation of why the tree(s) should be removed.

Furthermore, per Section 14.18.060 of the Municipal Code, the project applicant would be required to adopt a maintenance plan for any protected trees that would be retained as part of the project. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources, including the City's Municipal Code; and a ***less-than-significant*** impact would occur.

f. The City of Cupertino is not currently participatory to a Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Therefore, the project site is not located in an area with an approved HCP/NCCP, or local, regional, or State habitat conservation plan, and ***no impact*** would occur regarding a conflict with the provisions of such a plan.

V. CULTURAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	✖	☐
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	☐	☐	✖	☐
c. Directly or indirectly destroy a unique paleontological resource on site or unique geologic features?	☐	☐	✖	☐
d. Disturb any human remains, including those interred outside of formal cemeteries.	☐	☐	✖	☐

Discussion

a. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, or that embody the distinctive characteristics of a type, period, region or method of construction. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics. As discussed previously, the proposed project site currently contains two residences, a detached garage that has been converted to a studio, and a shed.

According to a Phase I Environmental Site Assessment (ESA) prepared for the proposed project by Running Moose Environmental Consulting, LLC, the northernmost residence on the site and the detached garage were constructed between 1939 and 1943, while the residence in the southeast portion of the site was constructed between 1948 and 1950. In order to determine whether the on-site structures constitute historical resources, the structures were evaluated using the California Register of Historic Resources (CRHR) and National Register of Historic Places (NRHP) eligibility criteria.

CRHR Criteria

The CRHR eligibility criteria include the following:

(1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
(2) It is associated with the lives of persons important to local, California, or national history;
(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
(4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

<u>NRHP Criteria</u>

The NRHP eligibility criteria include the following: "The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

(a) is associated with events that have made a significant contribution to the broad patterns of our history;
(b) is associated with the lives of a person or persons significance in our past;
(c) embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or
(d) has yielded or may be likely to yield information important in prehistory or history.

In addition, the resource must be at least 50 years old, except in exceptional circumstances.

<u>Conclusion</u>

The existing on-site structures are not associated with any significant historical events or narratives in the City of Cupertino or California, and are not likely to yield information important to the prehistory or history of the local area, California, or the nation. The proposed project site property has been owned by the Adamo Trust and used as a residential rental property since approximately 1989, prior to which the property was owned by the original land developer.[9] The site has not been occupied or owned by any persons important to local, State, or national history. Paint on the exterior of the single-family residences, as well as the detached garage/studio is in fair to poor condition, and is visibly peeling. Overall, the integrity of the structures has been diminished due to a lack of proper upkeep.

Based on the above, the on-site structures are not eligible for consideration as historical resources per the CRHR or NRHP eligibility criteria, and, thus, would not be considered historical resources. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource, and a ***less-than-significant*** impact would occur.

b-d. The proposed project site is currently developed with residential structures, and, thus, is highly disturbed. In addition, the site is located within a residential neighborhood. Due to the disturbed nature of the site and the surrounding area, the discovery of underlying archeological, paleontological, and/or tribal resources is not expected. However, unknown archaeological resources, including human bone, have the potential to be uncovered during ground-disturbing construction activities at the proposed project site.

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9 Running Moose Environmental Consulting, LLC. *Phase I Environmental Site Assessment, 10206 and 10208 Orange Avenue, Cupertino, California 95014* [pg. 7]. June 27, 2016.

In compliance with State law (Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code), as well as the City's standard conditions of approval, in the event human remains are encountered during grading and construction, all work within 50 feet of the find would be stopped, and the Santa Clara County Coroner's office would be notified. If the remains are determined to be Native American, the Coroner would notify the Native American Heritage Commission to identify the "Most Likely Descendant" (MLD). The City of Cupertino, in consultation with the MLD, would then prepare a plan for treatment, study, and re-internment of the remains.

Therefore, given that the proposed project would be required to comply with the City's standard conditions of approval regarding cultural resources, the project would not cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5, directly or indirectly destroy a unique paleontological resource or geological feature on site, or disturb human remains, including those interred outside of formal cemeteries. Therefore, impacts would be considered ***less than significant***.

VI. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Pub. 42)?	☐	☐	✖	☐
ii. Strong seismic ground shaking?	☐	☐	✖	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	✖	☐
iv. Landslides?	☐	☐	✖	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	✖	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	✖	☐
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	✖	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	✖

a,c. According to the California Geological Survey Alquist-Priolo Earthquake Fault Zone Maps, the proposed project site is not located within the vicinity of an Alquist-Priolo Earthquake Fault Zone.[10] Figure HS-5 in the City's General Plan identifies areas in the City that are potentially at risk for fault rupture, landslides, and liquefaction/inundation. Areas mapped as Liquefaction/Inundation Zones by the City are also generally at risk for lateral spreading hazards.[11] Per Figure HS-5, the site is located within a Valley Zone, which is defined as an area with relatively low levels of geologic hazard risk. Therefore, the proposed project would not be at risk for fault rupture impacts, seismic-related ground failure (including liquefaction, lateral spreading and subsidence), or landslides. In addition, the project would be designed to comply with all applicable State and local regulations, including the California Building Code (CBC), which would minimize any potential risks associated with seismic ground shaking.

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10 California Department of Conservation. *Special Studies Zones, Cupertino Quadrangle.* Effective July 1, 1974.
11 City of Cupertino. *General Plan: Community Vision 2015 – 2040* [pg. E-5]. Adopted October 20, 2015.

Consequently, the proposed project would not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and/or liquefaction or landslides. Therefore, a ***less-than-significant*** impact would result.

b. The proposed project would require excavation and grading of the site prior to construction. This includes soil excavation and off-haul associated with on-site soil remediation (see Section VIII for additional discussion). During such early stages of construction, topsoil would be exposed. After grading and prior to overlaying the ground surface with structures, while topsoil would be exposed, the potential exists for wind and/or water erosion to occur, which could affect the project area and potentially inadvertently transport eroded soils to downstream waterways. However, topsoil exposure would be temporary during site preparation and would cease once development of the proposed single-family homes occurs.

The City's Municipal Code requires applicants to provide and comply with an Interim Erosion and Sediment Control Plan (Interim Plan). The Interim Plan shall show the location of erosion control measures and erosion control planting shall be shown on the site map/grading plan. The applicant shall provide the following information with respect to conditions existing on the site during land-disturbing or filling activities or stockpiling of soil:

1. A delineation and brief description of the measures to be undertaken to retain sediment on the site, including, but not limited to, the designs and specifications or berms and sediment detention basins, and a schedule for their maintenance and upkeep;
2. A delineation and brief description of the surface runoff and erosion control measures to be implemented, including, but not limited, to types and methods of applying mulches, and designs and specifications for diverters, dikes and drains, and a schedule for their maintenance and upkeep;
3. A delineation and brief description of the vegetative measures to be undertaken, including, but not limited to, seeding methods, and type, location and extent of preexisting and undisturbed vegetation types, and a schedule for maintenance and upkeep.

Because the project would comply with the City's interim erosion control requirements, the project would not result in substantial soil erosion or loss of topsoil; and a ***less-than-significant*** impact would occur.

d. Expansive soils increase in volume when they absorb water and have the potential to crack or otherwise compromise the integrity of building foundations. According to the City's General Plan EIR, the proposed project site is not located in an area of the City known to contain highly expansive soils.[12] Furthermore, the proposed project would be subject to

[12] City of Cupertino. *General Plan Amendment, Housing Element Update, and Associated Rezoning Draft EIR* [4.5-18]. June 18, 2014.

applicable CBC regulations and provisions, as adopted in Chapter 16.04 of the City's Municipal Code. Therefore, the proposed project would not be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, and a ***less-than-significant*** impact could occur.

e. The proposed project would connect to the City's existing sewer system, and would not require the use of a septic tank or other alternative waste water disposal method. Therefore, ***no impact*** would occur related to having soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems.

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

a,b. Emissions of greenhouse gases (GHGs) contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

A number of regulations currently exists related to GHG emissions, predominantly Assembly Bill (AB 32), Executive Order S-3-05, and Senate Bill (SB 32). AB 32 sets forth a statewide GHG emissions reduction target of 1990 levels by 2020. Executive Order S-3-05 sets forth a transitional reduction target of 2000 levels by 2010, the same target as AB 32 of 1990 levels by 2020, and further builds upon the AB 32 target by requiring a reduction to 80 percent below 1990 levels by 2050. SB 32 also builds upon AB 32 and sets forth a transitional reduction target of 40 percent below 1990 levels by 2030. In order to implement the statewide GHG emissions reduction targets, local jurisdictions are encouraged to prepare and adopt area-specific GHG reduction plans and/or thresholds of significance for GHG emissions.

A discussion of the City's Climate Action Plan (CAP), as well as applicable BAAQMD thresholds related to GHG emissions, is provided below.

Climate Action Plan

As a means of achieving the statewide GHG emissions reduction goals, the City has adopted a CAP. The targets are consistent with statewide goals. In addition, the CAP includes a number of reduction measures intended to be implemented by the City in order to accomplish the reduction goals. The emissions reduction strategies developed by the City follows the BAAQMD's CEQA Guidelines and the corresponding criteria for a Qualified Greenhouse Gas Emissions Reduction Program as defined by the BAAQMD. Because the provisions included in the CAP mirror the elements required per Section 15.183.5 of the CEQA Guidelines, the CAP is consistent with existing State regulations related to GHG emissions, as well as BAAQMD thresholds of significance. It should be noted that a qualitative threshold for GHG emissions for individual development projects has not been established by the City or set forth in the CAP.

The GHG inventory contained in the City's CAP was derived based on the land use designations and associated densities defined in the City's General Plan. Because the proposed project would be consistent with the project site's existing General Plan land use designation, and would not modify the type, intensity, or density of use previously anticipated for the site by the City, the project would be consistent with the GHG inventory contained in the CAP.

BAAQMD Thresholds

The proposed project is located within the jurisdictional boundaries of the BAAQMD. The BAAQMD threshold of significance for project-level operational GHG emissions is 1,100 $MTCO_2e$/yr or 4.6 $MTCO_2e$/yr per service population (population + employees). BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, the project would be considered to generate significant GHG emissions and conflict with applicable GHG regulations.

The proposed project's estimated GHG emissions were quantified using CalEEMod, using the same assumptions as presented in the Air Quality section of this IS/MND, and are presented in Table 4 and Table 5 below. The proposed project's required compliance with the current California Building Energy Efficiency Standards Code was assumed in the modeling. In addition, the CO_2 intensity factor within the model was adjusted to reflect the Pacific Gas & Electric Company's anticipated progress towards statewide renewable portfolio standard goals. All CalEEMod results are included as Appendix A to this IS/MND.

As shown in the tables, the proposed project would result in operational GHG emissions below the 1,100 MT CO_2e/yr threshold. Therefore, the proposed project would not result in operational impacts related to GHG emissions. In addition, while neither the City nor BAAQMD has established GHG emissions thresholds for construction, construction emissions associated with the proposed project would be far below the BAAQMD's adopted operational threshold of 1,100 $MTCO_2e$/yr.

Table 4
Project Construction GHG Emissions

Year	Annual GHG Emissions ($MTCO_2e$/yr)
2018	68.16
2019	40.10
TOTAL GHG EMISSIONS	**108.26**

Source: CalEEMod, October 2017.

Table 5
Project Operational GHG Emissions

Emission Source	Annual GHG Emissions ($MTCO_2e$/yr)
Area	0.36
Energy	7.29
Mobile	18.37
Solid Waste	1.27
Water	0.36
TOTAL ANNUAL GHG EMISSIONS	**27.65**

Source: CalEEMod, October 2017.

Conclusion

Based on the above, the proposed project would be consistent with the City's adopted CAP. In addition, the estimated annual operational and construction GHG emissions would be below the applicable BAAQMD thresholds of significance. As such, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; and impacts would be considered ***less than significant***.

VIII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	✖	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	✖	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	✖
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	✖
e. For a project located within 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?	☐	☐	☐	✖
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	✖
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	✖	☐
h. Expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	✖	☐

<u>Discussion</u>

a. Residential land uses are not typically associated with the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. Future residents may use common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount that would be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a ***less-than-significant*** impact would occur.

b. The following discussion includes an analysis of hazardous and toxic materials that could be used on the proposed project site during construction activities, as well as existing hazardous materials known to be present on the site.

Construction

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction. However, the project contractor would be required to comply with all California Health and Safety Codes and local City and County ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Compliance with such regulations would ensure that the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment during construction activities.

Existing Hazardous Materials

As noted previously, a Phase I ESA was prepared for the proposed project by Running Moose Environmental Consulting, LLC.[13] Hazardous materials and/or wastes have not been observed or reported on the proposed project site, and previous residential occupants of the on-site buildings have not used significant quantities of such materials. According to the ESA, aboveground and/or underground storage tanks were not documented on or beneath the proposed project site. While a pole-mounted PG&E transformer is present on a power pole adjoining the northwestern corner of the project site, the ESA did not identify any concerns. However, based on the ESA, potential recognized environmental conditions (RECs) were identified for the project site, which are discussed in further detail below.

Asbestos-Containing Materials and Lead-Based Paint

Asbestos is the name for a group of naturally occurring silicate minerals that are considered to be “fibrous” and, through processing, can be separated into smaller and smaller fibers. The fibers are strong, durable, chemical resistant, and resistant to heat and fire. They are also long, thin, and flexible, such that they can be woven into cloth. Because of the above qualities, asbestos was considered an ideal product and has been used in thousands of consumer, industrial, maritime, automotive, scientific, and building products. However, later discoveries found that, when inhaled, the material caused serious illness.

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[13] Running Moose Environmental Consulting, LLC. *Phase I Environmental Site Assessment, 10206 and 10208 Orange Avenue, Cupertino, California 95014.* June 27, 2016.

For buildings constructed prior to 1980, the Code of Federal Regulations (29 CFR 1926.1101) states that all thermal system insulation (boiler insulation, pipe lagging, and related materials) and surface materials must be designated as "presumed asbestos-containing material" unless proven otherwise through sampling in accordance with the standards of the Asbestos Hazard Emergency Response Act. Because the existing structures were built prior to 1980, the potential exists that asbestos-containing materials were used in the construction of the residential structures and outbuildings on-site.

Lead-based paint (LBP) is defined by federal guidelines as any paint, varnish, stain, or other applied coating that has one milligram of lead per square centimeter or greater. Lead is a highly toxic material that may cause a range of serious illnesses, and in some cases death. In buildings constructed after 1978, the presence of LBP is unlikely. Structures built prior to 1978, and especially prior to the 1960s, are expected to contain LBP. The existing structures on the property were constructed before the phase-out of LBPs in the 1970s. Therefore, the potential exists that LBPs are present in the on-site residential and outbuildings.

Based on the age of the existing on-site structures, ACM and LBP are presumed to be present. The proposed project would include demolition of all on-site structures. Therefore, without implementation of the appropriate safety measures, the proposed project could potentially expose construction workers during structure demolition to LBP and asbestos-containing materials.

Contaminated Soils

As discussed previously, the proposed project site has historically been used for agricultural purposes. As such, pesticides and herbicides may have been used on the site. In order to evaluate on-site contaminated soil conditions, a *Soil Remediation Plan* was prepared for the proposed project by McCloskey Consultants, Inc.[14] The *Soil Remediation Plan* included Phase II Environmental Sampling. As part of Phase II Environmental Sampling, four soil samples were collected on-site and analyzed for pesticides (including, but not limited to, chlordane, 4,4'-DDE, 4,4'-DDT, and dieldrin), arsenic, and lead. Results of the analysis are included in Table 6 below.

Table 6
Historic Agricultural Use Area Sampling

Substance	Detected Concentration Range (mg/kg)	Applicable Threshold (mg/kg)
Chlordane	0.055 to 0.509	0.43
4,4'-DDE	0.00477 to 0.14	2.0
4,4'-DDT	0.00261 to 0.0687	1.9
Dieldrin	0.0046	0.0046
Arsenic	5.63 to 17.7	13.0
Lead	46.6 to 590	1,000

Source: McCloskey Consultants, Inc, Soil Remediation Plan, September 2017.

[14] McCloskey Consultants, Inc. *Soil Remediation Plan, 10206 Orange Avenue, Cupertino, California.* September 19, 2017.

Due to the age of the existing on-site structures, the perimeters of the structures may have been treated with insecticides/herbicides. In addition, LBP may have been used, as discussed above, and the soils around the base of the structures may have been contaminated by paint chips flaking off of the structures. To evaluate such concerns, 10 soil samples were collected from the soil adjacent to the structures at a depth of zero to 0.5 feet. In addition, two soil samples were collected from areas where concrete had been historically placed on the east side of the single-family residence and on the north side of the garage, respectively. The 12 samples were analyzed for organochlorine pesticides (OCPs), lead, and arsenic. Results of the sample analysis are included in Table 7 below.

Table 7
Building Perimeter Sampling

Substance	Detected Concentration Range (mg/kg)	Applicable Threshold (mg/kg)
Chlordane	0.0814 to 4.46	2.5
4,4'-DDE	0.0045 to 0.437	2.0
4,4'-DDT	0.0125 to 0.437	1.9
Dieldrin	0.00194 to 0.503	0.034
Heptachlor	0.00958	0.130
Heptachlor epoxide	0.00228 to 0.0548	0.07
Methoxychlor	0.01099	320
Arsenic	3.02 to 23.2	13.0
Lead	66.6 to 925	1,000

Source: McCloskey Consultants, Inc, Soil Remediation Plan, September 2017.

As shown in the table, elevated concentrations of arsenic, lead, and pesticides were detected. In order to evaluate the lateral and vertical extent of the elevated arsenic, lead, and pesticide concentrations detected in some of the shallow soils, supplemental sampling was conducted throughout the site.

Supplemental Arsenic Sampling

The supplemental soil sampling conducted for areas south and west of the existing buildings detected arsenic in all samples ranging from 1.32 mg/kg to 11.5 mg/kg. All of the arsenic concentrations detected exceed the U.S. Environmental Protection Agency Regional Screening Level (USEPA RSL) for sensitive uses, but none exceed the calculated naturally-occurring background concentration of 13 mg/kg. Regulatory agencies do not require mitigation for concentrations that are less than naturally-occurring concentrations. Arsenic was also detected in a deeper sample at a concentration of 1.10 mg/kg. An elevated lead concentration was detected in one of the two samples at a concentration of 94.8 mg/kg. Based on the results of the sampling, elevated arsenic concentrations would not pose a risk to the proposed project.

Supplemental Lead Sampling

Supplemental soil samples were collected primarily across northern and northeastern portion of the site, as well as approximately four feet from previous sample locations adjacent to the existing structures. Lead concentrations exceeding the CHHSL of 80 mg/kg were detected in nine of the 13 samples, but none exceeded the total threshold limit concentration (TTLC) for hazardous waste of 1,000 mg/kg. Lead was also detected in two deeper samples but at concentrations less than the California Human Health Screening Level (CHHSL). Neither of the lead concentrations detected in the deeper samples exceeded the regulatory threshold. Based on the results of the sampling, lead contamination is present in shallow soils in the northern and northeastern portions of the site. Per the Phase II ESA, additional testing of excavated soils is recommended after excavation to determine if the soils exceed the California hazardous waste criteria.

Supplemental Pesticide Sampling

The supplemental sampling results indicate that pesticide concentrations are present around the northwestern portions of the project site, and on the northern side of the southeastern building. Concentrations of several different organochlorine pesticides (OCPs) were detected in at least one of the samples collected. Of the pesticides detected, only chlordane and toxaphene were detected at concentrations exceeding the respective USEPA RSLs for each substance. Based on the sampling results, pesticide concentrations are present around the northwest portion of the site and at the northern side of the southeastern building.

Remediation

Generally, the approach to remediating contaminated soils would consist of excavation of soils and off-hauling the soils for disposal at an appropriately-licensed landfill prior to site development. Specific precautionary measures are set forth in the Soil Remediation Plan, and required by Mitigation Measure VIII-2 below.

Septic Systems

Both of the existing residences on the proposed project site are connected to on-site septic systems. The proposed project would be required to properly abandon the existing septic systems prior to connection of the project to the existing City sewer infrastructure.

Conclusion

Based on the above, development of the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment, particularly associated with ACM, LBP, and contaminated soils. Therefore, a ***potentially significant*** impact would occur.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

Asbestos-Containing Materials and Lead-Based Paint

VIII-1. *Prior to issuance of a demolition permit for any on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Community Development Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead containing materials shall not be required. If asbestos-containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the Community Development Department for review and approval. Materials containing more than one (1) percent asbestos that is friable are also subject to BAAQMD regulations. Removal of materials containing more than one (1) percent friable asbestos shall be completed in accordance with BAAQMD Section 11-2-303.*

Contaminated Soils

VIII-2. *Prior to initiation of demolition or construction activities, the project applicant shall comply with all applicable recommendations within the Soil Remediation Plan prepared for the proposed project by McCloskey Consultants, Inc. The required remediation activities shall be performed by a licensed hazardous waste contractor (Class A) and contractor personnel that have completed 40-hour OSHA hazardous training. Compliance with the recommendations shall be verified by the Community Development Department and the Santa Clara County Environmental Health Department throughout the remediation process.*

Septic Systems

VIII-3. *Prior to issuance of a building/grading permits, the existing septic tank shall be abandoned in consultation with the Santa Clara County Environmental Health Department. Proof of abandonment shall be provided to the Community Development Department and the City Engineer.*

c. The proposed project site is not located within one-quarter mile of a school. Therefore, the project would have ***no impact*** related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

d. The project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.[15] Therefore, the project would not create a significant hazard to the public or the environment, and ***no impact*** associated with such would occur.

e,f. The nearest airport to the project site is the San Jose International Airport, located approximately 7.5 miles east of the site. As such, the proposed project site is not located within two miles of any public airports or private airstrips and does not fall within an airport land use plan area. Therefore, ***no impact*** related to a safety hazard for people residing or working in the project area would occur related to such.

g. The City of Cupertino Office of Emergency Services is responsible for coordinating agency response to disasters or other large-scale emergencies in the City of Cupertino, with assistance from the Santa Clara County Office of Emergency Services and the Santa Clara County Fire Department (SCCFD). The Cupertino Emergency Operations Plan establishes policy direction for emergency planning, mitigation, response, and recovery activities within the City.[16]

Implementation of the proposed project would include widening of Orange Avenue by approximately ten feet along the project frontage; however, such modifications would not physically interfere with the Emergency Operations Plan, particularly with identified emergency routes. Furthermore, the proposed project would not include land uses or operations that could impair implementation of the plan. Therefore, the proposed project would not interfere with an emergency evacuation or response plan, and a ***less-than-significant*** impact would occur.

h. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the proposed project site is not located within a Very High Fire Hazard Severity Zone.[17] In addition, the site is currently developed, surrounded by existing development, and is not located adjacent to wildlands. Therefore, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a ***less-than-significant*** impact would occur.

15 California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List.* Available at: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm. Accessed March 2017.
16 City of Cupertino. *Emergency Operations Plan.* September 2005.
17 California Department of Forestry and Fire Protection. *Santa Clara County, Very High Fire Hazard Severity Zones in LRA*. October 8, 2008.

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

Discussion

a,f. The following section describes the project's consistency with applicable water quality standards and waste discharge requirements during construction and operation.

Construction

The proposed project site is currently developed with residential uses. As such, the site contains a substantial amount of impervious areas. Nonetheless, during the early stages of construction activities, topsoil would be exposed due to grading of the site. After grading and prior to overlaying the ground surface with impervious surfaces and structures, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality downstream.

The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres. The project site is 12,960 square feet (0.30-acre), and, thus, construction activities would not be regulated by the SWRCB. However, the City's Municipal Code requires applicants to provide and comply with an Interim Erosion and Sediment Control Plan (Interim Plan). The Interim Plan shall show the location of erosion control measures and erosion control planting shall be shown on the site map/grading plan. The applicant shall provide the following information with respect to conditions existing on the site during land-disturbing or filling activities or stockpiling of soil:

1. A delineation and brief description of the measures to be undertaken to retain sediment on the site, including, but not limited to, the designs and specifications or berms and sediment detention basins, and a schedule for their maintenance and upkeep;
2. A delineation and brief description of the surface runoff and erosion control measures to be implemented, including, but not limited, to types and methods of applying mulches, and designs and specifications for diverters, dikes and drains, and a schedule for their maintenance and upkeep;
3. A delineation and brief description of the vegetative measures to be undertaken, including, but not limited to, seeding methods, and type, location and extent of preexisting and undisturbed vegetation types, and a schedule for maintenance and upkeep.

Because the project would comply with the City's interim erosion control requirements, the project would not violate any water quality standards or waste discharge requirements or otherwise degrade water quality during construction.

Operation

The proposed residential uses would not involve operations typically associated with the generation or discharge of polluted water. Thus, typical operations on the project site would not violate any water quality standards or waste discharge requirements, nor degrade water quality. However, addition of the impervious surfaces on the site would result in the generation of urban runoff, which could contain pollutants if the runoff comes into contact with vehicle fluids on parking surfaces and/or landscape fertilizers and herbicides.

As of December 1, 2012, detached single-family homes that create or replace 2,500 square feet or more of impervious surface are required by the City of Cupertino to install one or more of the following design measures:

- Direct roof runoff onto vegetated areas (standard condition of approval, unless infeasible);
- Direct roof runoff into cisterns or rain barrels for reuse;
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas;
- Direct runoff from driveways and/or uncovered parking lots onto vegetated areas;
- Construct sidewalks, walkways and/or patios with permeable surface; or
- Construct bike lanes, driveways and or uncovered parking lots with permeable surfaces.

As discussed previously, the proposed project would include a series of swales that capture runoff created by impervious areas on the project site. Runoff from roofs, patios, and walkways would drain to the landscaped areas of the site prior to entering the swales, which would direct runoff to two sets of dry wells located in the backyard areas of the proposed residences. Runoff from the swales would enter the inlets at the top of the drywells and would percolate through a layer of drain rock and filter fabric, allowing for stormwater to slowly infiltrate the underlying soils. Each set of two drywells would be connected by a six-inch perforated pipe set in a dissipation trench. The proposed drainage system would satisfy City requirements by routing on-site runoff through vegetated areas. Therefore, during operation, the project would comply with all relevant water quality standards and waste discharge requirements, and, thus, would not degrade water quality during operation.

Conclusion

Based on the above, the project would comply with all applicable regulations during construction and operation, and would not involve uses associated with the generation or discharge of polluted water. Therefore, a ***less-than-significant*** impact would occur related to violation of water quality standards or waste discharge requirements or degradation of water quality.

b. As discussed previously, the project site is currently developed with residential structures. The proposed project site would not substantially increase demand for water supplies associated with the site, including groundwater, and the proposed on-site drainage system would allow for stormwater to percolate into the underlying soils, contributing to the recharge of groundwater. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, and a ***less-than-significant*** impact would occur.

c-e. The proposed project site is currently developed with residential structures. As such, development of the proposed project would not result in a substantial increase in impervious surfaces or runoff from what currently exists on-site. In addition, as discussed above, the project would include a drainage system that would manage all on-site runoff without connecting to the City's existing stormwater drainage system. Runoff entering the dry wells and the perforated drainage pipes would be able to infiltrate the soil in a similar manner to what currently occurs on the project site, and erosion, siltation, and/or flooding would not occur. Because the project would not connect to the City's stormwater drainage system, the capacity of existing stormwater drainage infrastructure would not be exceeded, and alterations to such infrastructure would not be needed.

In conclusion, the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner which would result in erosion, siltation, or flooding on- or off-site, 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. Consequently, the proposed project would result in a ***less-than-significant*** impact related to such.

g-i. According to the City's General Plan,[18] as well as the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM),[19] the proposed project site is not at risk for inundation by flood. As a result, the project would not place housing or structures within the 100-year floodplain, nor 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. Therefore, ***no impact*** would result.

j. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir. The project area is located over 20 miles from the Pacific Ocean and tsunamis typically affect coastlines and areas up to one-quarter mile inland. Due to the project's distance from the coast, the project site would not be exposed to flooding risks associated with tsunamis. Seiches do not pose a risk to the proposed project, as the project site is not located in close proximity to any large closed bodies of water. Mudflows typically occur on steep, unstable slopes. Given that the proposed project site is not located on a slope, mudflows would not pose an issue. Based on the above, ***no impact*** would occur related to inundation by seiche, tsunami, or mudflow.

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[18] City of Cupertino. *General Plan: Community Vision 2015 – 2040* [pg. E-5]. Adopted October 20, 2015.

[19] Federal Emergency Management Agency. *FEMA's National Flood Hazard Layer (Official), Panel #06085C0208H.* Available at: http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30&extent=-122.05675800688134,37.31906767684711,-122.0534481609565,37.32047549983092. Accessed October 2017.

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

<u>Discussion</u>

a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. The proposed project site currently contains two single-family residences and a detached garage that has been converted to a studio, which would be demolished as part of the proposed project. Given that the proposed project would include redevelopment of the site with two new single-family residences, the proposed project would not alter the land uses on the site. Accordingly, the proposed project would not change the land use conditions in the area or isolate an existing land use. In addition, the project would be consistent with the site's existing zoning and General Plan land use designations. As such, the proposed project would not physically divide an established community and a ***less-than-significant*** impact would occur.

b. The City of Cupertino General Plan designates the 12,960-square-foot site as Residential (4.4-7.7 du/ac), and the site is currently zoned P(Res 4.4-7.7). The proposed project would include division of the site into two approximately 6,000-square-foot lots and dedication of approximately 960 square feet of land to the City to allow for widening of Orange Avenue along the project frontage. The two new lots would maintain the existing zoning and General Plan land use designations for the site, and would be consistent with Sections 19.28.050 and 19.28.060 of the City's Municipal Code relating to zoning districts and site development regulations. Therefore, the project would not conflict with any applicable land use plans, policies, or regulations 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. As a result, the proposed project would not conflict with applicable land use plans, policies, or regulations, and a ***less-than-significant*** impact would occur.

c. As discussed previously, the project site is not located in an area with an approved HCP/NCCP. As a result, ***no impact*** would occur.

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

Discussion

a,b. The proposed project site is located in a developed area and is currently developed with residential uses. According to the City's General Plan, the project site is located in an area which is unsuitable for mineral extraction.[20] Therefore, ***no impact*** to mineral resources would occur as a result of the proposed project.

[20] City of Cupertino. *General Plan: Community Vision 2015 – 2040* [pg. ES-10]. Adopted October 20, 2015.

XII. NOISE. *Would the project result in:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	✖	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	✖	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	✖	☐
e. For a project located within 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?	☐	☐	✖	☐
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	✖	☐

Discussion

a,c. The existing noise environment of the site is currently defined by traffic noise on Orange Avenue. Such traffic is currently generated by the surrounding residences in the project vicinity, as well as the occupied single-family residence currently located on the project site. The proposed project would include demolition of the existing on-site buildings and redevelopment of the site with two single-family residences. Therefore, the project would be considered to result in a potentially significant impact if the net increase in traffic generated by the proposed project would result in exceedances of noise levels established in the City's Municipal Code or an increase in the ambient noise levels in the project vicinity.

As discussed in the Transportation and Circulation section of this IS/MND, the proposed project would be anticipated to generate a total of 19 ADT. A total of 19 new vehicle trips spread over a 24-hour period would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Furthermore, a portion of the trips generated by the project would replace trips currently generated by the occupied single-family residence on the project site. Therefore, given that the proposed project would not substantially alter the number of vehicle trips associated with the project site, the project would not result in the exposure of persons to or generation of noise levels in excess of standards established in City of Cupertino Municipal Code or substantially increase ambient noise levels in the project vicinity above levels existing without the project. Thus, a ***less-than-significant*** impact would occur.

b. Heavy-duty construction equipment would be used during construction of the proposed project (e.g., tractors, pavers, bulldozers). Such equipment has the potential to generate groundborne vibration. Levels of vibration include imperceptible vibrations at low levels, low rumbling and minor vibration at moderate levels, and structural or architectural damage at high levels. For structural damage, the California Department of Transportation (Caltrans) uses a vibration limit of 0.5 inches per second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards and 0.2 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern. The threshold of 0.2 in/sec PPV is also used by Caltrans as the threshold for human annoyance caused by vibration. Although all surrounding structures are assumed to be structurally sound, the 0.2 in/sec PPV threshold offers a conservative value with regard to structural damage and is used as the threshold of significance for the analysis within this IS/MND.

The primary vibration-generating activities associated with the project would occur during demolition of the existing on-site structures, construction of the two proposed single-family residences, and widening of Orange Avenue. Table 8 below presents typical vibration levels that could be expected from construction equipment at various distances.

Table 8
Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 ft (in/sec)
Large Bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Caltrans, Transportation and Construction Vibration: Guidance Manual, September 2013.

The most significant source of ground-borne vibrations during project construction would be the use of large bulldozers, which, as shown above, would generate vibrations of approximately 0.089 in/sec PPV at a distance of 25 feet.[21]

The nearest building relative to the proposed project site is the existing single-family residence located south of the site. The residence is situated approximately 25 feet from the nearest proposed construction areas. Therefore, vibration levels at the residence would likely be 0.089 in/sec PPV during construction activities associated with the project, which is below the applicable 0.2 in/sec PPV threshold. As such, groundborne vibrations would not damage the building and would not be perceptible to residents of the building. Additionally, construction activities would be temporary in nature and would be limited to normal daytime working hours in accordance with Section 10.48.053 of the City's

[21] California Department of Transportation. *Transportation and Construction Vibration, Guidance Manual.* September 2013.

Municipal Code. Therefore, a ***less-than-significant*** impact would occur related to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

d. During demolition of the existing on-site structures, construction of the proposed residences, and widening of Orange Avenue, noise from such activities would temporarily add to the noise environment in the project vicinity. Noise would also be generated during the construction phase by truck traffic associated with transport of heavy materials and equipment to and from the project site. However, per Section 10.48.053 of the City's Municipal Code, grading, construction, and demolition activities are permitted to exceed the City's established noise limits during daytime hours provided that any piece of equipment involved in such activities has high-quality noise muffler and abatement devices installed and in good condition and the activities meet certain established criteria. Compliance with the Municipal Code requirements would be verified as part of the City's standard conditions of approval.

Furthermore, noise associated with construction activities would be temporary, would occur intermittently throughout implementation of the proposed project, and would occur on a relatively small scale. Thus, while demolition and construction activities associated with the project could result in temporary increases in noise levels at nearby noise-sensitive receptors, such increases would not be substantial, would be minimized with compliance with the City's Municipal Code, and would be typical of residential construction activities. Therefore, a ***less-than-significant*** impact would occur.

e,f. The project site is located approximately 7.5 miles west of the nearest airport which is the San Jose International Airport. Given the distance between the airport and the project site, noise levels resulting from aircraft traffic at the nearest airport would be negligible at the proposed project site. Therefore, a ***less-than-significant*** impact would occur.

XIII. POPULATION AND HOUSING. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☐	✖	☐
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	✖	☐
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	✖	☐

Discussion

a. The proposed project would include the demolition of the existing on-site residences and the construction of two new single-family homes. Given that the project would not result in a net increase in the number of housing units on the project site, the project would not be considered to induce substantial population growth through the construction of new homes. In addition, the project would be consistent with the existing zoning and General Plan land use designations for the site. Consequently, a ***less-than-significant*** impact would occur with regard to the project inducing substantial population growth.

b,c. The proposed project currently contains two single-family residences and a detached garage that has been converted to a studio. All three structures would be demolished as part of the proposed project, and the site would be redeveloped with two new single-family residences. As discussed previously, only one of the on-site residences is currently occupied. Given that the project would provide new housing to replace the existing residences, the proposed project would not displace a substantial number of existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, a ***less-than-significant*** impact would occur.

XIV. PUBLIC SERVICES. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	✖	☐
b. Police protection?	☐	☐	✖	☐
c. Schools?	☐	☐	✖	☐
d. Parks?	☐	☐	✖	☐
e. Other Public Facilities?	☐	☐	✖	☐

<u>Discussion</u>

a. Fire protection services to the project area are provided by the SCCFD, which serves Santa Clara County and the communities of Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Monte Sereno, and Saratoga. The SCCFD operates 17 fire stations; the Cupertino Fire Station, located at 20215 Stevens Creek Boulevard, currently serves the project site. The SCCFD would continue to provide service following construction of the proposed project. Given that the proposed project would be consistent with the existing land uses on the site and the General Plan land use designation for the site, provision of fire protection services to the project site has been previously anticipated by the City. In addition, demand for fire protection services would not substantially increase, as the site is currently developed with residential uses.

Per Section 16.40.060 of the City's Municipal Code, the proposed project would be required to pay applicable fire protection fees to the SCCFD. In addition, the proposed residential buildings would be constructed in accordance with the fire protection requirements of the 2013 California Fire Code, which contain provisions to minimize fire hazard risks. Therefore, the proposed project would have a ***less-than-significant*** impact related to the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts.

b. The City of Cupertino contracts with the Santa Clara County Sheriff's Office (Sheriff's Office) and the West Valley Patrol Division for police protection services. The West Valley Patrol Division is headquartered at the Westside Sheriff's Substation at 1601 South De Anza Boulevard in Cupertino. Given that the proposed project site is already developed with residential uses and provided with police protection services, and the project would be consistent with the City's General Plan, the project would not substantially increase the demand for police protection services at the site. Therefore, the proposed project would have a ***less-than-significant*** impact related to the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts.

c. Public schools in the City of Cupertino are managed by the Cupertino Union School District (CUSD) and the Fremont Union High School District (FUHSD). The proposed project would be required to pay the school impact fees specified in the City's General Plan.[22] As noted in the General Plan, school impact mitigation fees are presumed to fully mitigate any school impacts associated with development. Because the project applicant would be required to pay the applicable school impact fees, the proposed project would result in a ***less-than-significant*** impact regarding an increase in demand for schools.

d,e. The City of Cupertino assesses park maintenance fees for new residential development based on the density of the proposed development. Given that the proposed project would include the construction of single-family housing, the project applicant would be required to pay the appropriate park maintenance fee to the City. Pursuant to Section 14.05.060 of the City's Municipal Code, the final amount of the fee would be determined by the Director of Public Works. The in-lieu fees would fund improvements to and expansion of park facilities within the City. Therefore, the proposed project would have a ***less-than-significant*** impact related to the need for new or physically altered parks or other public facilities, the construction of which could cause significant environmental impacts.

[22] City of Cupertino. *General Plan: Community Vision 2015 – 2040* [pg. B-83]. Adopted October 20, 2015.

XV. RECREATION. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	✖	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	✖	☐

Discussion

a,b. The proposed project would include the construction of two new single-family homes. Residents of the proposed homes would likely use existing neighborhood, regional, parks and/or other recreational facilities. However, given that the project site is currently developed with residential uses, the proposed project would not be anticipated to substantially increase the demand for parks or other recreational facilities associated with the site. In addition, development of the site with residential uses has been previously anticipated in the City's General Plan. As discussed in Section XIV, Public Services, above, the project applicant would be required to pay any applicable park maintenance fees to the City.

Therefore, the proposed project would not be expected to result in substantial physical deterioration of any existing neighborhood or regional parks or other recreational facilities, and would not result in adverse physical effects related to the construction or expansion of new facilities. Thus, a ***less-than-significant*** impact would occur.

XVI. TRANSPORTATION AND CIRCULATION. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐
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?	☐	☐	✖	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	✖
d. Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	✖	☐
e. Result in inadequate emergency access?	☐	☐	✖	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	✖	☐

<u>Discussion</u>

a,b. The Institute of Traffic Engineer's (ITE) *Trip Generation Handbook* was used to estimate weekday AM, PM, and daily trip generation forecasts for the proposed project based on the proposed single-family residential land use.[23] As shown in Table 9 below, implementation of the proposed project would be expected to result in a total of 19 ADT, with two trips occurring during the AM peak hour and two trips occurring during the PM peak hour.

Table 9
Weekday Project Trip Generation Rates and Estimates

		Daily	AM Peak Hour				PM Peak Hour			
Units	**Rate**	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
2	9.52	19	0.75	1	1	2	1.00	1	1	2

Source: Institute of Transportation Engineers, 2012.

[23] Institute of Transportation Engineers. *Trip Generation Handbook, 9th Edition*. September 2012.

According to the Santa Clara VTA, projects anticipated to generate fewer than 100 peak hour trips are not subject to review by the VTA.[24] Because the project would generate fewer than 100 peak hour trips, preparation of a traffic impact study for the proposed project is not required and the project is not subject to review by the VTA.

Because the project would result in less than 100 peak hour trips, and traffic associated with buildout of the site has been previously analyzed in the General Plan EIR, the project would not be expected to adversely impact levels of service at nearby signalized intersections or roadways. Therefore, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, and would not conflict with the applicable CMP. Consequently, a ***less-than-significant*** impact would occur.

c. The proposed project is not located near an airport and does not include any improvements to airports or a change in air traffic patterns. The nearest airport to the site is San Jose International Airport, located approximately 7.5 miles east of the site. Therefore, because the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks, ***no impact*** would occur.

d,e. Currently, the proposed project site extends further into the Orange Avenue Roadway than the adjoining lots. As a result, the roadway is narrowed along the project frontage, and the sidewalk along the sections of the roadway to north and south of the project site is discontinuous. As part of the proposed project, approximately 960 square feet of land along the western portion of the proposed project site would be dedicated to the City, and the portion of Orange Avenue fronting the project site would be widened to extend approximately ten feet into the dedicated area. Both of the proposed single-family residences would include paved driveways which would connect to the widened roadway. Thus, adequate emergency access would be provided to the site. A sidewalk would be included along the project frontage, and would connect with the existing sidewalks to the north and south. Overall, the proposed roadway improvements would reduce hazards associated with the existing narrow roadway and discontinuous sidewalks, and would create greater consistency between the project frontage and the frontages of the surrounding development.

Residential uses associated with the proposed project would be considered compatible with existing residential development in the surrounding area. Given that the proposed buildings would be located adjacent to the Orange Avenue roadway, emergency vehicles would have reasonable access to the buildings from the project frontage. Based on the above, the project would not substantially increase hazards due to design features or incompatible uses, and emergency access to the site would be adequate. Therefore, the project would result in a ***less-than-significant*** impact.

f. The proposed project site is located in a residential subdivision. While bike lanes are not present on the surrounding roadway network, bicycle travel in the project vicinity remains

[24] Santa Clara Valley Transportation Authority. *2013 Congestion Management Program* [pg. 12]. October 2013.

a viable transportation option due to the low levels of traffic experienced by the roads. As noted above, the proposed project would include the provision of a sidewalk at the project frontage, which would improve the pedestrian network along the street. Thus, the project would be consistent with the Policy M-3.2 in the City's General Plan, which requires new development and redevelopment to increase pedestrian connectivity.

The nearest transit stop relative to the project site is located at the intersection of Stevens Creek Boulevard and Pasadena Avenue, approximately 1,500 feet northeast of the project site. Thus, residents of the proposed single-family homes would be provided with reasonable access to the City's public transportation system.

Given the presence of existing transit and pedestrian facilities, and incorporation of a new sidewalk along the project frontage, the project would result in a ***less-than-significant*** impact with respect to conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or with respect to degradation of such facilities.

XVII. TRIBAL CULTURAL RESOURCES. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☐	☐	✖	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	✖	☐

Discussion

a,b. As discussed in Section V, Cultural Resources, of this IS/MND, the proposed project site does not contain any existing permanent structures or any other known resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), and does not contain known resources that could be considered historic pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Furthermore, the potential for unrecorded Native American resources to exist within the project site is relatively low based on the highly-disturbed nature of the site, and Native American resources have not been identified within the vicinity of the project site. Given that the project would be required to comply with the City’s standard conditions of approval regarding cultural resources, construction of the proposed project would not result in a substantial adverse change in the significance of a tribal cultural resource, and a ***less-than-significant*** impact to tribal cultural resources could occur.

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

<u>Discussion</u>

a,b,e. Wastewater service at the proposed project site would be provided by the Cupertino Sanitary District (CSD). The proposed project would connect to the CSD's existing sanitary sewer system by way of connections to existing sewer lines in Orange Avenue. The CSD collection system directs wastewater to the San Jose/Santa Clara Water Pollution Control Plant (SJ/SCWPCP), a joint powers authority.

The project site is located in a residential neighborhood that is currently served by the CSD. Given that the proposed project would include two single-family residences, the project would not be considered to substantially increase demand for wastewater services at the proposed project site or have a substantial impact on the available capacity of the SJ/SCWPCP. Furthermore, increased wastewater generation associated with buildout of the project site has been anticipated by the City, as the project would be consistent with the existing General Plan land use designation of the site. Because the project's expected wastewater generation would be relatively minor relative, and has been anticipated by the City, a ***less-than-significant*** impact would occur related to requiring or resulting in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

c. As discussed in further detail in Section IX, Hydrology and Water Quality, of this IS/MND, the proposed project would not include connections to the City's existing stormwater drainage facilities, and, thus, would not result in the expansion of such facilities. Rather, runoff from impervious surfaces created by the proposed project would be routed to a set of dry wells in the backyard areas of the proposed residences. The dry wells would allow stormwater to slowly infiltrate the underlying native soils. Therefore, the proposed project would have a ***less-than-significant*** impact with respect to requiring or resulting in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

d. Water service to the proposed project site is currently provided under contract with San Jose Water. The proposed project would connect to existing water supply infrastructure located in Orange Avenue. The proposed project would be consistent with the existing General Plan land use designation of the site, and, thus, the City has previously anticipated increased demand for water supplies associated with buildout of the site. Therefore, sufficient water supplies would be available to serve the proposed project from existing entitlements and resources, and new or expanded entitlements would not be needed. In addition, the project would not necessitate the construction of new water supply facilities. Thus, a ***less-than-significant*** impact would occur.

f,g. The City contracts with Recology South Bay (Recology) for solid waste collection services in the City. All non-hazardous waste solid waste collected under the Recology franchise agreement is taken to Newby Island Sanitary Landfill for processing. Under the agreement recyclable materials also are handled by Recology. Of the 27,593 tons of solid waste disposed in 2012, 25,440 tons, or 92 percent was disposed of at the Newby Island Landfill. The Monterey Peninsula Landfill, the Guadalupe Sanitary Landfill and the Altamont Landfill and Resource Recovery Facility accepted the next highest amounts of waste from Cupertino, respectively receiving 1,260 tons (4.6 percent of total), 321 tons (1.2 percent) and 238 tons (0.9 percent) of all waste. Per the General Plan EIR, sufficient landfill capacity is available to serve buildout of the General Plan.

The proposed project site is currently developed with residential uses and is designated as Low-Density Residential in the City's General Plan. Given that the proposed project would not substantially alter the existing site uses, and generation of solid waste associated with the project site has been previously anticipated by the City, the project would not exceed the capacity of any landfills serving the City. In addition, construction and any demolition debris associated with the project would be subject to Chapter 16.72 of the City's Municipal Code, which requires that a minimum of 60 percent of construction and demolition debris be diverted from landfill. Therefore, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, State, and local statutes and regulations related to solid waste. Thus, a ***less-than-significant*** impact would occur.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐
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)?	☐	☐	✖	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	✖	☐

<u>Discussion</u>

a. As described throughout this IS/MND, impacts related to special-status plants and cultural resources would be less than significant. In addition, potential impacts related to reducing the habitat for nesting migratory birds would be reduced to less-than-significant levels with implementation of the mitigation measures required by this IS/MND, as well as compliance with General Plan policies and all applicable sections of the Municipal Code. As such, development of the proposed project would not result in impacts related to the following: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, a ***less-than-significant*** impact would occur.

b. The proposed project in conjunction with other development within the City of Cupertino could incrementally contribute to cumulative impacts in the area. However, as demonstrated in this IS/MND, all potential environmental impacts that could occur as a result of project implementation would be reduced to a less-than-significant level with implementation of project-specific mitigation measures, as well as compliance with applicable General Plan policies and Municipal Code standards. In addition, the site has been anticipated by the City for residential development. Thus, buildout of the site with residential uses was considered in the cumulative analysis of buildout of the General Plan. When viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project would not substantially contribute to cumulative impacts in the City of Cupertino, and the project's cumulative impact would be ***less than significant.***

c. As described in this IS/MND, implementation of the proposed project could result in potential impacts related to existing environmental hazards, including a septic system, ACMs, LBP, and contaminated soils. However, the proposed project would be required to implement the project-specific mitigation measures within this IS/MND, as well as applicable General Plan policies, in order to ensure that any potential direct or indirect effects to human beings would be reduced to less-than-significant levels. Therefore, the proposed project would have a ***less-than-significant*** impact.

APPENDIX A

AIR QUALITY AND GHG MODELING RESULTS

APPENDIX A

AIR QUALITY AND GHG MODELING RESULTS

Orange Avenue Lot Split

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	2.00	Dwelling Unit	0.30	3,600.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	404.79	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - Applicant provided

Construction Phase - Applicant provided

Trips and VMT -

Demolition -

Grading - Applicant provided

Vehicle Trips - Based on ITE 9th ed. trip generation rates

Energy Mitigation - 2016 Title 24 standards (latest standards) are anticipated to result in 28% improvement from 2013 Title 24 standards for residential buildings

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	151.00
tblConstructionPhase	NumDays	100.00	151.00
tblConstructionPhase	NumDays	10.00	3.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	2.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	10/22/2019	4/8/2019
tblConstructionPhase	PhaseEndDate	3/21/2019	3/25/2019
tblConstructionPhase	PhaseEndDate	3/25/2019	8/24/2018
tblConstructionPhase	PhaseStartDate	3/26/2019	9/10/2018
tblConstructionPhase	PhaseStartDate	8/23/2018	8/27/2018
tblConstructionPhase	PhaseStartDate	3/22/2019	8/23/2018
tblGrading	AcresOfGrading	2.50	0.30
tblGrading	MaterialExported	0.00	300.00
tblLandUse	LotAcreage	0.65	0.30
tblProjectCharacteristics	CO2IntensityFactor	641.35	404.79
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	9.91	9.52
tblVehicleTrips	SU_TR	8.62	9.52

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					
2018	0.0829	0.6618	0.4817	7.5000e-004	4.0900e-003	0.0424	0.0465	1.5100e-003	0.0396	0.0411	0.0000	67.7243	67.7243	0.0176	0.0000	68.1648
2019	0.0499	0.3589	0.2916	4.5000e-004	2.4000e-004	0.0227	0.0229	6.0000e-005	0.0212	0.0213	0.0000	39.8410	39.8410	0.0105	0.0000	40.1027
Maximum	**0.0829**	**0.6618**	**0.4817**	**7.5000e-004**	**4.0900e-003**	**0.0424**	**0.0465**	**1.5100e-003**	**0.0396**	**0.0411**	**0.0000**	**67.7243**	**67.7243**	**0.0176**	**0.0000**	**68.1648**

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					
2018	0.0829	0.6618	0.4817	7.5000e-004	4.0900e-003	0.0424	0.0465	1.5100e-003	0.0396	0.0411	0.0000	67.7242	67.7242	0.0176	0.0000	68.1647
2019	0.0499	0.3589	0.2916	4.5000e-004	2.4000e-004	0.0227	0.0229	6.0000e-005	0.0212	0.0213	0.0000	39.8409	39.8409	0.0105	0.0000	40.1027
Maximum	**0.0829**	**0.6618**	**0.4817**	**7.5000e-004**	**4.0900e-003**	**0.0424**	**0.0465**	**1.5100e-003**	**0.0396**	**0.0411**	**0.0000**	**67.7242**	**67.7242**	**0.0176**	**0.0000**	**68.1647**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**8-6-2018**	**11-5-2018**	0.4395	0.4395
2	**11-6-2018**	**2-5-2019**	0.4653	0.4653
3	**2-6-2019**	**5-5-2019**	0.2389	0.2389
		Highest	0.4653	0.4653

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0288	4.3000e-004	0.0320	4.0000e-005		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003	0.2542	0.0867	0.3409	5.0000e-004	1.0000e-005	0.3578
Energy	5.7000e-004	4.8700e-003	2.0700e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	8.7782	8.7782	3.3000e-004	1.5000e-004	8.8312
Mobile	5.5400e-003	0.0265	0.0625	2.0000e-004	0.0164	2.2000e-004	0.0166	4.3900e-003	2.1000e-004	4.6000e-003	0.0000	18.3522	18.3522	7.2000e-004	0.0000	18.3703
Waste						0.0000	0.0000		0.0000	0.0000	0.5115	0.0000	0.5115	0.0302	0.0000	1.2673
Water						0.0000	0.0000		0.0000	0.0000	0.0413	0.1823	0.2236	4.2600e-003	1.0000e-004	0.3608
Total	**0.0350**	**0.0318**	**0.0966**	**2.7000e-004**	**0.0164**	**3.1600e-003**	**0.0195**	**4.3900e-003**	**3.1500e-003**	**7.5400e-003**	**0.8071**	**27.3993**	**28.2064**	**0.0360**	**2.6000e-004**	**29.1874**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0288	4.3000e-004	0.0320	4.0000e-005		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003	0.2542	0.0867	0.3409	5.0000e-004	1.0000e-005	0.3578
Energy	4.2000e-004	3.5800e-003	1.5200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	7.2507	7.2507	3.0000e-004	1.2000e-004	7.2947
Mobile	5.5400e-003	0.0265	0.0625	2.0000e-004	0.0164	2.2000e-004	0.0166	4.3900e-003	2.1000e-004	4.6000e-003	0.0000	18.3522	18.3522	7.2000e-004	0.0000	18.3703
Waste						0.0000	0.0000		0.0000	0.0000	0.5115	0.0000	0.5115	0.0302	0.0000	1.2673
Water						0.0000	0.0000		0.0000	0.0000	0.0413	0.1823	0.2236	4.2600e-003	1.0000e-004	0.3608
Total	**0.0348**	**0.0306**	**0.0960**	**2.6000e-004**	**0.0164**	**3.0600e-003**	**0.0194**	**4.3900e-003**	**3.0500e-003**	**7.4400e-003**	**0.8071**	**25.8719**	**26.6790**	**0.0360**	**2.3000e-004**	**27.6509**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.43**	**4.05**	**0.57**	**3.70**	**0.00**	**3.16**	**0.51**	**0.00**	**3.17**	**1.33**	**0.00**	**5.57**	**5.42**	**0.08**	**11.54**	**5.26**

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	8/6/2018	8/8/2018	5	3	
2	Site Preparation	Site Preparation	8/9/2018	8/15/2018	5	5	
3	Grading	Grading	8/16/2018	8/22/2018	5	5	
4	Building Construction	Building Construction	8/27/2018	3/25/2019	5	151	
5	Paving	Paving	8/23/2018	8/24/2018	5	2	
6	Architectural Coating	Architectural Coating	9/10/2018	4/8/2019	5	151	

Acres of Grading (Site Preparation Phase): 0.3

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 7,290; Residential Outdoor: 2,430; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
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	4	10.00	0.00	7.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	38.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.4000e-004	0.0000	7.4000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-003	0.0141	0.0117	2.0000e-005		9.3000e-004	9.3000e-004		8.9000e-004	8.9000e-004	0.0000	1.5912	1.5912	3.1000e-004	0.0000	1.5989
Total	**1.6000e-003**	**0.0141**	**0.0117**	**2.0000e-005**	**7.4000e-004**	**9.3000e-004**	**1.6700e-003**	**1.1000e-004**	**8.9000e-004**	**1.0000e-003**	**0.0000**	**1.5912**	**1.5912**	**3.1000e-004**	**0.0000**	**1.5989**

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	3.0000e-005	1.1500e-003	2.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2739	0.2739	1.0000e-005	0.0000	0.2743
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	6.0000e-005	5.0000e-005	4.6000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1105	0.1105	0.0000	0.0000	0.1106
Total	**9.0000e-005**	**1.2000e-003**	**6.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.3844**	**0.3844**	**1.0000e-005**	**0.0000**	**0.3849**

3.2 Demolition - 2018

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					7.4000e-004	0.0000	7.4000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-003	0.0141	0.0117	2.0000e-005		9.3000e-004	9.3000e-004		8.9000e-004	8.9000e-004	0.0000	1.5912	1.5912	3.1000e-004	0.0000	1.5989
Total	**1.6000e-003**	**0.0141**	**0.0117**	**2.0000e-005**	**7.4000e-004**	**9.3000e-004**	**1.6700e-003**	**1.1000e-004**	**8.9000e-004**	**1.0000e-003**	**0.0000**	**1.5912**	**1.5912**	**3.1000e-004**	**0.0000**	**1.5989**

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	3.0000e-005	1.1500e-003	2.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2739	0.2739	1.0000e-005	0.0000	0.2743
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	6.0000e-005	5.0000e-005	4.6000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1105	0.1105	0.0000	0.0000	0.1106
Total	**9.0000e-005**	**1.2000e-003**	**6.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.3844**	**0.3844**	**1.0000e-005**	**0.0000**	**0.3849**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8000e-004	0.0000	1.8000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9600e-003	0.0244	0.0106	2.0000e-005		1.0500e-003	1.0500e-003		9.6000e-004	9.6000e-004	0.0000	2.2288	2.2288	6.9000e-004	0.0000	2.2461
Total	**1.9600e-003**	**0.0244**	**0.0106**	**2.0000e-005**	**1.8000e-004**	**1.0500e-003**	**1.2300e-003**	**2.0000e-005**	**9.6000e-004**	**9.8000e-004**	**0.0000**	**2.2288**	**2.2288**	**6.9000e-004**	**0.0000**	**2.2461**

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	1.8000e-004	6.2700e-003	1.1900e-003	2.0000e-005	3.2000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.4868	1.4868	8.0000e-005	0.0000	1.4888
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	5.0000e-005	4.0000e-005	3.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0921	0.0921	0.0000	0.0000	0.0922
Total	**2.3000e-004**	**6.3100e-003**	**1.5800e-003**	**2.0000e-005**	**4.2000e-004**	**2.0000e-005**	**4.5000e-004**	**1.2000e-004**	**2.0000e-005**	**1.4000e-004**	**0.0000**	**1.5789**	**1.5789**	**8.0000e-005**	**0.0000**	**1.5810**

3.3 Site Preparation - 2018

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					1.8000e-004	0.0000	1.8000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9600e-003	0.0244	0.0106	2.0000e-005		1.0500e-003	1.0500e-003		9.6000e-004	9.6000e-004	0.0000	2.2288	2.2288	6.9000e-004	0.0000	2.2461
Total	**1.9600e-003**	**0.0244**	**0.0106**	**2.0000e-005**	**1.8000e-004**	**1.0500e-003**	**1.2300e-003**	**2.0000e-005**	**9.6000e-004**	**9.8000e-004**	**0.0000**	**2.2288**	**2.2288**	**6.9000e-004**	**0.0000**	**2.2461**

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	1.8000e-004	6.2700e-003	1.1900e-003	2.0000e-005	3.2000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.4868	1.4868	8.0000e-005	0.0000	1.4888
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	5.0000e-005	4.0000e-005	3.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0921	0.0921	0.0000	0.0000	0.0922
Total	**2.3000e-004**	**6.3100e-003**	**1.5800e-003**	**2.0000e-005**	**4.2000e-004**	**2.0000e-005**	**4.5000e-004**	**1.2000e-004**	**2.0000e-005**	**1.4000e-004**	**0.0000**	**1.5789**	**1.5789**	**8.0000e-005**	**0.0000**	**1.5810**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8800e-003	0.0000	1.8800e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0236	0.0194	3.0000e-005		1.5600e-003	1.5600e-003		1.4900e-003	1.4900e-003	0.0000	2.6520	2.6520	5.1000e-004	0.0000	2.6648
Total	**2.6600e-003**	**0.0236**	**0.0194**	**3.0000e-005**	**1.8800e-003**	**1.5600e-003**	**3.4400e-003**	**1.0300e-003**	**1.4900e-003**	**2.5200e-003**	**0.0000**	**2.6520**	**2.6520**	**5.1000e-004**	**0.0000**	**2.6648**

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	1.0000e-004	8.0000e-005	7.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1842	0.1842	1.0000e-005	0.0000	0.1844
Total	**1.0000e-004**	**8.0000e-005**	**7.7000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1842**	**0.1842**	**1.0000e-005**	**0.0000**	**0.1844**

3.4 Grading - 2018

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					1.8800e-003	0.0000	1.8800e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0236	0.0194	3.0000e-005		1.5600e-003	1.5600e-003		1.4900e-003	1.4900e-003	0.0000	2.6520	2.6520	5.1000e-004	0.0000	2.6648
Total	**2.6600e-003**	**0.0236**	**0.0194**	**3.0000e-005**	**1.8800e-003**	**1.5600e-003**	**3.4400e-003**	**1.0300e-003**	**1.4900e-003**	**2.5200e-003**	**0.0000**	**2.6520**	**2.6520**	**5.1000e-004**	**0.0000**	**2.6648**

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	1.0000e-004	8.0000e-005	7.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1842	0.1842	1.0000e-005	0.0000	0.1844
Total	**1.0000e-004**	**8.0000e-005**	**7.7000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1842**	**0.1842**	**1.0000e-005**	**0.0000**	**0.1844**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0494	0.5019	0.3527	5.2000e-004		0.0323	0.0323		0.0297	0.0297	0.0000	47.3253	47.3253	0.0147	0.0000	47.6936
Total	**0.0494**	**0.5019**	**0.3527**	**5.2000e-004**		**0.0323**	**0.0323**		**0.0297**	**0.0297**	**0.0000**	**47.3253**	**47.3253**	**0.0147**	**0.0000**	**47.6936**

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	1.8000e-004	1.4000e-004	1.4100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3353	0.3353	1.0000e-005	0.0000	0.3355
Total	**1.8000e-004**	**1.4000e-004**	**1.4100e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3353**	**0.3353**	**1.0000e-005**	**0.0000**	**0.3355**

3.5 Building Construction - 2018

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	0.0494	0.5019	0.3527	5.2000e-004		0.0323	0.0323		0.0297	0.0297	0.0000	47.3253	47.3253	0.0147	0.0000	47.6936
Total	**0.0494**	**0.5019**	**0.3527**	**5.2000e-004**		**0.0323**	**0.0323**		**0.0297**	**0.0297**	**0.0000**	**47.3253**	**47.3253**	**0.0147**	**0.0000**	**47.6936**

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	1.8000e-004	1.4000e-004	1.4100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3353	0.3353	1.0000e-005	0.0000	0.3355
Total	**1.8000e-004**	**1.4000e-004**	**1.4100e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3353**	**0.3353**	**1.0000e-005**	**0.0000**	**0.3355**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0287	0.2946	0.2263	3.4000e-004		0.0182	0.0182		0.0167	0.0167	0.0000	30.6901	30.6901	9.7100e-003	0.0000	30.9329
Total	**0.0287**	**0.2946**	**0.2263**	**3.4000e-004**		**0.0182**	**0.0182**		**0.0167**	**0.0167**	**0.0000**	**30.6901**	**30.6901**	**9.7100e-003**	**0.0000**	**30.9329**

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	1.1000e-004	8.0000e-005	8.2000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2144	0.2144	1.0000e-005	0.0000	0.2146
Total	**1.1000e-004**	**8.0000e-005**	**8.2000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2144**	**0.2144**	**1.0000e-005**	**0.0000**	**0.2146**

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0287	0.2946	0.2263	3.4000e-004		0.0182	0.0182		0.0167	0.0167	0.0000	30.6901	30.6901	9.7100e-003	0.0000	30.9329
Total	**0.0287**	**0.2946**	**0.2263**	**3.4000e-004**		**0.0182**	**0.0182**		**0.0167**	**0.0167**	**0.0000**	**30.6901**	**30.6901**	**9.7100e-003**	**0.0000**	**30.9329**

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	1.1000e-004	8.0000e-005	8.2000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2144	0.2144	1.0000e-005	0.0000	0.2146
Total	**1.1000e-004**	**8.0000e-005**	**8.2000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2144**	**0.2144**	**1.0000e-005**	**0.0000**	**0.2146**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2000e-004	8.7400e-003	7.2200e-003	1.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	0.9708	0.9708	2.7000e-004	0.0000	0.9777
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.2000e-004**	**8.7400e-003**	**7.2200e-003**	**1.0000e-005**		**5.1000e-004**	**5.1000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**0.9708**	**0.9708**	**2.7000e-004**	**0.0000**	**0.9777**

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	7.0000e-005	6.0000e-005	5.6000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1326	0.1326	0.0000	0.0000	0.1327
Total	**7.0000e-005**	**6.0000e-005**	**5.6000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1326**	**0.1326**	**0.0000**	**0.0000**	**0.1327**

3.6 Paving - 2018

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	9.2000e-004	8.7400e-003	7.2200e-003	1.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	0.9708	0.9708	2.7000e-004	0.0000	0.9777
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.2000e-004**	**8.7400e-003**	**7.2200e-003**	**1.0000e-005**		**5.1000e-004**	**5.1000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**0.9708**	**0.9708**	**2.7000e-004**	**0.0000**	**0.9777**

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	7.0000e-005	6.0000e-005	5.6000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1326	0.1326	0.0000	0.0000	0.1327
Total	**7.0000e-005**	**6.0000e-005**	**5.6000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1326**	**0.1326**	**0.0000**	**0.0000**	**0.1327**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0812	0.0751	1.2000e-004		6.1000e-003	6.1000e-003		6.1000e-003	6.1000e-003	0.0000	10.3407	10.3407	9.8000e-004	0.0000	10.3653
Total	**0.0257**	**0.0812**	**0.0751**	**1.2000e-004**		**6.1000e-003**	**6.1000e-003**		**6.1000e-003**	**6.1000e-003**	**0.0000**	**10.3407**	**10.3407**	**9.8000e-004**	**0.0000**	**10.3653**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

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	0.0136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0812	0.0751	1.2000e-004		6.1000e-003	6.1000e-003		6.1000e-003	6.1000e-003	0.0000	10.3407	10.3407	9.8000e-004	0.0000	10.3653
Total	**0.0257**	**0.0812**	**0.0751**	**1.2000e-004**		**6.1000e-003**	**6.1000e-003**		**6.1000e-003**	**6.1000e-003**	**0.0000**	**10.3407**	**10.3407**	**9.8000e-004**	**0.0000**	**10.3653**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0118					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3300e-003	0.0642	0.0645	1.0000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	8.9364	8.9364	7.5000e-004	0.0000	8.9553
Total	**0.0211**	**0.0642**	**0.0645**	**1.0000e-004**		**4.5100e-003**	**4.5100e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**8.9364**	**8.9364**	**7.5000e-004**	**0.0000**	**8.9553**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0118					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3300e-003	0.0642	0.0645	1.0000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	8.9364	8.9364	7.5000e-004	0.0000	8.9553
Total	**0.0211**	**0.0642**	**0.0645**	**1.0000e-004**		**4.5100e-003**	**4.5100e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**8.9364**	**8.9364**	**7.5000e-004**	**0.0000**	**8.9553**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.5400e-003	0.0265	0.0625	2.0000e-004	0.0164	2.2000e-004	0.0166	4.3900e-003	2.1000e-004	4.6000e-003	0.0000	18.3522	18.3522	7.2000e-004	0.0000	18.3703
Unmitigated	5.5400e-003	0.0265	0.0625	2.0000e-004	0.0164	2.2000e-004	0.0166	4.3900e-003	2.1000e-004	4.6000e-003	0.0000	18.3522	18.3522	7.2000e-004	0.0000	18.3703

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	19.04	19.04	19.04	43,975	43,975
Total	19.04	19.04	19.04	43,975	43,975

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.573139	0.040894	0.193976	0.114604	0.017740	0.005371	0.017133	0.024527	0.002545	0.002442	0.005942	0.000877	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.1092	3.1092	2.2000e-004	5.0000e-005	3.1285
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.1345	3.1345	2.2000e-004	5.0000e-005	3.1540
NaturalGas Mitigated	4.2000e-004	3.5800e-003	1.5200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	4.1416	4.1416	8.0000e-005	8.0000e-005	4.1662
NaturalGas Unmitigated	5.7000e-004	4.8700e-003	2.0700e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.6437	5.6437	1.1000e-004	1.0000e-004	5.6772

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					
Single Family Housing	105759	5.7000e-004	4.8700e-003	2.0700e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.6437	5.6437	1.1000e-004	1.0000e-004	5.6772
Total		**5.7000e-004**	**4.8700e-003**	**2.0700e-003**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**5.6437**	**5.6437**	**1.1000e-004**	**1.0000e-004**	**5.6772**

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					
Single Family Housing	77610.5	4.2000e-004	3.5800e-003	1.5200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	4.1416	4.1416	8.0000e-005	8.0000e-005	4.1662
Total		**4.2000e-004**	**3.5800e-003**	**1.5200e-003**	**2.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**4.1416**	**4.1416**	**8.0000e-005**	**8.0000e-005**	**4.1662**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	17071.5	3.1345	2.2000e-004	5.0000e-005	3.1540
Total		**3.1345**	**2.2000e-004**	**5.0000e-005**	**3.1540**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	16933.5	3.1092	2.2000e-004	5.0000e-005	3.1285
Total		**3.1092**	**2.2000e-004**	**5.0000e-005**	**3.1285**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0288	4.3000e-004	0.0320	4.0000e-005		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003	0.2542	0.0867	0.3409	5.0000e-004	1.0000e-005	0.3578
Unmitigated	0.0288	4.3000e-004	0.0320	4.0000e-005		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003	0.2542	0.0867	0.3409	5.0000e-004	1.0000e-005	0.3578

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	2.5300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0118	2.6000e-004	0.0171	4.0000e-005		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.2542	0.0624	0.3166	4.8000e-004	1.0000e-005	0.3330
Landscaping	4.5000e-004	1.7000e-004	0.0149	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0243	0.0243	2.0000e-005	0.0000	0.0249
Total	**0.0288**	**4.3000e-004**	**0.0320**	**4.0000e-005**		**2.5500e-003**	**2.5500e-003**		**2.5500e-003**	**2.5500e-003**	**0.2542**	**0.0867**	**0.3409**	**5.0000e-004**	**1.0000e-005**	**0.3578**

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	2.5300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0118	2.6000e-004	0.0171	4.0000e-005		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.2542	0.0624	0.3166	4.8000e-004	1.0000e-005	0.3330
Landscaping	4.5000e-004	1.7000e-004	0.0149	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0243	0.0243	2.0000e-005	0.0000	0.0249
Total	**0.0288**	**4.3000e-004**	**0.0320**	**4.0000e-005**		**2.5500e-003**	**2.5500e-003**		**2.5500e-003**	**2.5500e-003**	**0.2542**	**0.0867**	**0.3409**	**5.0000e-004**	**1.0000e-005**	**0.3578**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2236	4.2600e-003	1.0000e-004	0.3608
Unmitigated	0.2236	4.2600e-003	1.0000e-004	0.3608

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.130308 / 0.0821507	0.2236	4.2600e-003	1.0000e-004	0.3608
Total		**0.2236**	**4.2600e-003**	**1.0000e-004**	**0.3608**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.130308 / 0.0821507	0.2236	4.2600e-003	1.0000e-004	0.3608
Total		**0.2236**	**4.2600e-003**	**1.0000e-004**	**0.3608**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5115	0.0302	0.0000	1.2673
Unmitigated	0.5115	0.0302	0.0000	1.2673

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	2.52	0.5115	0.0302	0.0000	1.2673
Total		**0.5115**	**0.0302**	**0.0000**	**1.2673**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	2.52	0.5115	0.0302	0.0000	1.2673
Total		**0.5115**	**0.0302**	**0.0000**	**1.2673**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Orange Avenue Lot Split

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	2.00	Dwelling Unit	0.30	3,600.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	404.79	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - Applicant provided

Construction Phase - Applicant provided

Trips and VMT -

Demolition -

Grading - Applicant provided

Vehicle Trips - Based on ITE 9th ed. trip generation rates

Energy Mitigation - 2016 Title 24 standards (latest standards) are anticipated to result in 28% improvement from 2013 Title 24 standards for residential buildings

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	151.00
tblConstructionPhase	NumDays	100.00	151.00
tblConstructionPhase	NumDays	10.00	3.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	2.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	10/22/2019	4/8/2019
tblConstructionPhase	PhaseEndDate	3/21/2019	3/25/2019
tblConstructionPhase	PhaseEndDate	3/25/2019	8/24/2018
tblConstructionPhase	PhaseStartDate	3/26/2019	9/10/2018
tblConstructionPhase	PhaseStartDate	8/23/2018	8/27/2018
tblConstructionPhase	PhaseStartDate	3/22/2019	8/23/2018
tblGrading	AcresOfGrading	2.50	0.30
tblGrading	MaterialExported	0.00	300.00
tblLandUse	LotAcreage	0.65	0.30
tblProjectCharacteristics	CO2IntensityFactor	641.35	404.79
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	9.91	9.52
tblVehicleTrips	SU_TR	8.62	9.52

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.7233	13.0401	9.6389	0.0164	0.8349	0.8593	1.4582	0.4356	0.8026	1.0304	0.0000	1,686.4470	1,686.4470	0.3839	0.0000	1,694.9747
2019	1.5634	11.6585	9.4143	0.0144	8.2100e-003	0.7342	0.7424	2.1800e-003	0.6858	0.6879	0.0000	1,417.5919	1,417.5919	0.3808	0.0000	1,427.1113
Maximum	**1.7233**	**13.0401**	**9.6389**	**0.0164**	**0.8349**	**0.8593**	**1.4582**	**0.4356**	**0.8026**	**1.0304**	**0.0000**	**1,686.4470**	**1,686.4470**	**0.3839**	**0.0000**	**1,694.9747**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.7233	13.0401	9.6389	0.0164	0.8349	0.8593	1.4582	0.4356	0.8026	1.0304	0.0000	1,686.4470	1,686.4470	0.3839	0.0000	1,694.9747
2019	1.5634	11.6585	9.4143	0.0144	8.2100e-003	0.7342	0.7424	2.1800e-003	0.6858	0.6879	0.0000	1,417.5919	1,417.5919	0.3808	0.0000	1,427.1113
Maximum	**1.7233**	**13.0401**	**9.6389**	**0.0164**	**0.8349**	**0.8593**	**1.4582**	**0.4356**	**0.8026**	**1.0304**	**0.0000**	**1,686.4470**	**1,686.4470**	**0.3839**	**0.0000**	**1,694.9747**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**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	lb/day										lb/day					
Area	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308
Energy	3.1200e-003	0.0267	0.0114	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		34.0882	34.0882	6.5000e-004	6.2000e-004	34.2907
Mobile	0.0347	0.1410	0.3554	1.1700e-003	0.0934	1.2300e-003	0.0947	0.0250	1.1500e-003	0.0262		117.7214	117.7214	4.4200e-003		117.8318
Total	**2.2064**	**0.2095**	**3.2129**	**6.4000e-003**	**0.0934**	**0.3834**	**0.4768**	**0.0250**	**0.3833**	**0.4083**	**40.7567**	**164.4596**	**205.2163**	**0.0558**	**3.5000e-003**	**207.6534**

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	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308
Energy	2.2900e-003	0.0196	8.3400e-003	1.3000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		25.0155	25.0155	4.8000e-004	4.6000e-004	25.1641
Mobile	0.0347	0.1410	0.3554	1.1700e-003	0.0934	1.2300e-003	0.0947	0.0250	1.1500e-003	0.0262		117.7214	117.7214	4.4200e-003		117.8318
Total	**2.2056**	**0.2024**	**3.2098**	**6.3600e-003**	**0.0934**	**0.3828**	**0.4762**	**0.0250**	**0.3827**	**0.4077**	**40.7567**	**155.3869**	**196.1436**	**0.0556**	**3.3400e-003**	**198.5268**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.04	3.39	0.09	0.62	0.00	0.15	0.12	0.00	0.15	0.14	0.00	5.52	4.42	0.30	4.57	4.40

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	8/6/2018	8/8/2018	5	3	
2	Site Preparation	Site Preparation	8/9/2018	8/15/2018	5	5	
3	Grading	Grading	8/16/2018	8/22/2018	5	5	
4	Building Construction	Building Construction	8/27/2018	3/25/2019	5	151	
5	Paving	Paving	8/23/2018	8/24/2018	5	2	
6	Architectural Coating	Architectural Coating	9/10/2018	4/8/2019	5	151	

Acres of Grading (Site Preparation Phase): 0.3

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 7,290; Residential Outdoor: 2,430; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Orange Avenue Lot Split - Bay Area AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
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	4	10.00	0.00	7.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	38.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4922	0.0000	0.4922	0.0745	0.0000	0.0745			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.4922**	**0.6228**	**1.1149**	**0.0745**	**0.5943**	**0.6688**		**1,169.350 2**	**1,169.350 2**	**0.2254**		**1,174.985 7**

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	0.0221	0.7532	0.1416	1.9000e-003	0.0408	3.0300e-003	0.0438	0.0112	2.9000e-003	0.0141		202.6492	202.6492	0.0104		202.9095
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	0.0421	0.0272	0.3350	8.8000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		87.3564	87.3564	2.5500e-003		87.4202
Total	**0.0642**	**0.7804**	**0.4766**	**2.7800e-003**	**0.1229**	**3.5800e-003**	**0.1265**	**0.0330**	**3.4100e-003**	**0.0364**		**290.0056**	**290.0056**	**0.0130**		**290.3296**

3.2 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4922	0.0000	0.4922	0.0745	0.0000	0.0745			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.4922**	**0.6228**	**1.1149**	**0.0745**	**0.5943**	**0.6688**	**0.0000**	**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.0221	0.7532	0.1416	1.9000e-003	0.0408	3.0300e-003	0.0438	0.0112	2.9000e-003	0.0141		202.6492	202.6492	0.0104		202.9095
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	0.0421	0.0272	0.3350	8.8000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		87.3564	87.3564	2.5500e-003		87.4202
Total	**0.0642**	**0.7804**	**0.4766**	**2.7800e-003**	**0.1229**	**3.5800e-003**	**0.1265**	**0.0330**	**3.4100e-003**	**0.0364**		**290.0056**	**290.0056**	**0.0130**		**290.3296**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0704	0.0000	0.0704	7.9000e-003	0.0000	7.9000e-003			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846		982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.0704**	**0.4180**	**0.4884**	**7.9000e-003**	**0.3846**	**0.3925**		**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0720	2.4533	0.4612	6.1900e-003	0.1328	9.8600e-003	0.1426	0.0364	9.4400e-003	0.0458		660.0575	660.0575	0.0339		660.9051
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	0.0211	0.0136	0.1675	4.4000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		43.6782	43.6782	1.2800e-003		43.7101
Total	**0.0930**	**2.4669**	**0.6287**	**6.6300e-003**	**0.1738**	**0.0101**	**0.1840**	**0.0473**	**9.7000e-003**	**0.0570**		**703.7357**	**703.7357**	**0.0352**		**704.6152**

3.3 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0704	0.0000	0.0704	7.9000e-003	0.0000	7.9000e-003			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846	0.0000	982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.0704**	**0.4180**	**0.4884**	**7.9000e-003**	**0.3846**	**0.3925**	**0.0000**	**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0720	2.4533	0.4612	6.1900e-003	0.1328	9.8600e-003	0.1426	0.0364	9.4400e-003	0.0458		660.0575	660.0575	0.0339		660.9051
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	0.0211	0.0136	0.1675	4.4000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		43.6782	43.6782	1.2800e-003		43.7101
Total	**0.0930**	**2.4669**	**0.6287**	**6.6300e-003**	**0.1738**	**0.0101**	**0.1840**	**0.0473**	**9.7000e-003**	**0.0570**		**703.7357**	**703.7357**	**0.0352**		**704.6152**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.7528**	**0.6228**	**1.3755**	**0.4138**	**0.5943**	**1.0081**		**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.0421	0.0272	0.3350	8.8000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		87.3564	87.3564	2.5500e-003		87.4202
Total	**0.0421**	**0.0272**	**0.3350**	**8.8000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**87.3564**	**87.3564**	**2.5500e-003**		**87.4202**

3.4 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.7528**	**0.6228**	**1.3755**	**0.4138**	**0.5943**	**1.0081**	**0.0000**	**1,169.350 2**	**1,169.350 2**	**0.2254**		**1,174.985 7**

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	0.0421	0.0272	0.3350	8.8000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		87.3564	87.3564	2.5500e-003		87.4202
Total	**0.0421**	**0.0272**	**0.3350**	**8.8000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**87.3564**	**87.3564**	**2.5500e-003**		**87.4202**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**		**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	4.2100e-003	2.7200e-003	0.0335	9.0000e-005	8.2100e-003	6.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.7356	8.7356	2.6000e-004		8.7420
Total	**4.2100e-003**	**2.7200e-003**	**0.0335**	**9.0000e-005**	**8.2100e-003**	**6.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**8.7356**	**8.7356**	**2.6000e-004**		**8.7420**

3.5 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.532 3	1,146.532 3	0.3569		1,155.455 5
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**	**0.0000**	**1,146.532 3**	**1,146.532 3**	**0.3569**		**1,155.455 5**

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	4.2100e-003	2.7200e-003	0.0335	9.0000e-005	8.2100e-003	6.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.7356	8.7356	2.6000e-004		8.7420
Total	**4.2100e-003**	**2.7200e-003**	**0.0335**	**9.0000e-005**	**8.2100e-003**	**6.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**8.7356**	**8.7356**	**2.6000e-004**		**8.7420**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.669 6	1,127.669 6	0.3568		1,136.589 2
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**		**1,127.669 6**	**1,127.669 6**	**0.3568**		**1,136.589 2**

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	3.8000e-003	2.3800e-003	0.0298	9.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.4742	8.4742	2.3000e-004		8.4798
Total	**3.8000e-003**	**2.3800e-003**	**0.0298**	**9.0000e-005**	**8.2100e-003**	**5.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**8.4742**	**8.4742**	**2.3000e-004**		**8.4798**

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**	**0.0000**	**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

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	3.8000e-003	2.3800e-003	0.0298	9.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.4742	8.4742	2.3000e-004		8.4798
Total	**3.8000e-003**	**2.3800e-003**	**0.0298**	**9.0000e-005**	**8.2100e-003**	**5.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**8.4742**	**8.4742**	**2.3000e-004**		**8.4798**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735		1,070.137 2	1,070.137 2	0.3017		1,077.679 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**		**1,070.137 2**	**1,070.137 2**	**0.3017**		**1,077.679 8**

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	0.0758	0.0490	0.6030	1.5800e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		157.2415	157.2415	4.5900e-003		157.3563
Total	**0.0758**	**0.0490**	**0.6030**	**1.5800e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**157.2415**	**157.2415**	**4.5900e-003**		**157.3563**

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735	0.0000	1,070.1372	1,070.1372	0.3017		1,077.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**	**0.0000**	**1,070.1372**	**1,070.1372**	**0.3017**		**1,077.6798**

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	0.0758	0.0490	0.6030	1.5800e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		157.2415	157.2415	4.5900e-003		157.3563
Total	**0.0758**	**0.0490**	**0.6030**	**1.5800e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**157.2415**	**157.2415**	**4.5900e-003**		**157.3563**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**0.6343**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2018

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	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**0.6343**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**0.6021**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**0.6021**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0347	0.1410	0.3554	1.1700e-003	0.0934	1.2300e-003	0.0947	0.0250	1.1500e-003	0.0262		117.7214	117.7214	4.4200e-003		117.8318
Unmitigated	0.0347	0.1410	0.3554	1.1700e-003	0.0934	1.2300e-003	0.0947	0.0250	1.1500e-003	0.0262		117.7214	117.7214	4.4200e-003		117.8318

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	19.04	19.04	19.04	43,975	43,975
Total	19.04	19.04	19.04	43,975	43,975

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.573139	0.040894	0.193976	0.114604	0.017740	0.005371	0.017133	0.024527	0.002545	0.002442	0.005942	0.000877	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	2.2900e-003	0.0196	8.3400e-003	1.3000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		25.0155	25.0155	4.8000e-004	4.6000e-004	25.1641
NaturalGas Unmitigated	3.1200e-003	0.0267	0.0114	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		34.0882	34.0882	6.5000e-004	6.2000e-004	34.2907

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					
Single Family Housing	289.749	3.1200e-003	0.0267	0.0114	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		34.0882	34.0882	6.5000e-004	6.2000e-004	34.2907
Total		**3.1200e-003**	**0.0267**	**0.0114**	**1.7000e-004**		**2.1600e-003**	**2.1600e-003**		**2.1600e-003**	**2.1600e-003**		**34.0882**	**34.0882**	**6.5000e-004**	**6.2000e-004**	**34.2907**

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					
Single Family Housing	0.212632	2.2900e-003	0.0196	8.3400e-003	1.3000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		25.0155	25.0155	4.8000e-004	4.6000e-004	25.1641
Total		**2.2900e-003**	**0.0196**	**8.3400e-003**	**1.3000e-004**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**		**25.0155**	**25.0155**	**4.8000e-004**	**4.6000e-004**	**25.1641**

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	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308
Unmitigated	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308

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	0.0139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.0726	0.0399	2.6806	5.0500e-003		0.3791	0.3791		0.3791	0.3791	40.7567	12.3529	53.1096	0.0504	2.8800e-003	55.2265
Landscaping	5.0400e-003	1.9100e-003	0.1656	1.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.2971	0.2971	2.9000e-004		0.3044
Total	**2.1686**	**0.0418**	**2.8461**	**5.0600e-003**		**0.3800**	**0.3800**		**0.3800**	**0.3800**	**40.7567**	**12.6500**	**53.4067**	**0.0507**	**2.8800e-003**	**55.5309**

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	0.0139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.0726	0.0399	2.6806	5.0500e-003		0.3791	0.3791		0.3791	0.3791	40.7567	12.3529	53.1096	0.0504	2.8800e-003	55.2265
Landscaping	5.0400e-003	1.9100e-003	0.1656	1.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.2971	0.2971	2.9000e-004		0.3044
Total	**2.1686**	**0.0418**	**2.8461**	**5.0600e-003**		**0.3800**	**0.3800**		**0.3800**	**0.3800**	**40.7567**	**12.6500**	**53.4067**	**0.0507**	**2.8800e-003**	**55.5309**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Orange Avenue Lot Split

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	2.00	Dwelling Unit	0.30	3,600.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	404.79	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - Applicant provided

Construction Phase - Applicant provided

Trips and VMT -

Demolition -

Grading - Applicant provided

Vehicle Trips - Based on ITE 9th ed. trip generation rates

Energy Mitigation - 2016 Title 24 standards (latest standards) are anticipated to result in 28% improvement from 2013 Title 24 standards for residential buildings

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	151.00
tblConstructionPhase	NumDays	100.00	151.00
tblConstructionPhase	NumDays	10.00	3.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	2.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	10/22/2019	4/8/2019
tblConstructionPhase	PhaseEndDate	3/21/2019	3/25/2019
tblConstructionPhase	PhaseEndDate	3/25/2019	8/24/2018
tblConstructionPhase	PhaseStartDate	3/26/2019	9/10/2018
tblConstructionPhase	PhaseStartDate	8/23/2018	8/27/2018
tblConstructionPhase	PhaseStartDate	3/22/2019	8/23/2018
tblGrading	AcresOfGrading	2.50	0.30
tblGrading	MaterialExported	0.00	300.00
tblLandUse	LotAcreage	0.65	0.30
tblProjectCharacteristics	CO2IntensityFactor	641.35	404.79
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	9.91	9.52
tblVehicleTrips	SU_TR	8.62	9.52

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.7235	13.0407	9.6373	0.0163	0.8349	0.8593	1.4582	0.4356	0.8026	1.0304	0.0000	1,672.3385	1,672.3385	0.3839	0.0000	1,680.9121
2019	1.5637	11.6590	9.4127	0.0144	8.2100e-003	0.7342	0.7424	2.1800e-003	0.6858	0.6879	0.0000	1,416.9240	1,416.9240	0.3808	0.0000	1,426.4431
Maximum	**1.7235**	**13.0407**	**9.6373**	**0.0163**	**0.8349**	**0.8593**	**1.4582**	**0.4356**	**0.8026**	**1.0304**	**0.0000**	**1,672.3385**	**1,672.3385**	**0.3839**	**0.0000**	**1,680.9121**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.7235	13.0407	9.6373	0.0163	0.8349	0.8593	1.4582	0.4356	0.8026	1.0304	0.0000	1,672.3385	1,672.3385	0.3839	0.0000	1,680.9121
2019	1.5637	11.6590	9.4127	0.0144	8.2100e-003	0.7342	0.7424	2.1800e-003	0.6858	0.6879	0.0000	1,416.9240	1,416.9240	0.3808	0.0000	1,426.4431
Maximum	**1.7235**	**13.0407**	**9.6373**	**0.0163**	**0.8349**	**0.8593**	**1.4582**	**0.4356**	**0.8026**	**1.0304**	**0.0000**	**1,672.3385**	**1,672.3385**	**0.3839**	**0.0000**	**1,680.9121**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308
Energy	3.1200e-003	0.0267	0.0114	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		34.0882	34.0882	6.5000e-004	6.2000e-004	34.2907
Mobile	0.0303	0.1487	0.3607	1.0900e-003	0.0934	1.2400e-003	0.0947	0.0250	1.1600e-003	0.0262		110.1292	110.1292	4.5100e-003		110.2419
Total	**2.2020**	**0.2173**	**3.2182**	**6.3200e-003**	**0.0934**	**0.3834**	**0.4768**	**0.0250**	**0.3833**	**0.4083**	**40.7567**	**156.8674**	**197.6241**	**0.0558**	**3.5000e-003**	**200.0635**

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	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308
Energy	2.2900e-003	0.0196	8.3400e-003	1.3000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		25.0155	25.0155	4.8000e-004	4.6000e-004	25.1641
Mobile	0.0303	0.1487	0.3607	1.0900e-003	0.0934	1.2400e-003	0.0947	0.0250	1.1600e-003	0.0262		110.1292	110.1292	4.5100e-003		110.2419
Total	**2.2012**	**0.2102**	**3.2152**	**6.2800e-003**	**0.0934**	**0.3828**	**0.4762**	**0.0250**	**0.3827**	**0.4077**	**40.7567**	**147.7948**	**188.5514**	**0.0557**	**3.3400e-003**	**190.9369**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.04	3.27	0.09	0.63	0.00	0.15	0.12	0.00	0.15	0.14	0.00	5.78	4.59	0.30	4.57	4.56

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	8/6/2018	8/8/2018	5	3	
2	Site Preparation	Site Preparation	8/9/2018	8/15/2018	5	5	
3	Grading	Grading	8/16/2018	8/22/2018	5	5	
4	Building Construction	Building Construction	8/27/2018	3/25/2019	5	151	
5	Paving	Paving	8/23/2018	8/24/2018	5	2	
6	Architectural Coating	Architectural Coating	9/10/2018	4/8/2019	5	151	

Acres of Grading (Site Preparation Phase): 0.3

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 7,290; Residential Outdoor: 2,430; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
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	4	10.00	0.00	7.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	38.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4922	0.0000	0.4922	0.0745	0.0000	0.0745			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.4922**	**0.6228**	**1.1149**	**0.0745**	**0.5943**	**0.6688**		**1,169.350 2**	**1,169.350 2**	**0.2254**		**1,174.985 7**

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	0.0228	0.7727	0.1540	1.8700e-003	0.0408	3.0900e-003	0.0439	0.0112	2.9600e-003	0.0141		199.3735	199.3735	0.0110		199.6483
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	0.0446	0.0336	0.3184	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4787	80.4787	2.4100e-003		80.5390
Total	**0.0673**	**0.8063**	**0.4724**	**2.6800e-003**	**0.1229**	**3.6400e-003**	**0.1266**	**0.0330**	**3.4700e-003**	**0.0364**		**279.8522**	**279.8522**	**0.0134**		**280.1873**

3.2 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4922	0.0000	0.4922	0.0745	0.0000	0.0745			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.4922**	**0.6228**	**1.1149**	**0.0745**	**0.5943**	**0.6688**	**0.0000**	**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.0228	0.7727	0.1540	1.8700e-003	0.0408	3.0900e-003	0.0439	0.0112	2.9600e-003	0.0141		199.3735	199.3735	0.0110		199.6483
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	0.0446	0.0336	0.3184	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4787	80.4787	2.4100e-003		80.5390
Total	**0.0673**	**0.8063**	**0.4724**	**2.6800e-003**	**0.1229**	**3.6400e-003**	**0.1266**	**0.0330**	**3.4700e-003**	**0.0364**		**279.8522**	**279.8522**	**0.0134**		**280.1873**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0704	0.0000	0.0704	7.9000e-003	0.0000	7.9000e-003			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846		982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.0704**	**0.4180**	**0.4884**	**7.9000e-003**	**0.3846**	**0.3925**		**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0741	2.5169	0.5015	6.0900e-003	0.1328	0.0101	0.1428	0.0364	9.6300e-003	0.0460		649.3879	649.3879	0.0358		650.2830
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	0.0223	0.0168	0.1592	4.0000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		40.2393	40.2393	1.2100e-003		40.2695
Total	**0.0964**	**2.5337**	**0.6607**	**6.4900e-003**	**0.1738**	**0.0104**	**0.1842**	**0.0473**	**9.8900e-003**	**0.0572**		**689.6273**	**689.6273**	**0.0370**		**690.5525**

3.3 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0704	0.0000	0.0704	7.9000e-003	0.0000	7.9000e-003			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846	0.0000	982.7113	982.7113	0.3059		990.3596
Total	**0.7858**	**9.7572**	**4.2514**	**9.7600e-003**	**0.0704**	**0.4180**	**0.4884**	**7.9000e-003**	**0.3846**	**0.3925**	**0.0000**	**982.7113**	**982.7113**	**0.3059**		**990.3596**

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	0.0741	2.5169	0.5015	6.0900e-003	0.1328	0.0101	0.1428	0.0364	9.6300e-003	0.0460		649.3879	649.3879	0.0358		650.2830
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	0.0223	0.0168	0.1592	4.0000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		40.2393	40.2393	1.2100e-003		40.2695
Total	**0.0964**	**2.5337**	**0.6607**	**6.4900e-003**	**0.1738**	**0.0104**	**0.1842**	**0.0473**	**9.8900e-003**	**0.0572**		**689.6273**	**689.6273**	**0.0370**		**690.5525**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.7528**	**0.6228**	**1.3755**	**0.4138**	**0.5943**	**1.0081**		**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.0446	0.0336	0.3184	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4787	80.4787	2.4100e-003		80.5390
Total	**0.0446**	**0.0336**	**0.3184**	**8.1000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**80.4787**	**80.4787**	**2.4100e-003**		**80.5390**

3.4 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.3502	1,169.3502	0.2254		1,174.9857
Total	**1.0643**	**9.4295**	**7.7762**	**0.0120**	**0.7528**	**0.6228**	**1.3755**	**0.4138**	**0.5943**	**1.0081**	**0.0000**	**1,169.3502**	**1,169.3502**	**0.2254**		**1,174.9857**

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	0.0446	0.0336	0.3184	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4787	80.4787	2.4100e-003		80.5390
Total	**0.0446**	**0.0336**	**0.3184**	**8.1000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**80.4787**	**80.4787**	**2.4100e-003**		**80.5390**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**		**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	4.4600e-003	3.3600e-003	0.0318	8.0000e-005	8.2100e-003	6.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.0479	8.0479	2.4000e-004		8.0539
Total	**4.4600e-003**	**3.3600e-003**	**0.0318**	**8.0000e-005**	**8.2100e-003**	**6.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**8.0479**	**8.0479**	**2.4000e-004**		**8.0539**

3.5 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555
Total	**1.0848**	**11.0316**	**7.7512**	**0.0114**		**0.7087**	**0.7087**		**0.6520**	**0.6520**	**0.0000**	**1,146.5323**	**1,146.5323**	**0.3569**		**1,155.4555**

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	4.4600e-003	3.3600e-003	0.0318	8.0000e-005	8.2100e-003	6.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.0479	8.0479	2.4000e-004		8.0539
Total	**4.4600e-003**	**3.3600e-003**	**0.0318**	**8.0000e-005**	**8.2100e-003**	**6.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**8.0479**	**8.0479**	**2.4000e-004**		**8.0539**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**		**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

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	4.0200e-003	2.9400e-003	0.0282	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.8063	7.8063	2.1000e-004		7.8116
Total	**4.0200e-003**	**2.9400e-003**	**0.0282**	**8.0000e-005**	**8.2100e-003**	**5.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**7.8063**	**7.8063**	**2.1000e-004**		**7.8116**

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**	**0.0000**	**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

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	4.0200e-003	2.9400e-003	0.0282	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.8063	7.8063	2.1000e-004		7.8116
Total	**4.0200e-003**	**2.9400e-003**	**0.0282**	**8.0000e-005**	**8.2100e-003**	**5.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**7.8063**	**7.8063**	**2.1000e-004**		**7.8116**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735		1,070.137 2	1,070.137 2	0.3017		1,077.679 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**		**1,070.137 2**	**1,070.137 2**	**0.3017**		**1,077.679 8**

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	0.0802	0.0605	0.5731	1.4600e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		144.8616	144.8616	4.3400e-003		144.9702
Total	**0.0802**	**0.0605**	**0.5731**	**1.4600e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**144.8616**	**144.8616**	**4.3400e-003**		**144.9702**

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9202	8.7447	7.2240	0.0113		0.5109	0.5109		0.4735	0.4735	0.0000	1,070.1372	1,070.1372	0.3017		1,077.6798
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9202**	**8.7447**	**7.2240**	**0.0113**		**0.5109**	**0.5109**		**0.4735**	**0.4735**	**0.0000**	**1,070.1372**	**1,070.1372**	**0.3017**		**1,077.6798**

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	0.0802	0.0605	0.5731	1.4600e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		144.8616	144.8616	4.3400e-003		144.9702
Total	**0.0802**	**0.0605**	**0.5731**	**1.4600e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**144.8616**	**144.8616**	**4.3400e-003**		**144.9702**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**0.6343**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2018

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	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**0.6343**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**0.6021**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3357					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**0.6021**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	0.0303	0.1487	0.3607	1.0900e-003	0.0934	1.2400e-003	0.0947	0.0250	1.1600e-003	0.0262		110.1292	110.1292	4.5100e-003		110.2419
Unmitigated	0.0303	0.1487	0.3607	1.0900e-003	0.0934	1.2400e-003	0.0947	0.0250	1.1600e-003	0.0262		110.1292	110.1292	4.5100e-003		110.2419

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	19.04	19.04	19.04	43,975	43,975
Total	19.04	19.04	19.04	43,975	43,975

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.573139	0.040894	0.193976	0.114604	0.017740	0.005371	0.017133	0.024527	0.002545	0.002442	0.005942	0.000877	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	2.2900e-003	0.0196	8.3400e-003	1.3000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		25.0155	25.0155	4.8000e-004	4.6000e-004	25.1641
NaturalGas Unmitigated	3.1200e-003	0.0267	0.0114	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		34.0882	34.0882	6.5000e-004	6.2000e-004	34.2907

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					
Single Family Housing	289.749	3.1200e-003	0.0267	0.0114	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		34.0882	34.0882	6.5000e-004	6.2000e-004	34.2907
Total		**3.1200e-003**	**0.0267**	**0.0114**	**1.7000e-004**		**2.1600e-003**	**2.1600e-003**		**2.1600e-003**	**2.1600e-003**		**34.0882**	**34.0882**	**6.5000e-004**	**6.2000e-004**	**34.2907**

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					
Single Family Housing	0.212632	2.2900e-003	0.0196	8.3400e-003	1.3000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		25.0155	25.0155	4.8000e-004	4.6000e-004	25.1641
Total		**2.2900e-003**	**0.0196**	**8.3400e-003**	**1.3000e-004**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**		**25.0155**	**25.0155**	**4.8000e-004**	**4.6000e-004**	**25.1641**

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	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308
Unmitigated	2.1686	0.0418	2.8461	5.0600e-003		0.3800	0.3800		0.3800	0.3800	40.7567	12.6501	53.4067	0.0507	2.8800e-003	55.5308

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	0.0139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.0726	0.0399	2.6806	5.0500e-003		0.3791	0.3791		0.3791	0.3791	40.7567	12.3529	53.1096	0.0504	2.8800e-003	55.2265
Landscaping	5.0400e-003	1.9100e-003	0.1656	1.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.2971	0.2971	2.9000e-004		0.3044
Total	**2.1686**	**0.0418**	**2.8461**	**5.0600e-003**		**0.3800**	**0.3800**		**0.3800**	**0.3800**	**40.7567**	**12.6500**	**53.4067**	**0.0507**	**2.8800e-003**	**55.5309**

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	0.0139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.0726	0.0399	2.6806	5.0500e-003		0.3791	0.3791		0.3791	0.3791	40.7567	12.3529	53.1096	0.0504	2.8800e-003	55.2265
Landscaping	5.0400e-003	1.9100e-003	0.1656	1.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.2971	0.2971	2.9000e-004		0.3044
Total	**2.1686**	**0.0418**	**2.8461**	**5.0600e-003**		**0.3800**	**0.3800**		**0.3800**	**0.3800**	**40.7567**	**12.6500**	**53.4067**	**0.0507**	**2.8800e-003**	**55.5309**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Orange Avenue Lot Split

Bay Area AQMD Air District, Mitigation Report

Construction Mitigation Summary

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

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	4	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	2	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Forklifts	Diesel	No Change	0	2	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Rollers	Diesel	No Change	0	1	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	8	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.14200E-002	1.45470E-001	1.39540E-001	2.20000E-004	1.06000E-002	1.06000E-002	0.00000E+000	1.92771E+001	1.92771E+001	1.74000E-003	0.00000E+000	1.93205E+001
Cement and Mortar Mixers	1.80000E-004	1.10000E-003	9.30000E-004	0.00000E+000	4.00000E-005	4.00000E-005	0.00000E+000	1.37480E-001	1.37480E-001	1.00000E-005	0.00000E+000	1.37840E-001
Concrete/Industrial Saws	2.08000E-003	1.56600E-002	1.49000E-002	3.00000E-005	1.07000E-003	1.07000E-003	0.00000E+000	2.15063E+000	2.15063E+000	1.70000E-004	0.00000E+000	2.15479E+000
Cranes	2.05400E-002	2.45280E-001	9.17700E-002	2.20000E-004	1.05400E-002	9.69000E-003	0.00000E+000	1.97556E+001	1.97556E+001	6.19000E-003	0.00000E+000	1.99103E+001
Forklifts	1.93600E-002	1.71730E-001	1.36410E-001	1.70000E-004	1.35500E-002	1.24700E-002	0.00000E+000	1.56992E+001	1.56992E+001	4.92000E-003	0.00000E+000	1.58222E+001
Graders	1.30000E-003	1.78200E-002	4.79000E-003	2.00000E-005	5.80000E-004	5.30000E-004	0.00000E+000	1.51939E+000	1.51939E+000	4.70000E-004	0.00000E+000	1.53121E+000
Pavers	2.90000E-004	3.16000E-003	2.56000E-003	0.00000E+000	1.50000E-004	1.40000E-004	0.00000E+000	3.75570E-001	3.75570E-001	1.20000E-004	0.00000E+000	3.78490E-001
Rollers	2.30000E-004	2.18000E-003	1.69000E-003	0.00000E+000	1.50000E-004	1.40000E-004	0.00000E+000	2.09490E-001	2.09490E-001	7.00000E-005	0.00000E+000	2.11120E-001
Rubber Tired Dozers	5.80000E-004	6.28000E-003	2.19000E-003	0.00000E+000	3.10000E-004	2.80000E-004	0.00000E+000	3.90170E-001	3.90170E-001	1.20000E-004	0.00000E+000	3.93200E-001
Tractors/Loaders/Backhoes	4.06800E-002	4.04200E-001	3.72710E-001	5.00000E-004	2.80600E-002	2.58200E-002	0.00000E+000	4.52208E+001	4.52208E+001	1.41600E-002	0.00000E+000	4.55749E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	2.14200E-002	1.45470E-001	1.39540E-001	2.20000E-004	1.06000E-002	1.06000E-002	0.00000E+000	1.92771E+001	1.92771E+001	1.74000E-003	0.00000E+000	1.93205E+001
Cement and Mortar Mixers	1.80000E-004	1.10000E-003	9.30000E-004	0.00000E+000	4.00000E-005	4.00000E-005	0.00000E+000	1.37480E-001	1.37480E-001	1.00000E-005	0.00000E+000	1.37840E-001
Concrete/Industrial Saws	2.08000E-003	1.56600E-002	1.49000E-002	3.00000E-005	1.07000E-003	1.07000E-003	0.00000E+000	2.15062E+000	2.15062E+000	1.70000E-004	0.00000E+000	2.15479E+000
Cranes	2.05400E-002	2.45280E-001	9.17700E-002	2.20000E-004	1.05400E-002	9.69000E-003	0.00000E+000	1.97555E+001	1.97555E+001	6.19000E-003	0.00000E+000	1.99103E+001
Forklifts	1.93600E-002	1.71730E-001	1.36410E-001	1.70000E-004	1.35500E-002	1.24700E-002	0.00000E+000	1.56992E+001	1.56992E+001	4.92000E-003	0.00000E+000	1.58222E+001
Graders	1.30000E-003	1.78200E-002	4.79000E-003	2.00000E-005	5.80000E-004	5.30000E-004	0.00000E+000	1.51939E+000	1.51939E+000	4.70000E-004	0.00000E+000	1.53121E+000
Pavers	2.90000E-004	3.16000E-003	2.56000E-003	0.00000E+000	1.50000E-004	1.40000E-004	0.00000E+000	3.75570E-001	3.75570E-001	1.20000E-004	0.00000E+000	3.78490E-001
Rollers	2.30000E-004	2.18000E-003	1.69000E-003	0.00000E+000	1.50000E-004	1.40000E-004	0.00000E+000	2.09490E-001	2.09490E-001	7.00000E-005	0.00000E+000	2.11120E-001
Rubber Tired Dozers	5.80000E-004	6.28000E-003	2.19000E-003	0.00000E+000	3.10000E-004	2.80000E-004	0.00000E+000	3.90170E-001	3.90170E-001	1.20000E-004	0.00000E+000	3.93200E-001
Tractors/Loaders/Backhoes	4.06800E-002	4.04200E-001	3.72710E-001	5.00000E-004	2.80600E-002	2.58200E-002	0.00000E+000	4.52208E+001	4.52208E+001	1.41600E-002	0.00000E+000	4.55748E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
						Percent Reduction						
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.03750E-006	1.03750E-006	0.00000E+000	0.00000E+000	1.03517E-006
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	4.64980E-006	4.64980E-006	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.51856E-006	1.51856E-006	0.00000E+000	0.00000E+000	1.50676E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	6.36975E-007	6.36975E-007	0.00000E+000	0.00000E+000	1.26405E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.10569E-006	1.10569E-006	0.00000E+000	0.00000E+000	1.09710E-006

Fugitive Dust Mitigation

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

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	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	0.81	0.81	0.00	0.00	0.81
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	26.32	26.49	26.57	33.33	25.64	25.64	0.00	26.62	26.62	27.27	20.00	26.62
Water Indoor	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 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 Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
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	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	28.00	
No	Install High Efficiency Lighting	0.00	
No	On-site Renewable	0.00	0.00

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	

Orange Avenue Lot Split

Bay Area AQMD, Summary Report

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	2.00	Dwelling Unit	0.30	3,600.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	404.79	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments

Only CalEEMod defaults were used.

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - Applicant provided

Construction Phase - Applicant provided

Trips and VMT -

Demolition -

Grading - Applicant provided

Vehicle Trips - Based on ITE 9th ed. trip generation rates

Energy Mitigation - 2016 Title 24 standards (latest standards) are anticipated to result in 28% improvement from 2013 Title 24 standards for residential buildings

2.0 Peak Daily Emissions

Peak Daily Construction Emissions

Peak Daily Construction Emissions

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
Year	Phase	lb/day											
2018	Demolition	1.1316 W	10.2359 W	8.2528 S	0.0148 S	1.2415 W	0.7052 W	1.1316 W	10.2359 W	8.2528 S	0.0148 S	1.2415 W	0.7052 W
2018	Site Preparation	0.8822 W	12.2909 W	4.9121 W	0.0164 S	0.6726 W	0.4496 W	0.8822 W	12.2909 W	4.9121 W	0.0164 S	0.6726 W	0.4496 W
2018	Grading	1.1088 W	9.4632 W	8.1113 S	0.0129 S	1.4582 S	1.0304 S	1.1088 W	9.4632 W	8.1113 S	0.0129 S	1.4582 S	1.0304 S
2018	Building Construction	1.0893 W	11.0350 W	7.7847 S	0.0115 S	0.7170 S	0.6542 S	1.0893 W	11.0350 W	7.7847 S	0.0115 S	0.7170 S	0.6542 S
2019	Building Construction	0.9616 W	9.8236 W	7.5730 S	0.0115 S	0.6136 S	0.5592 S	0.9616 W	9.8236 W	7.5730 S	0.0115 S	0.6136 S	0.5592 S
2018	Paving	1.0004 W	8.8053 W	7.8271 S	0.0128 S	0.6598 S	0.5136 S	1.0004 W	8.8053 W	7.8271 S	0.0128 S	0.6598 S	0.5136 S
2018	Architectural Coating	0.6343 S	2.0058 S	1.8542 S	2.9700e-003 S	0.1506 S	0.1506 S	0.6343 S	2.0058 S	1.8542 S	2.9700e-003 S	0.1506 S	0.1506 S
2019	Architectural Coating	0.6021 S	1.8354 S	1.8413 S	2.9700e-003 S	0.1288 S	0.1288 S	0.6021 S	1.8354 S	1.8413 S	2.9700e-003 S	0.1288 S	0.1288 S
	Peak Daily Total	1.1316 W	12.2909 W	8.2528 S	0.0164 S	1.4582 S	1.0304 S	1.1316 W	12.2909 W	8.2528 S	0.0164 S	1.4582 S	1.0304 S
	Air District Threshold												
	Exceed Significance?												

Peak Daily Operational Emissions

Peak Daily Operational Emissions

Orange Avenue Lot Split - Bay Area AQMD Air District, Summary Report

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
	Operational Activity	lb/day											
On-Site	Area	2.1686 S	0.0418 S	2.8461 S	5.0600e-003 S	0.3800 S	0.3800 S	2.1686 S	0.0418 S	2.8461 S	5.0600e-003 S	0.3800 S	0.3800 S
On-Site	Energy	3.1200e-003 S	0.0267 S	0.0114 S	1.7000e-004 S	2.1600e-003 S	2.1600e-003 S	2.2900e-003 S	0.0196 S	8.3400e-003 S	1.3000e-004 S	1.5800e-003 S	1.5800e-003 S
Off-Site	Mobile	0.0347 S	0.1487 W	0.3607 W	1.1700e-003 S	0.0947 W	0.0262 W	0.0347 S	0.1487 W	0.3607 W	1.1700e-003 S	0.0947 W	0.0262 W
	Peak Daily Total	2.2064 S	0.2173 W	3.2182 W	6.4000e-003 S	0.4768 W	0.4083 W	2.2056 S	0.2102 W	3.2152 W	6.3600e-003 S	0.4762 W	0.4077 W
	Air District Threshold												
	Exceed Significance?												

3.0 Annual GHG Emissions

Annual GHG

Annual GHG

		Unmitigated				Mitigated			
		CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
GHG Activity	Year	MT/yr							
Construction	2018	67.7243	0.0176	0.0000	68.1648	67.7242	0.0176	0.0000	68.1647
Construction	2019	39.8410	0.0105	0.0000	40.1027	39.8409	0.0105	0.0000	40.1026
Operational	2020	28.2064	0.0361	2.7216e-004	29.1888	26.6790	0.0360	2.3587e-004	27.6496
	Total								
	Significance Threshold								
	Exceed Significance?								

APPENDIX B

SOIL REMEDIATION PLAN

Soil Remediation Plan

10206 Orange Avenue

Cupertino, California

Prepared for:
Joseph and Doris C. Adamo Revocable Trust

September 19, 2017
Revised October 19, 2017

Prepared by:
McCloskey Consultants, Inc.

SOIL REMEDIATION PLAN

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Prepared for:

JOSEPH AND DORIS C. ADAMO REVOCABLE TRUST

Prepared by:

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1.0 INTRODUCTION

1.1 Statement of Purpose

McCloskey Consultants, Inc. (MCI) was retained by Joseph and Doris C. Adamo Revocable Trust (Trust) to prepare this Soil Remediation Plan (SRP) for the property located at 10206 Orange Avenue in Cupertino, California (Site). The Site location and vicinity map is included as Figure 1. The SRP was prepared to establish protocols for the excavation, loading, transportation and landfill disposal of soils containing residual concentrations of agricultural chemicals and lead-based paint residues. We understand that the property owner seeks to demolish these structures, subdivide the property, and redevelop with at least one single-family residential structure pending approvals.

1.2 Site Description and Background

The property consists of approximately 0.298 acre and has the street addresses of 10206 Orange Avenue in the City of Cupertino, Santa Clara County, California (Site). The Site is designated as assessor's parcel numbers (APN) 357-18-032 by the Santa Clara County Assessor's Office (SCCAO). The Site elevation is approximately 341-342 feet above mean sea level based on the provided design figure. The Site topography is relatively flat, but slopes slightly downward to the east. The Site is currently improved with a small home, garage, shed and another small building used as a studio rental that date back to at least the 1940's.

1.3 Site Background

The City of Cupertino required soil sampling as part of the approval process for the redevelopment of the Site. The primary objective of the soil sampling was to identify if man-made compounds are present in Site soils that could represent health or hazard risks for the planned redevelopment of the Site. The data obtained was then used to evaluate the degree of health risk presented by the contaminants identified, and ultimately to evaluate appropriate response actions at the Site to render it suitable for residential uses. Characterization of the lateral and vertical extent of the contamination identified was done via supplemental sampling.

The DTSC's Office of Human and Ecological Risk ("HERO") has developed the Human Health Risk Assessment, Note 3 (California HHRA HERO Note 3). Using California toxicity criteria, HERO created a list of specific chemicals or chemical compounds for which it is recommended that more conservative (lower) screening values be used. Technical chlordane is listed on the California HHRA HERO Note 3 compounds and the screening value will be used for this compound. The other pesticides concentrations were compared to the United States Environmental Protection Agency Regional Screening Level (USEPA RSL) for residential soil which have recommended screening-level remediation goals for dieldrin and toxaphene.

Arsenic concentrations were compared to published naturally-occurring concentrations and were analyzed by statistical methods. The arsenic results from all the surface soil sampling were analyzed by statistical methods (scatter plot) to determine the approximate maximum naturally-occurring background concentrations. The results of the statistical analysis are included in Appendix A. The results showed an arsenic concentration of 13.0 mg/kg to be the approximate maximum naturally-occurring background concentration in the surface soils at the Site. Lead was compared to the California Human Health Screening Level (CHHSL) guidance of 80 milligram per kilogram (mg/kg) for sensitive uses including residential use.

1.3.1 Initial Sampling

Soil samples were collected as a part of this approval process at three locations around the Site in August/September 2016. The first sample was collected on August 15, 2016, at a location between the residence and garage labeled SA-1 (Surface A) on the Figure 2. The sample was analyzed for total petroleum hydrocarbons (TPH) as gasoline (including benzene, ethylbenzene, toluene, and xylene) (EPA Test Method 8260B), diesel, and motor oil-range petroleum hydrocarbons (EPA Test Method 8015B(modified)), and CAM 17 metals (EPA Test Methods 6010B/7471A/). The results are included in Table 1, Appendix A, and indicate low concentrations of TPH that did not exceed regulatory standards. The metals analysis, however, indicated arsenic and lead concentrations that exceed regulatory standards for residential uses. The arsenic concentration is consistent with naturally-occurring concentrations in the South Bay, but the lead concentration exceeds naturally-occurring concentrations and regulatory standards for residential uses of 80 milligrams per kilogram (mg/kg). The lead detected was likely the result of lead-based paint that flaked off painted structures and onto the ground. The other metals detected in soils were compared to naturally-occurring concentrations (Bradford, 1996) and appear generally consistent with background concentrations, and do not exceed regulatory thresholds.

A second set of samples was collected on September 9, 2016, at two locations shown on the Site Plan, Figure 2, labeled SB-1 (Surface B) and AG-2 (Surface C). At each location samples were reportedly collected at depths of 6 inches and 12 inches and analyzed for total petroleum hydrocarbons (TPH) as gasoline (including benzene, ethylbenzene, toluene, and xylene), diesel, and motor oil-range petroleum hydrocarbons, and CAM 17 metals and organochlorine pesticides (OCPs) (EPA Test Method 8081). The results indicated low concentrations of TPH that do not exceed regulatory standards at both locations and depths. The 6-inch sample from Location B also had low concentrations of several OCPs but at concentrations that do not exceed regulatory standards for residential uses. The metals analysis from this sample indicate arsenic and lead concentrations that exceed regulatory standards for residential uses. The arsenic concentration is consistent with naturally-occurring concentrations in the South Bay, but the lead concentration exceeds naturally-occurring concentrations and exceeds the regulatory standards for residential uses. Location B is not close to any structures, but may have been close to the location of a burn pit used many years ago according to the property owner. The 12-inch deep sample from location B did not have concentrations that exceed any regulatory standards for residential uses. The other metals detected in the soil samples were compared to naturally-occurring concentrations and appear generally consistent with background concentrations and do not exceed regulatory thresholds.

The 6-inch deep and 12-inch deep samples from Location C had several metals and TPH constituents but at naturally-occurring concentrations or concentrations that do not exceed regulatory standards for residential uses. All OCPs were less than the laboratory detection limits.

The laboratory results of the pesticides, arsenic and lead analyses are summarized in Table 1. The complete laboratory results are included in Appendix B.

1.3.2 Phase II Environmental Sampling

The City of Cupertino had a peer review performed of the Phase I Environmental Site Assessment (Running Moose, 2016) who compared the potential environmental concerns identified in the Phase I to the soil sampling and lab results performed. The consultant comments were identified in their letter dated April 12, 2017 (Geocon Consultants) and additional sampling was performed by McCloskey Consultants on June 5, 2017 based on the identified potential additional environmental concerns. The laboratory results of the pesticides, arsenic and lead analyses are summarized in Table 1, Appendix A. The laboratory results of the polynuclear aromatic hydrocarbons (PAHs) analyses are summarized in Table 2, Appendix A. The complete laboratory results are also included in Appendix A.

1.3.2.1 Agricultural Use

A portion of the Site was farmed based on a review of the historical aerial photographs that date back to 1948 through the mid-1950s, and some fruit trees are present on the property. In the past, persistent pesticides including OCPs and arsenic-based pesticides and herbicides were commonly applied to crops and the presence of residual pesticides in soils were a potential concern identified by the City peer reviewers.

The initial soil samples collected and analyzed for OCPs and arsenic were not done under the supervision of a licensed professional, which was an objection of the City’s reviewer. To satisfy this concern the two areas previously sampled were resampled, and two additional shallow soil samples were collected at locations south and east of the existing residence and analyzed for

OCPs (EPA Test Method 8081), arsenic (EPA Test Method 6010B). The approximate discrete sampling locations are shown on Figure 2.

Results indicate that pesticide concentrations were present around the Site at each of the four locations sampled for agricultural use (AG-1, AG-2/Surface C, AG-3 and SB-1). Concentrations of chlordane, 4,4'-DDE, 4,4'-DDT, and dieldrin were detected in at least one of the samples collected. Chlordane was detected exceeding the laboratory reporting limit in three of the four samples at concentrations ranging from 0.055 mg/kg to 0.509 mg/kg. Only the concentration detected at sampling location AG-3 exceeded the single compound California HHRA HERO Note 3 of 0.43 mg/kg for residential uses. All of the samples had detectible concentrations of 4,4'-DDE ranging from 0.00477 mg/kg to 0.14 mg/kg but none of the concentrations detected exceed the single compound USEPA RSL of 2.0 mg/kg for residential uses. All of the samples had detectible concentrations of 4,4'-DDT ranging from 0.00261mg/kg to 0.0687 mg/kg. None of the concentrations detected exceed the single compound USEPA RSL of 1.9 mg/Kg for residential uses. Dieldrin was detected in one of the soil samples at a concentration of 0.0046 mg/kg, which does not exceed the single compound USEPA RSL of 0.034 mg/kg for residential use.

Arsenic was detected in all four of the soil samples analyzed and ranged from 5.63 mg/kg to 17.7 mg/kg. All of the arsenic concentrations detected exceed the USEPA RSLs for residential uses. The Site-specific maximum background concentration for arsenic was calculated to be 13 mg/kg, as shown in Appendix B. Two of the arsenic concentrations (AG-1 and AG-2/Surface C) exceeded the calculated maximum naturally-occurring background concentration.

Lead was detected in every soil sample collected and ranged from 46.6 mg/kg to 590 mg/kg. Lead concentrations exceeded the CHHSL of 80 mg/Kg at two of the four sampling locations, but none exceeded the total threshold limit concentration (TTLC) for hazardous waste of 1,000 mg/Kg. None of the samples were analyzed for soluble lead during the Phase II sampling and therefore additional hazardous waste may be identified when waste characterization is being performed.

1.3.2.2 Building Perimeters

The residence and other structures date back to 1939 and 1950. Because the structures date back several decades, they may have been treated with insecticides/herbicides around the building perimeters. Lead-based paint may have been used and flaking of paint to soil around these building was also a potential environmental concern. To evaluate these potential concerns, soil samples were collected from adjacent to the outside walls, from a depth of 0- ½ feet, and at a frequency of one sample along each wall. These ten samples were analyzed for OCPs, lead and arsenic.

Concrete located on the eastern side of the residence and the northern side of the garage appears to be placed sometime after 1968 and the soil conditions beneath the concrete was a potential environmental concern. To evaluate the soil under the concrete, the concrete was cored in two locations adjacent to the structures and soil samples were collected and analyzed for OCPs, lead and arsenic.

The results indicate that pesticide concentrations were present around the building perimeters of each of the three existing structures. As summarized in Table 1, Appendix A, concentrations of chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, heptachlor, heptachlor epoxide, and methoxychlor were detected in at least one of the samples collected. All of the samples had detectible concentrations of chlordane ranging from 0.0814 mg/Kg to 4.46 mg/Kg. Six of the concentrations detected exceed the single compound California HHRA HERO Note 3 of 0.43 mg/kg for residential uses. One of the chlordane concentrations exceeded the hazardous waste threshold of 2.5 mg/Kg. 4,4'-DDE was detected in 11 of the 12 soil samples at concentrations ranging from 0.0045 mg/kg to 0.187 mg/kg. None of the concentrations detected exceed the single compound USEPA RSL of 2.0 mg/kg for residential uses. 4,4'-DDT was detected in ten of the 12 soil samples at concentrations ranging from 0.0125 mg/kg to 0.437 mg/kg. None of the concentrations detected exceed the single compound USEPA RSL of 1.9 mg/Kg for residential uses. Dieldrin was detected in ten of the 12 soil samples at a concentration of ranging from 0.00194 mg/kg to 0.503 mg/kg. Two of the concentration detected exceeded the single compound USEPA RSL of 0.034 mg/Kg for residential uses. Heptachlor was detected in one of the soil samples at a concentration of 0.00958 mg/kg. The concentration detected did not exceed the single compound USEPA RSL of 0.130 mg/kg for residential uses. Heptachlor epoxide was detected exceeding the laboratory reporting limit in five of the 12 samples at concentrations ranging from 0.00228 mg/kg to 0.0548 mg/kg. These concentrations are below the single compound USEPA RSL of 0.07 mg/kg for residential uses. Methoxychlor was detected in one of the soil samples at a concentration of 0.01099 mg/kg. This concentration is well below the single compound USEPA RSL of 320 mg/kg for residential uses.

Arsenic was detected in every soil sample collected from around the building perimeters and ranged from 3.02 mg/kg to 23.2 mg/Kg. All of the arsenic concentrations detected exceed the USEPA RSL for sensitive uses. Only the arsenic concentration of 23.2 mg/kg collected from adjacent to the northern side of the residence exceeded the calculated maximum naturally-occurring background concentration of 13.0 mg/kg. The elevated arsenic concentration was co-located with elevated lead and pesticides.

Lead concentrations were detected in every sample collected from around the building perimeters and ranged from 66.6 mg/kg to 925 mg/kg. Lead concentrations exceeded the CHHSL of 80 mg/Kg at 11 of the 12 sampling locations, but none exceeded the total threshold limit concentration (TTLC) for hazardous waste of 1,000 mg/Kg. None of the samples were analyzed for soluble lead during the Phase II sampling and therefore additional hazardous waste may be identified when waste characterization is performed.

1.3.2.3 Previous Sampling Locations

Elevated lead concentrations were detected during the initial soil sampling at a location next to the concrete slab behind the residence. This is likely from flaking lead-based paint in rain runoff. A second sample with elevated lead was detected in the back of the property where there reportedly was an area where debris was burned many years ago. To further evaluate these locations, three step-out samples next to the concrete slab, and four step-out samples next to the burn area were collected around the previous sampling locations. In addition, a sample from 1-1.5 feet deep was collected from each of the previous samples to evaluate the vertical extent of elevated lead concentrations. All of the samples collected were analyzed for lead. The resample of the burn area and the deeper burn area sample were also analyzed for polycyclic aromatic hydrocarbons (PAHs) (EPA Test Method 8270 SIM) to detect toxic combustion by-products commonly associated with burning.

Lead concentrations were detected in every shallow step-out sample around the burn area and adjacent to the concrete slab and at concentrations exceeding the CHHSL of 80 mg/kg. Lead was detected in one of the two deeper samples collected in these areas but the concentration did not exceed the CHHSL of 80 mg/kg for residential uses. A concentration of 7,200 mg/kg near the burn area exceeded the total threshold limit concentration (TTLC) for hazardous waste of 1,000 mg/Kg. None of the samples were analyzed for soluble lead during the Phase II sampling and therefore additional testing of excavated soils is recommended after excavation to determine is the soils exceed the California hazardous waste criteria.

Several PAHs were detected in the shallow sample collected from the burn area, but none of the concentrations detected exceed their respective USEPA RSL for residential uses. No PAHs were detected in the deeper sample collected exceeding the laboratory reporting limit.

1.3.2.4 Supplemental Sampling

Supplemental sampling was performed to evaluate the lateral and vertical extent of the elevated arsenic, lead and pesticide concentrations detected in some of the shallow soils. Elevated arsenic concentrations were primarily detected on the southern portion of the Site. Elevated lead concentrations were primarily detected at sampling locations around each of the existing buildings, the reported burn pit area, and other previous sampling locations scattered around the Site. Elevated pesticide concentrations were primary detected around the existing buildings.

To further evaluate the elevated arsenic concentrations, six additional shallow soil samples (SS-8 through SS-13) were collected at locations south and west of the existing buildings and analyzed for arsenic. Two of the additional samples (SS-8 and SS-9) closest to the existing buildings were also analyzed for lead. In addition, a sample from 1-1½ feet deep was collected from the previous sample (AG-2/Surface C) to evaluate the vertical extent of elevated arsenic concentrations.

Arsenic was detected in every supplemental soil sample collected and ranged from 1.32 mg/kg to 11.5 mg/kg. All of the arsenic concentrations detected exceed the USEPA RSL for sensitive uses, but none of the concentrations exceed the calculated naturally-occurring background concentration of 13 mg/kg (Appendix B). Regulatory agencies do not require mitigation for concentrations that are less than naturally-occurring concentrations. Arsenic was also detected in the deeper sample collected from the previous sample (AG-2/Surface C) but at a concentration of 1.10 mg/kg.

An elevated lead concentration was detected in one of the two samples (SS-9) at a concentration of 94.8 mg/kg.

To further evaluate the elevated lead concentrations, nine additional shallow soil samples were collected primarily across northern and northeastern portion of the Site. Four step-out samples were also collected approximately 4 feet from previous locations BP-1, BP-4, BP-8 and BP-10, adjacent to the existing structures. To evaluate the vertical extent of elevated lead concentrations, samples were collected from 1-1½ feet deep at previous sampling locations BP-1 and BP-5, adjacent to the existing buildings. Lead concentrations exceeding the CHHSL of 80 mg/kg were detected at nine of the 13 sampling locations, but none exceeded the total threshold limit concentration (TTLC) for hazardous waste of 1,000 mg/kg. Lead was also detected in the two deeper samples but at concentrations less than the CHHSL. Neither of the lead concentrations detected in the deeper samples exceeded the regulatory threshold. None of the samples were analyzed for soluble lead during the Phase II sampling and therefore additional testing of excavated soils is recommended after excavation to determine is the soils exceed the California hazardous waste criteria.

To evaluate pesticide concentrations on the northwestern portion of the Site, two of the samples collected for lead (SS-2 and S.O.-A5) were also analyzed for OCPs and arsenic. One of the step-out samples (BP-10) collected on the southeastern portion of the Site was also analyzed for OCPs.

The lab results indicate that pesticide concentrations are present around the northwestern portion of the Site, and northern side of the southeastern building. Concentrations of several different OCPs were detected in at least one of the samples collected, as shown in Table 1, Appendix A. One of the concentrations detected exceed the chlordane single compound California HHRA HERO Note 3 (Cal/EPA 2015) of 0.43 mg/kg for residential uses. 4,4'-DDD was detected in only one of the soil samples but at a concentration that does not exceed the single compound USEPA RSL of 2.3 mg/kg for residential uses. 4,4'-DDE was detected in all three of the soil samples collected but at concentrations that do not exceed the single compound USEPA RSL of 2.0 mg/kg for residential uses. Likewise, 4,4'-DDT was detected in all three of the soil samples but at concentrations that do not exceed the single compound USEPA RSL of 1.9 mg/Kg for residential uses. Dieldrin was detected in two of the three soil samples but at concentrations that do not exceed the single compound USEPA RSL of 0.034 mg/Kg for residential uses. Heptachlor epoxide was detected in two of the three soil samples but at concentrations that do not exceed the single compound USEPA RSL of 0.070 mg/kg for residential uses. Methoxychlor was detected in two of the three soil samples but at concentrations that do not exceed single compound USEPA RSL 320 mg/kg for residential uses. Toxaphene was detected in one of the soil samples at a concentration of 1.34 mg/kg (SS-2) which exceeds the single compound USEPA RSL of 0.49 mg/kg for residential uses.

The elevated pesticides and metals concentrations identified in shallow soils will be mitigated by excavation. The soil would be off-hauled and disposed of at an appropriately-licensed landfill prior to Site development. Some of this soil contains lead that should be resampled and tested for soluble lead after excavation and stockpiling to determine appropriate transportation and landfill disposal options.

1.4 Contact Information

Mr. Thomas Adamo, Co-Successor Trustee Joseph and Doris C. Adamo Revocable Trust 21060 Homestead Road, Suite 120 Cupertino, CA 95014 (650)279-3905		Thomas F. McCloskey, P.G., C.E.G., C.Hg President and Principal Geologist McCloskey Consultants, Inc. 420 Sycamore Valley Road West Danville, CA 94526 (925) 786-2667

2.0 REMEDIATION SITE MANAGEMENT

The main objective of the SRP is to provide the Site management protocols for handling impacted soil at the Site during the remedial activities to minimize the threat to human health and the environment. Proposed remediation activities will require a licensed hazardous waste contractor (Class A) and contractor personnel that have 40-hour OSHA hazardous waste training.

2.1 Contaminants of Concern and Exposure Routes

The contaminants of concern (COCs) present in the soil around the Site are several OCPs including dieldrin, toxaphene, and the metals arsenic, and lead. Soil contamination is generally encountered in the surface soils to an estimated maximum depth of 1 foot below ground surface, but may be present in deeper soils in limited areas. The major potential route of exposure for these chemicals includes ingestion through hand to mouth activities such as eating, smoking, and chewing tobacco. Inhalation of dust is a lesser concern because the soil concentrations are so low and a very dense cloud of dust would be needed to approach an inhalation hazards. Dermal adsorption is also a lesser potential route of exposure because the metals are not readily absorbed through the skin though for chlordane and dieldrin is somewhat greater. Measures to minimize these routes of exposure are summarized below and are included in Health and Safety Plans (HSP) in Appendix C.

The proposed single compound, maximum concentrations remediation goals concentrations for the Site COCs are summarized below.

Single Compound Site Remediation Goals

Compound	**Greatest Concentration Detected** (mg/kg)	**Goal** (mg/kg)
Chlordane	4.46	0.43[1]
Dieldrin	0.503	0.034[2]
Toxaphene	1.49	0.49[2]
Arsenic	23.2	13[3]
Lead	7,200	80[4]

1 DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3, DTSC-Modified Screening Levels, October 2015.

2 Based on USEPA Regional Screening Levels for sensitive uses (June 2017).

3 Based on the Calculated Site Background Concentration (Appendix B).

4 Based on California Human Health Screening levels for sensitive uses.

The areas and depth of soils to be removed are included on Figure 3. The total amount to soil is estimated to be up to 300 cubic yards which includes a conservative 30% additional excavation that is possible after confirmation sampling of the excavations.

2.2 Site-Specific Health and Safety Worker Requirements

A Site-specific Health and Safety Plan (HSP), included as Appendix C, has been developed to inform personnel of the potential hazards associated with implementing the SRP and to minimize exposure to Site contaminants. Contractors are responsible for the health and safety of their own employees and are required to have their own HSPs and Injury and Illness Prevention Plans (IIPPs) to comply with OSHA. The HSP will be in force at the Site, and the contractors can utilize that HSP as a template to create their company-specific HSP.

The HSPs will provide general health and safety guidance such that field activities can be conducted in a safe manner. Per Cal/OSHA requirements (California Code of Regulations, Title 8), each contractor working at this Site must prepare a health and safety plan that addresses the safety and health hazards during each phase of Site operations that includes the requirements and procedures for employee protection. The HSPs will provide standard operating procedures for personnel involved in activities that may expose them to chemical and physical hazards associated with the removal of impacted soil at the Site. The plan must be kept on-Site during soil removal and loading activities. Prior to conducting work on-Site, project management and field staff must be familiar with the contents of the HSP.

2.3 Pre-Field Activities

Several pre-field activities will be required prior to the initiation of Site activities, as discussed below. The removal activities must be performed by a California-certified contractor with a Class A license.

2.3.1 Permitting

The selected contractors will obtain all applicable permits and notification required for performing soil excavation and off-haul from all the appropriate agencies. There is currently no current USEPA identification number for this Site, and the removal action contractor hired by the Trust may have to obtain a temporary EPA ID number from the USEPA for the generation, transportation and offsite disposal of soils containing pesticides and metals if stockpile sampling determines that soils with hazardous waste concentrations will need to be off-hauled and disposed at a Class I Hazardous Waste landfill. An Air Monitoring Plan and a Storm Water Pollution Prevention Plan (SWPPP) are not necessary for the soil excavation activities.

2.3.2 Utility Clearance

To attempt to locate public underground utilities, the remediation contractor will mark the work area with white spray paint and contact Underground Service Alert (USA) at least 48 hours prior to the initiation of remediation activities.

2.3.3 Work Zones

Work zones will be cordoned off prior to the initiation of Site activities, and ingress and egress from these areas will be controlled. A more detailed discussion of work zones at the Site is presented in Section 2.4

2.3.4 Support Zone/Staging Area

The support/staging area will be set up on-Site prior to starting operations and will be in a contaminant-free area, as shown on Figure 4. This area will provide for administrative and support functions (first-aid station, rest area, drinking facility, equipment recharging facilities, etc.) necessary to keep the field activities running smoothly. The contractor shall provide potable water and wash facilities for the field personnel in this location. The support/staging zone will be established prior to the initiation of removal activities.

2.4 Site Control

Site control is intended to control the potential spread of contamination from the Site. The affected area will need to be separated from the public by a fence along Orange Avenue, to be installed by the remediation contractor. Ingress to and egress from the exclusion zone will be controlled via locking gates. The excavated soil will be stockpiled at the closest available area on plastic sheeting.

2.4.1 Exclusion Zone

The entire Site will be considered the exclusion zone. Unauthorized individuals will not be allowed within the exclusion zone.

On the fencing to be installed along Orange Avenue will be posted the following notice that reads:

WARNING	WARNING
CONTAMINATED WORK AREA NO SMOKING OR EATING	This Site contains chemicals known to the State of California to cause cancer or other reproductive toxicity. AUTHORIZED PERSONNEL ONLY

2.4.2 Support Zone/Staging Area

As described in Section 2.3.4 the support zone/staging area will be established prior to the initiation of removal activities.

2.5 Excavation of Impacted Soil

The removal action is estimated to consist of the excavation of up to approximately 300 cubic yards (in-place yardage) of pesticide and metals containing soil and transportation of the material to off-Site disposal facilities. Excavation confirmation sampling requirements are included in Section 2.9. The areas to be excavated are shown on Figure 3. For the lead and pesticide removal areas, the excavations are estimated 1 feet deep and include most of the northern portion of the Site and the southeastern corner of the Site. For the arsenic removal areas, the excavations are estimated to be approximately 1-foot deep and cover an area on the southwestern portion of the Site. The depths of the excavations are estimated and contamination may be present in deeper soils in limited areas. These areas will be determined after the initially planned excavations and confirmation sampling.

The estimated yardage is based on the assumption that additional soil (up to 30%) will need to be excavated based on confirmation sampling results. The actual yardage may less and is unlikely to be more.

2.5.1 Construction Equipment

Excavation, soil stockpiling, and loading are the anticipated activities for the soil remediation. Backhoes or mini excavators likely will be used to excavate the soil and rubber-tire loaders used to stockpile and move the material. A water truck or a fire hose connected to a City water meter on the fire hydrant adjacent to the Site will be used for dust control.

2.5.2 Excavation/Relocation Procedures

The contaminated soils will need to be excavated and temporarily stockpiled on Site for sampling and landfill profiling before off-haul can take place except for the area affected by only arsenic which can be direct loaded if approval by the receiving landfill. Stockpiles will be kept covered with plastic sheeting and anchored at all times except when the soil is actively being added or removed. Stockpiling will take place on plastic at the closest, convenient locations to the excavations.

The approximate limits and depths of the excavation areas necessary to remove the impacted soil with concentrations exceeding the regulatory thresholds are presented on Figure 3. The final excavation dimensions may be larger if the confirmation sampling results indicate that additional soil excavation is needed to reach the Site remedial goals. The lead impacted soils will be managed as a hazardous waste and will be stockpiled and resampled separately for landfill review and acceptance. Based on the more elevated lead concentrations detected around the former fire pit, *the soil on the eastern/northeastern portion of the Site will be excavated, stockpiled and resampled separately* from the soil excavated from around the other portions of the Site.

Following excavation of the pesticide and metals impacted soils; confirmation soil samples will be collected from the sidewalls and the bottom of the excavations to evaluate if sufficient impacted soil has been removed. Excavation activities will be considered complete when the confirmation samples collected from the remaining in-place soil do not contain COC concentrations that exceed the respective remedial goals, as discussed in Section 2.1. Confirmation sampling is described in more detail in Section 2.11.

2.5.3 Stockpile Profiling

The stockpiles of excavated soils will be sampled for landfill profiling purposes and to accumulate a sufficient quantity of soil to avoid truck standby and partial loads. To profile the material for off-Site disposal, composite soil samples will be collected from the stockpiled soil and analyzed prior to landfill acceptance. The sampling frequency and analyses will vary by disposal facility. Stockpile soil sample collection and laboratory analysis will be performed by MCI. Solubility and leaching testing during the stockpile profile sampling may cause the analytical results to be received as much as 5 days from the collection of the samples. If any contaminants exceed hazardous waste threshold concentrations, the soil will need to be disposed at a Class I hazardous waste landfill, or possibly out of state as a non-hazardous waste if it can be done at a lesser cost.

2.5.4 Truck Loading Procedures

Once the soil is approved for landfill disposal, the truck loading will be carefully done and supervised such that minimal spillage occurs during loading and trucks do not come into contact with the impacted soils. As an added measure of protection, heavy plastic sheeting will be placed beneath the trucks to collect any spilled soil. Any spilled soil will be immediately removed and placed back into the truck trailer to avoid the spreading of impacted soil onto the truck tires which could result in track-out of contaminated soils.

2.5.5 Transportation Procedures

This section outlines the requirements and procedures for transportation of the excavated soil to an off-Site disposal facility (Class I hazardous waste landfill, a Class II or III non-hazardous waste landfill). The appropriate disposal facility will be determined based on the results of the stockpile soil profiling.

It is anticipated that large end-dump trucks will be used which hold 10-12 cubic yards of soil depending on the weight of the material. Therefore, there would be up to 30 truckloads of material to be off-hauled. Any Class I material would need to be hauled and disposed separately from Class II or Class III soils.

The soil will be transported by an appropriately licensed transporter. The necessary documents, such as the bills of lading and/or waste manifest forms, will be completed and accompany the truck driver to the landfill. The trucks will be loaded at the Site and appropriately covered (tarped) in accordance with Department of Transportation (DOT) regulations.

All the trucks will be rinsed, the load wetted to minimize dust generation and covered with a tarp before leaving the Site.

2.6 Dust and Erosion Control

Site control procedures will be established to control the potential generation of dust and exposure to worker and Site neighbors. These controls include a variety of dust control methods and practices designed to minimize the generation and spread of dust. A water truck or other source of water will be used to deliver water to the Site for dust control purposes.

2.6.1 Disturbed Surfaces and Stockpile Control Measures

During site activities, disturbed soil surfaces will be kept adequately wetted to control dust generation. Areas of exposed soils will be wetted at least daily or more to inhibit dust generation. The excavated soil will be placed on visqueen, covered with visqueen at the end of the day, anchored, and uncovered only during movement of the soil.

2.6.2 Control for Earthmoving Activities

During soil removal/relocation activities, the ground will be pre-wetted prior to excavation. The relocation operations will be suspended when wind speeds are great enough to result in dust emissions from the point-of-origin or crossing the exclusion zone boundary, despite the application of dust control mitigation measures. Drop heights will be minimized during the excavation of the soil and the loading of the haul trucks to minimize the creation and dispersion of dust.

2.6.3 Control for Off-Site Transport

The trucks used for off-Site transport will be either be special trucks for the hauling of hazardous soils or other suitable trucks for the hauling of Class II or III soil, and handling practices will include wetting and covering with tarps to control dust emissions.

2.7 Decontamination

2.7.1 Equipment Decontamination and Track-Out Controls

Decontamination procedures for equipment will utilize wet methods such as pressure washing after the excavation of the impacted soils. The heavy equipment buckets used during the excavation and loading of the impacted soils can be cleaned by pressure washing over the stockpiled impacted soils to avoid generation of rinse water.

As previously described, truck loading will be carefully done and supervised such that minimal spillage occurs during loading and trucks do not come into contact with the impacted soils. As an added measure of protection, heavy plastic sheeting will be placed beneath the trucks to collect any spilled soil. Any spilled soil will be immediately removed to avoid the spreading of impacted soil on the truck tires. It is anticipated that no additional decontamination procedures will be necessary based on the above precautions and the limited number of trucks necessary for off-haul of the soils.

2.7.2 Worker Protection and Decontamination

Protective Tyvek suites, rubber boots and chemically resistant gloves will be required for personnel who could contact affected soils because some of the contaminate concentrations exceed worker safety levels. This clothing will need to be removed and properly disposed in the designated exit corridors leading to the support zone. The location and size of the decontamination corridors for personnel may change as Site conditions and operations dictate. Personnel will remove Tyvek suites and nitrile gloves and rinse their boots and wash their hands when exiting the work area for any reason. Disposable equipment intended for one-time use will not be decontaminated, but will be bagged for appropriate disposal. Reusable equipment, such as shovels, can be rinsed over contaminated soil stockpiles.

2.8 Field Documentation

2.8.1 Field Oversight and Reporting

A MCI field engineer will be present on-Site on an as-needed basis during the chemically-affected soil excavation and handling activities. This individual will monitor the soil excavation work, collect confirmation soil samples, and collect stockpile soil samples. As part of this process, a field log will be used to document Site activities and a scaled Site map will be used to document the removal areas and confirmation sampling locations.

2.8.2 Photographs

Photographs of Site activities will be taken periodically by MCI to further document the removal action implementation. The photographs will be made available for inspection by authorized personnel for the duration of the project, and included in the Removal Action Completion Report.

2.9 Confirmation Soil Sampling

To document adequate removal of soil with the COCs concentrations that exceed the Site remedial goals, confirmation soil samples will be collected from the bottom and sidewalls in the excavation areas. The base confirmation samples will be collected at an approximate frequency of one sample for every approximately 250 square feet with a minimum of one bottom sample per excavation area. The sidewall confirmation samples will be collected at an approximate frequency of one sample for every approximately 40 lineal feet of excavation sidewall, with a minimum of one sample per sidewall. Duplicate samples will also be collected at a rate of one sample for every 20 samples for Quality Assurance/Quality Control.

2.9.1 Confirmation Soil Sample Locations and Depths

The confirmation sample locations will be randomly selected in the base and sidewalls of the excavations in accordance with the above-mentioned frequencies. The samples will generally be collected from the outer or upper 6 inches of soils present in the sidewall or base.

2.9.2 Soil Sampling Procedure

Soil samples will be obtained by manually scraping new, disposable, laboratory supplied 4-ounce glass jars or 9-ounce glass jars into freshly exposed soil in the bottom and the sidewalls of the excavations. After sample collection, the Teflon-lined lid will be securely fastened on the jar and the jar will be labeled with a unique sample identification number. New gloves will be worn by the sampling personnel and will be changed between sampling locations and discarded. The samples will then be placed in an insulated cooler chilled to 4 degrees +/- 2 degrees Celsius and hand delivered by MCI personnel to ESC Lab Science personnel to be shipped via Fed-Ex to their facility. ESC Lab Science is a California-certified analytical laboratory.

It is anticipated that no sampling equipment will need to be reused, and therefore no decontamination of sampling equipment will be needed. Should hard soils be encountered cannot be scraped to collect a sample, as pick or trowel may have to be used. Such tools would be cleaned thoroughly between uses with liquinox and water followed by a distilled water rinse.

2.9.3 Laboratory Analyses

All soil analyses would be performed on an accelerated response time to attempt to reduce project delays. The analyses for metals will take up to 3 days to receive results because of soil digestion procedures. An additional 2 days would be needed to test stockpile soils for soluble lead should that be necessary. Although the samples will be analyzed on an accelerated response time, the contractor should anticipate results to take about 72 hours from the day of collection. The landfill(s) may also require additional testing that is difficult to anticipate but could result in additional time.

2.9.4 Additional Excavation and Confirmation Sampling

If concentrations of the contaminants are detected exceeding their Site remedial goals or cumulative risk goals should multiple compounds be detected, additional excavation will be performed. In removal areas where lead is the COC, the City of Cupertino is allowing the lead cleanup decisions based on the 95% Upper Confidence Limit (UCL) of lead confirmation sample concentrations. The 95% UCL will be calculated with the lead confirmation sampling results and additional excavations will only be performed on the areas that exceed the 80 mg/kg based on the 95% UCL. A similar 95% UCL will be calculated for arsenic concentrations using the maximum naturally-occurring concentration of 13 mg/kg.

Multiple pesticides have been identified at the Site and will be identified in confirmation soil samples collected during removal actions in the pesticide-affected area. The cumulative risk will be calculated in the confirmation samples collected from this area using the ratio sum method recommended by the CHHSL guidance (Cal/EPA, 2005) which is identical to USEPA methods. If a base excavation sample exceeds the cleanup goal, an additional 1 foot of soil will be excavated from that area. Similarly, if a sidewall sample exceeds the cleanup remedial goals, the excavation will be extended an additional 2 feet into the sidewall along the length of the sidewall, unless the sidewall is the property line. This process will be repeated as necessary.

3.0 IMPORT SOIL EVALUATION

Although soil import is not anticipated during the remediation activities for this Site, should it be necessary the following describes what is needed if import is required during the future development. To prevent the potential import of contaminated fill onto the Site, all possible sources of import fill must have adequate documentation so it can be verified that the soils are appropriate for the Site. Documentation should include detailed information on the previous land use of the fill source, any environmental Site assessments performed and the findings, and the results of any testing performed. If no documentation is available or the documentation is inadequate, samples of the potential fill material will be collected and chemically analyzed. The analyses selected will be based on the fill source and knowledge of the previous land use. The project environmental consultant MCI would perform this review of potential soil import sources.

4.0 LIMITATIONS

This Soil Remediation Plan (SRP) was prepared for the use of the Joseph and Doris C. Adamo Revocable Trust in evaluating the proposed remedial action. We make no warranty, expressed or implied, except that our services have been performed in accordance with environmental principles generally accepted at this time and location. The chemical and other data presented in this report can change over time and are applicable only to the time this SRP was prepared.

5.0 REFERENCES

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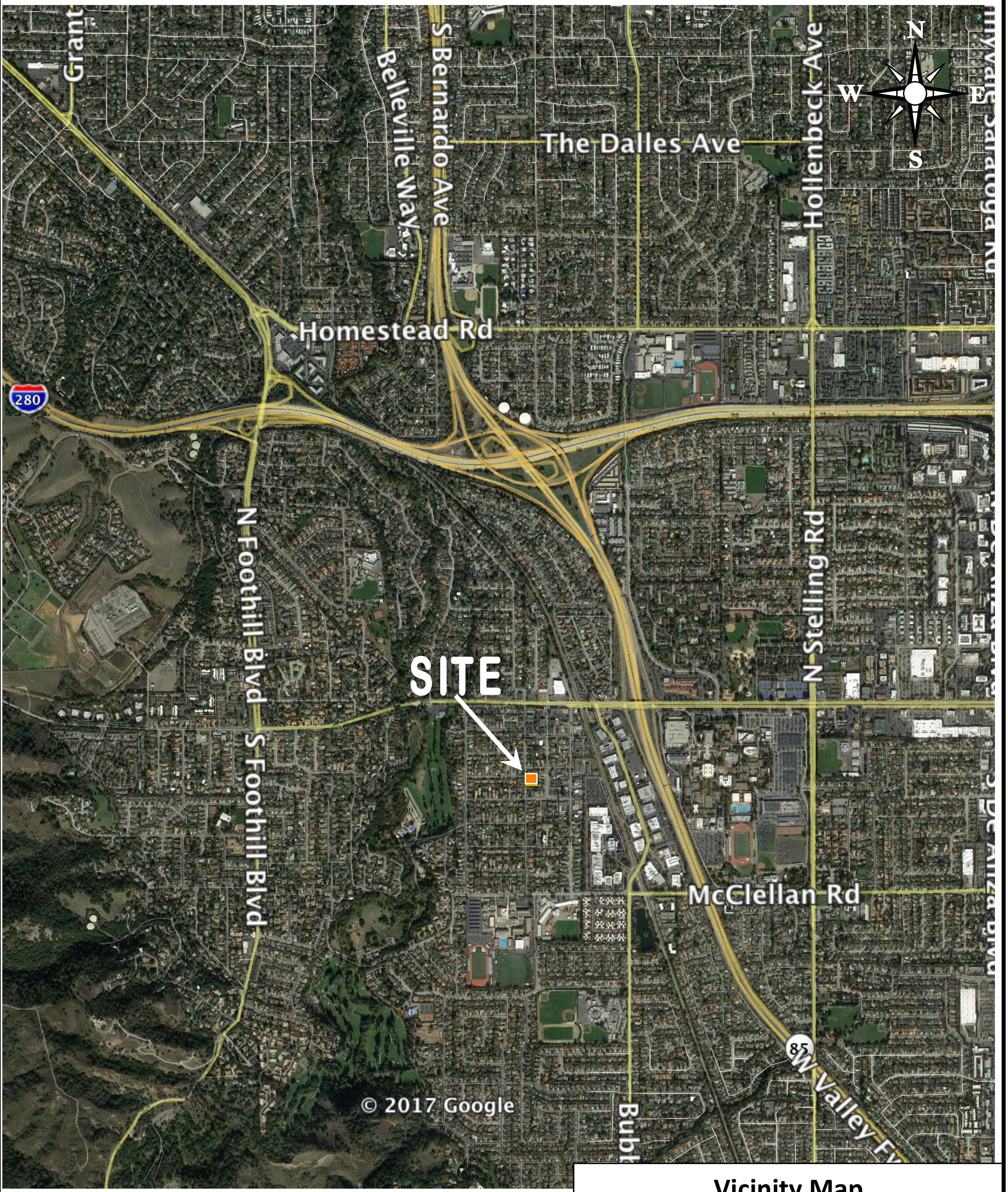
FIGURES

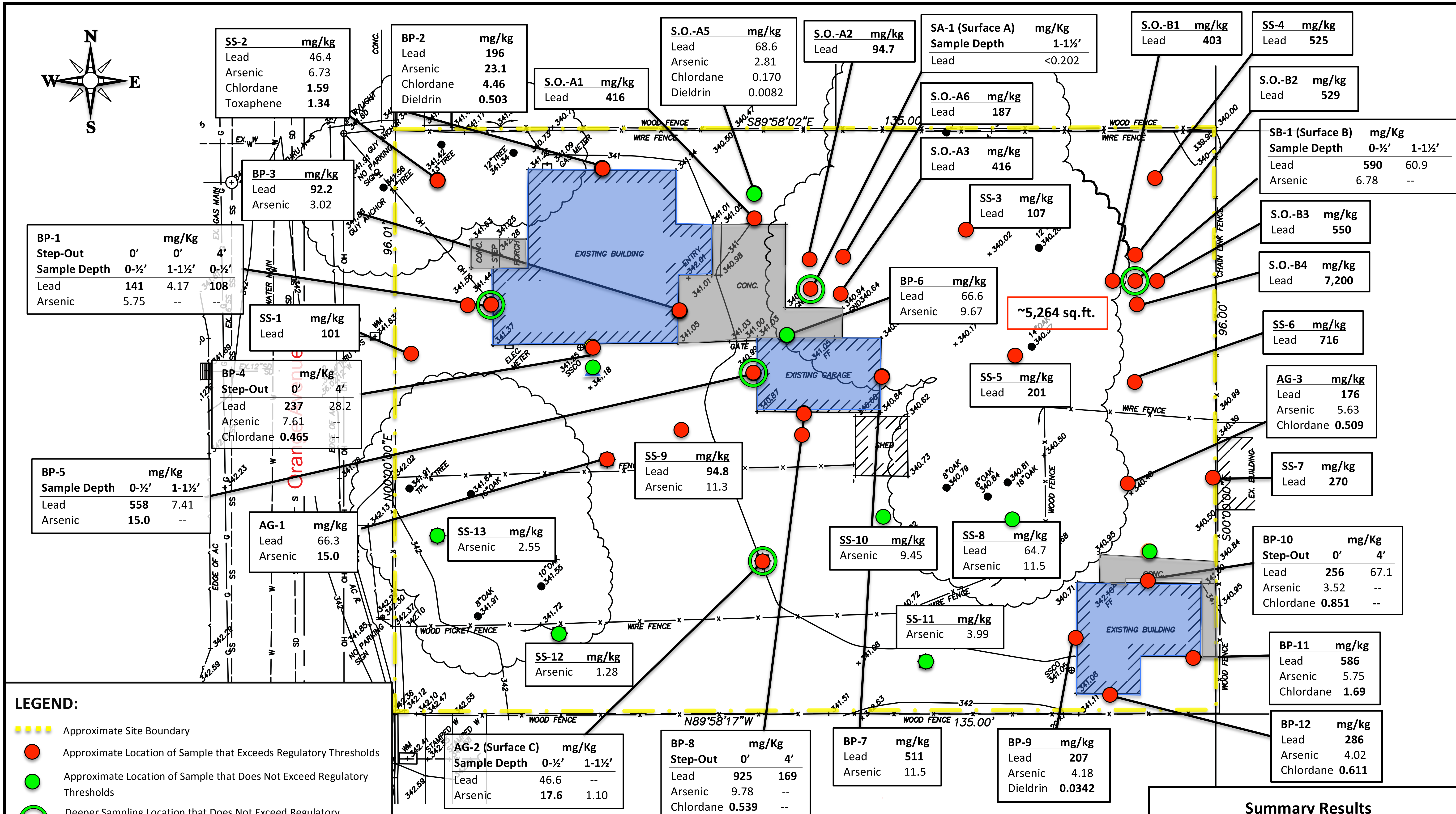


Vicinity Map

10206 Orange Avenue
Cupertino, California

FIGURE 1

McCloskey Consultants



LEGEND:

- Approximate Site Boundary
- Approximate Location of Sample that Exceeds Regulatory Thresholds
- Approximate Location of Sample that Does Not Exceed Regulatory Thresholds
- Deeper Sampling Location that Does Not Exceed Regulatory Threshold
- Approximate Location of Structures
- Approximate Location of Concrete

Notes:

mg/kg – milligrams per kilogram

Bold - Indicates exceedance of regulatory threshold

Base Map from Drawing provided

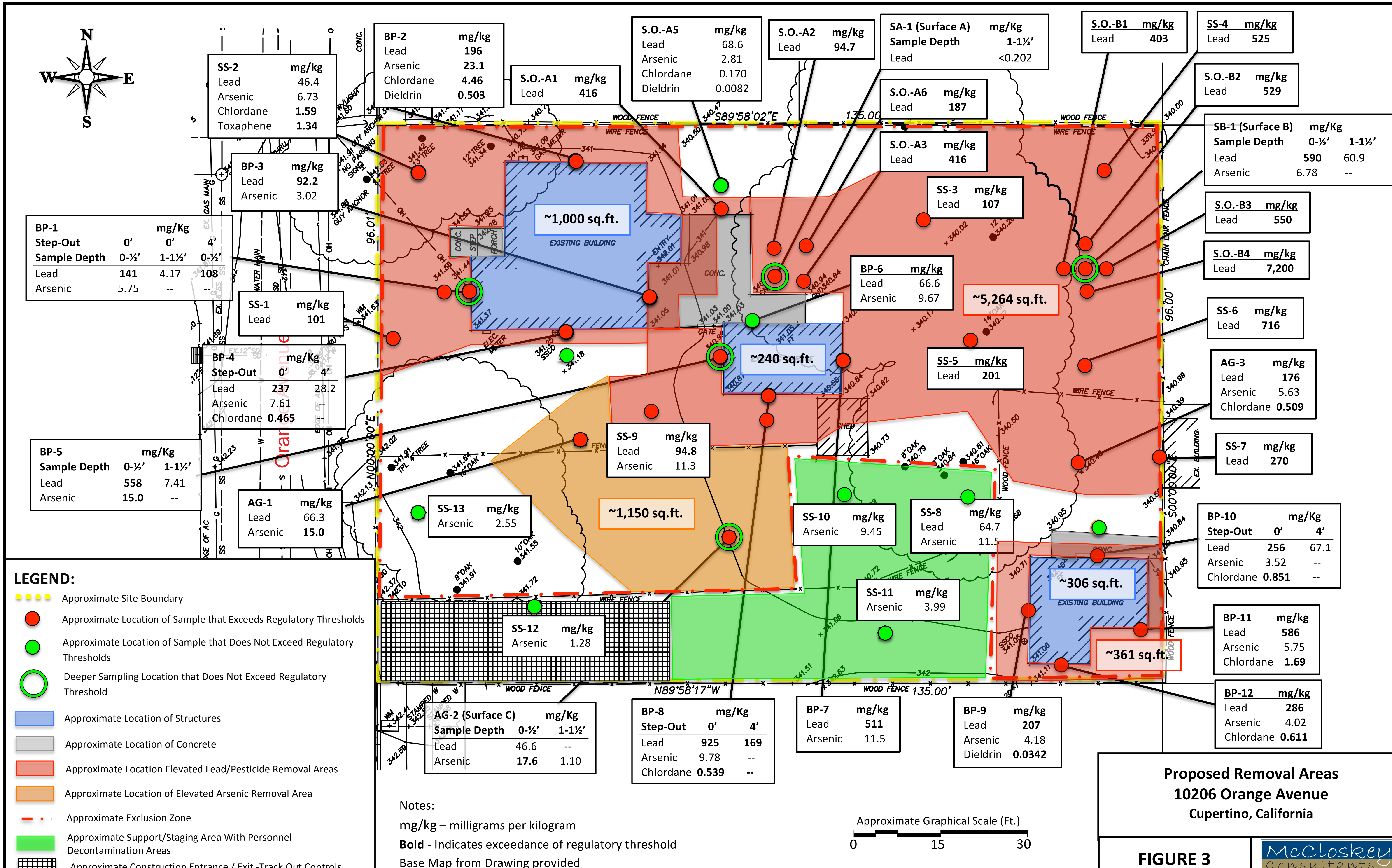
Approximate Graphical Scale (Ft.)

0 15 30

Summary Results
10206 Orange Avenue
Cupertino, California

FIGURE 2

McCloskey Consultants



Proposed Removal Areas
10206 Orange Avenue
Cupertino, California

FIGURE 3

Appendix A

Phase II Summary Results Tables and Analytical Results

Table 1. Summary Results for Pesticide & Pesticide-Related Metals Sampling

(Concentrations in milligrams per kilogram [mg/kg])

Approximate Location	Sample ID	Approximate Sampling Depth	Date Sampled	Lead	Arsenic	Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Chlordane	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Hexachloro Benzene	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	Total DDT
Agricultural Samples	AG-1	0-½ bgs	6/5/17	66.3	15.0	<0.00145	<0.00146	<0.00172	<0.00154	<0.00156	0.055	<0.00168	0.0385	0.0226	0.0046	<0.0016	<0.00172	<0.00162	<0.00169	<0.00139	<0.00178	<0.00133	<0.00166	0.00178	<0.00191	<0.0387	0.0611
	Surface C[1]	½ bgs	9/6/16	23.7	13.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.050	<0.002
	Surface C[1]	1 bgs	9/6/16	13.7	11.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.050	<0.002
	AG-2/ Surface C	0-½ bgs	6/5/17	46.6	17.7	<0.00139	<0.0014	<0.00164	<0.00147	<0.00149	<0.04	<0.0016	0.00477	0.00261	<0.00156	<0.00153	<0.00164	<0.00155	<0.00161	<0.00132	<0.00169	<0.00127	<0.00158	<0.00165	<0.00183	<0.037	0.00738
		1-1½ bgs	7/18/17	--	1.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	AG-3	0-½ bgs	6/5/17	176	5.63	<0.0014	<0.00141	<0.00165	<0.00148	<0.0015	0.509	<0.00161	0.14	0.0687	<0.00157	<0.00154	<0.00165	<0.00156	<0.00162	<0.00133	<0.00171	<0.00128	<0.00159	<0.00167	<0.00184	<0.0372	0.2087
Existing Structure Sampling	BP-1	0-½ bgs	6/5/17	141	5.75	<0.00223	<0.00224	<0.00264	<0.00236	<0.00239	0.0874	<0.00257	0.0045	<0.0033	0.0051	<0.00246	<0.00264	<0.00249	<0.00259	<0.00213	<0.00272	<0.00205	<0.00254	<0.00266	<0.00294	<0.0594	0.0045
		1-1½ bgs	7/18/17	4.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BP-1 S.O.	0-½ bgs	7/18/17	108	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BP-2	0-½ bgs	6/5/17	196	23.2	<0.00148	<0.00149	<0.00175	<0.00157	<0.00159	4.46	<0.00171	0.187	0.437	0.503	<0.00163	<0.00175	<0.00165	<0.00172	<0.00141	<0.00181	<0.00136	0.00958	0.0548	<0.00195	<0.0394	0.624
	BP-3	0-½ bgs	6/5/17	92.2	3.02	<0.00157	<0.00159	<0.00187	<0.00167	<0.00169	1.04	<0.00182	0.176	0.0595	<0.00177	<0.00174	<0.00187	<0.00176	<0.00183	<0.0015	<0.00192	<0.00145	<0.0018	0.048	<0.00207	<0.042	0.2355
	BP-4	0-½ bgs	6/5/17	237	7.61	<0.00161	<0.00162	<0.0019	<0.0017	<0.00173	0.465	<0.00186	0.0278	<0.00238	0.00722	<0.00177	<0.0019	<0.0018	<0.00187	<0.00154	<0.00196	<0.00148	<0.00183	<0.00192	<0.00212	<0.0429	0.0278
	BP-4 S.O.	0-½ bgs	7/18/17	28.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BP-5	0-½ bgs	6/5/17	558	7.28	<0.00156	<0.00157	<0.00184	<0.00165	<0.00167	0.163	<0.0018	0.0371	0.047	0.00254	<0.00172	<0.00184	<0.00174	<0.00181	<0.00149	<0.0019	<0.00143	<0.00178	<0.00186	<0.00205	<0.0415	0.0841
		1-1½ bgs	7/18/17	7.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BP-6	0-½ bgs	6/5/17	66.6	9.67	<0.0015	<0.00151	<0.00178	<0.00159	<0.00161	0.255	<0.00173	0.0495	0.0486	0.0108	<0.00165	<0.00178	<0.00168	<0.00174	<0.00143	<0.00183	<0.00138	<0.00171	0.0113	<0.00197	<0.0399	0.0981
	BP-7	0-½ bgs	6/5/17	511	11.5	<0.0016	<0.00161	<0.00189	<0.00169	<0.00171	0.0814	<0.00184	0.0155	0.0409	0.00201	<0.00176	<0.00189	<0.00179	<0.00186	<0.00153	<0.00195	<0.00147	<0.00182	0.00228	<0.0021	<0.0426	0.0564
	BP-8	0-½ bgs	6/5/17	925	9.78	<0.00151	<0.00152	<0.00179	<0.0016	<0.00162	0.539	<0.00174	0.0567	0.0559	0.0092	<0.00166	<0.00179	<0.00169	<0.00175	<0.00144	<0.00184	<0.00138	<0.00172	<0.0018	<0.00199	<0.0402	0.1126
	BP-8 S.O.	0-½ bgs	7/18/17	169	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BP-9	0-½ bgs	6/5/17	207	4.18	<0.00139	<0.0014	<0.00165	<0.00147	<0.00149	0.292	<0.00161	<0.00792	0.388	0.0342	<0.00153	<0.00165	<0.00155	<0.00162	<0.00133	<0.0017	<0.00128	<0.00158	<0.00166	0.0199	<0.0371	0.388
	BP-10	0-½ bgs	6/5/17	256	3.52	<0.00138	<0.00139	<0.00164	<0.00146	<0.00148	0.851	<0.0016	0.0366	0.0125	<0.00156	<0.00152	<0.00164	<0.00155	<0.00161	<0.00132	<0.00169	<0.00127	<0.00158	<0.00165	<0.00182	<0.0368	0.0491
	BP-10 S.O.	0-½ bgs	7/18/17	67.1	--	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.207	0.00411	0.275	0.127	0.00194	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	<0.415	0.40611
	BP-11	0-½ bgs	6/5/17	586	5.75	<0.00141	<0.00142	<0.00167	<0.0015	<0.00152	1.69	<0.00163	0.0407	0.38	0.0171	<0.00156	<0.00167	<0.00158	<0.00164	<0.00135	<0.00173	<0.0013	<0.00161	0.0232	<0.00186	<0.0377	0.4207
	BP-12	0-½ bgs	6/5/17	286	4.02	<0.00136	<0.00137	<0.00162	<0.00145	<0.00147	0.611	<0.00158	0.0537	0.158	0.0108	<0.00151	<0.00162	<0.00153	<0.00159	<0.0013	<0.00167	<0.00125	<0.00156	<0.00163	<0.0018	<0.0364	0.2117
Resampling	Surface B[1]	½ bgs	9/6/16	541	12.6	<0.008	<0.008	<0.008	<0.008	<0.008	<0.080	0.0104	0.252	0.0703	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	--	<0.008	0.00291	<0.008	<0.200	0.3327
	Surface B[1]	1 bgs	9/6/16	78.6	11.4	<0.002	<0.002	<0.002	<0.002	<0.002	0.0296	<0.002	0.0237	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.020	0.0237
	SB-1 (Surface B Resample)	0-½ bgs	6/5/17	590	6.78	<0.0019	<0.00192	<0.00225	<0.00201	<0.00204	0.0896	<0.0022	0.0426	0.00905	<0.00214	<0.0021	<0.00225	<0.00213	<0.00221	<0.00182	<0.00232	<0.00175	<0.00217	<0.00227	<0.00251	<0.0507	0.05165
	SB-1	1-1½ bgs	6/5/17	60.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-B1	0-½ bgs	6/5/17	403	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-B2	0-½ bgs	6/5/17	529	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-B3	0-½ bgs	6/5/17	550	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-B4	0-½ bgs	6/5/17	7,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Surface A[1]	½ bgs	8/15/16	351	12.7																						
	SA-1 (Surface A Resample)	1-1½ bgs	6/5/17	<0.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-A1	0-½ bgs	6/5/17	161	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-A2	0-½ bgs	6/5/17	94.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-A3	0-½ bgs	6/5/17	416	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	S.O.-A5	0-½ bgs	7/18/17	68.6	2.81	<0.0226	<0.0226	<0.0226	<0.0226	<0.0226	0.17	<0.0226	0.0316	0.0152	0.00822	<0.0226	<0.0226	<0.0226	<0.0226	<0.0226	<0.0226	<0.0226	<0.0226	0.0134	0.00491	<0.452	0.0468
	S.O.-A6	0-½ bgs	7/18/17	187	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHHSL - Residential				80	0.07*	NA	NE	NE	NE	NA	NA	NA	NA	NA	NA	NE	NE	NE	21	NE	NE	NE	NA	NE	NA	NA	NE
USEPA RSL - Residential				400	0.61*	0.039	0.086	0.30	NE	0.57	1.7	2.3	2.0	1.9	0.034	470**	470**	NE	19	NE	NE	0.21	0.13	0.07	320	0.49	NE
HERO HHRA Note 3				NE	0.067*	NE	NE	NE	NE	NE	0.430	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
TTLC				1,000	500	1.4	NE	NE	NE	4.0	2.5	NE	NE	NE	8.0	NE	NE	NE	0.2	NE	NE	NE	4.7	NE	100.0	5.0	1.0

Total DDT	Sum of the concentrations of 4,4'-DDD+4,4'-DDE+4,4'-DDT
<D.L.	Indicates that the compound was not detected at or above stated laboratory detection limits.
NE	Not established.
NA	Not Applicable
1	Samples collected by Valcon
CHHSL	California Human Health Screening Levels, Residential Land Uses, Cal/EPA, January 2005 and updates.
USEPA RSL	United States Environmental Protection Agency Regional Screening Levels for Residenial Uses (May 2016)
HERO HHRA Note 3	DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3, DTSC-Modified Screening Levels, October 2015.
TTLC	Total threshold limit concentration for hazardous waste classification.
--	Not Analyzed
*	Cal/EPA does not require cleanup of soil to less than background concentrations. Natural background concentrations of arsenic often exceeds the health-based goals in soil.
**	RSL for Endosulfan
BOLD	Indicates exceedance of regulatory threshold

Table 1. Summary Results for Pesticide & Pesticide-Related Metals Sampling

(Concentrations in milligrams per kilogram [mg/kg])

Approximate Location	Sample ID	Approximate Sampling Depth	Date Sampled	Lead	Arsenic	Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Chlordane	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Hexachloro Benzene	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	Total DDT
Supplemental Sampling	SS-1	0-½ bgs	7/18/17	**101**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-2	0-½ bgs	7/18/17	**46.4**	**6.73**	<0.0214	<0.0214	<0.0214	0.00292	<0.0214	**1.59**	<0.0214	**0.153**	**0.121**	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	0.0693	0.0345	**1.34**	**0.274**
	SS-3	0-½ bgs	7/18/17	**107**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-4	0-½ bgs	7/18/17	**525**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-5	0-½ bgs	7/18/17	**201**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-6	0-½ bgs	7/18/17	**716**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-7	0-½ bgs	7/18/17	**270**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-8	0-½ bgs	7/18/17	**64.7**	**11.5**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-9	0-½ bgs	7/18/17	**94.8**	**11.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-10	0-½ bgs	7/18/17	--	**9.45**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-11	0-½ bgs	7/18/17	--	**3.99**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-12	0-½ bgs	7/18/17	--	**1.28**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SS-13	0-½ bgs	7/18/17	--	**2.55**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHHSL - Residential				80	0.07*	NA	NE	NE	NE	NA	NA	NA	NA	NA	NA	NE	NE	NE	21	NE	NE	NE	NA	NE	NA	NA	NE
USEPA RSL - Residential				400	0.61*	0.039	0.086	0.30	NE	0.57	1.7	2.3	2.0	1.9	0.034	470**	470**	NE	19	NE	NE	0.21	0.13	0.07	320	0.49	NE
HERO HHRA Note 3				NE	0.067*	NE	NE	NE	NE	NE	0.430	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
TTLC				1,000	500	1.4	NE	NE	NE	4.0	2.5	NE	NE	NE	8.0	NE	NE	NE	0.2	NE	NE	NE	4.7	NE	100.0	5.0	1.0

Total DDT	Sum of the concentrations of 4,4'-DDD+4,4'-DDE+4,4'-DDT
<D.L.	Indicates that the compound was not detected at or above stated laboratory detection limits.
NE	Not established.
NA	Not Applicable
CHHSL	California Human Health Screening Levels, Residential Land Uses, Cal/EPA, January 2005 and updates.
USEPA RSL	United States Environmental Protection Agency Regional Screening Levels for Residenial Uses (May 2016)
HERO HHRA Note 3	DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3, DTSC-Modified Screening Levels, October 2015.
TTLC	Total threshold limit concentration for hazardous waste classification.
--	Not Analyzed
*	Cal/EPA does not require cleanup of soil to less than background concentrations. Natural background concentrations of arsenic often exceeds the health-based goals in soil.
**	RSL for Endosulfan
BOLD	Indicates exceedance of regulatory threshold

Table 2. Summary Results for PAHs Sampling

(Concentrations in milligrams per kilogram [mg/kg])

Approximate Location	Sample ID	Approximate Sampling Depth	Date Sampled	Anthracene	Acenaphthene	Acenapthylene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(ghi) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	1-Methyl napthalene	2-Methyl napthalene	2-Chloro naphthalene
Burn Pit Area	SB-1	0-½ bgs	6/5/17	<0.000845	<0.000845	<0.000845	**0.00144**	**0.00158**	**0.00253**	**0.00207**	**0.00106**	**0.00189**	<0.000845	**0.0029**	<0.000845	**0.00148**	**0.00625**	**0.00189**	**0.00278**	**0.00387**	**0.00426**	<0.00282
	SP-1	1-1½ bgs	6/5/17	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.000673	<0.00224	<0.000673	<0.000673	<0.00224	<0.00224	<0.00224
USEPA RSL				**18,000**	**3,600**	**NE**	**1.1**	**0.11**	**1.1**	**NE**	**11**	**110**	**0.11**	**2,400**	**2,400**	**1.1**	**3.8**	**NE**	**1,800**	**18**	**240**	**4,800**
ESLs Direct Exposure Human Health Risk Levels (Table S-1) - Residential Shallow Soil[1]				**18,000**	**3,600**	**NE**	**0.16**	**0.016**	**0.16**	**NE**	**1.6**	**15**	**0.016**	**2,400**	**2,400**	**0.16**	**3.3**	**NE**	**1,800**	**NE**	**240**	**NE**

<D.L.	Indicates that the compound was not detected at or above stated laboratory detection limits.
NE	Not established.
USEPA RSL	United States Environmental Protection Agency Regional Screening Levels for Residential Uses (June 2017)
1	San Francisco Regional Water Quality Control Board Environmental Screening Levels – Table S-1: Direct Exposure Human Health Risk Levels - Residential Shallow Soil Exposure – February 2016 (Rev. 3).

ANALYTICAL REPORT

June 16, 2017

McCloskey Consulting - Danville, CA

Sample Delivery Group:	L914302
Samples Received:	06/07/2017
Project Number:	
Description:	10206 Orange Avenue
Report To:	Tom McCloskey 420 Sycamore Valley Rd West Danville, CA 94526

Entire Report Reviewed By:

[Preliminary Report]

Brian Ford

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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BP-1 L914302-01 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 10:50	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:24	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:10	VKS

BP-2 L914302-02 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 10:53	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987279	1	06/09/17 09:25	06/09/17 09:34	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:37	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:23	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 14:08	VKS
Pesticides (GC) by Method 8081	WG988762	5	06/14/17 08:28	06/16/17 11:38	VKS

BP-3 L914302-03 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:03	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:39	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:35	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 14:20	VKS

BP-4 L914302-04 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 10:55	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987279	1	06/09/17 09:25	06/09/17 09:34	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:47	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:48	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 14:33	VKS

BP-5 L914302-05 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:09	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:50	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:00	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 14:45	VKS

BP-6 L914302-06 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:11	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:52	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:13	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 14:58	VKS

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:13	06/07/17 08:45

BP-7 L914302-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:55	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:25	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 15:10	VKS

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:15	06/07/17 08:45

BP-8 L914302-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 14:57	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:25	VKS

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:23	06/07/17 08:45

BP-9 L914302-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:00	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:35	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/16/17 12:40	VKS
Pesticides (GC) by Method 8081	WG988762	5	06/14/17 08:28	06/16/17 12:03	VKS

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:25	06/07/17 08:45

BP-10 L914302-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:03	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:00	VKS
Pesticides (GC) by Method 8081	WG988762	10	06/14/17 08:28	06/16/17 12:15	VKS
Pesticides (GC) by Method 8081	WG988762	5	06/14/17 08:28	06/16/17 13:43	VKS

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:27	06/07/17 08:45

BP-11 L914302-11 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:05	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:12	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/16/17 13:05	VKS
Pesticides (GC) by Method 8081	WG988762	5	06/14/17 08:28	06/16/17 12:28	VKS

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:30	06/07/17 08:45

BP-12 L914302-12 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:08	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:47	VKS

S.O.-A1 L914302-13 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:50	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987279	1	06/09/17 09:25	06/09/17 09:34	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:11	NJB

S.O.-A2 L914302-14 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:52	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987279	1	06/09/17 09:25	06/09/17 09:34	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:18	NJB

S.O.-A3 L914302-15 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 11:55	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:21	NJB

SA-1@1-1.5' L914302-16 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 13:07	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988576	1	06/13/17 13:48	06/13/17 16:18	ST

AG-1 L914302-17 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:07	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:24	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 17:38	VKS
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/15/17 15:23	VKS

AG-2/SURFACE C L914302-18 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:10	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:26	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 15:58	VKS

AG-3 L914302-19 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:13	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987356	1	06/09/17 09:12	06/09/17 09:21	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:29	NJB
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:10	VKS

S.O.-B1 L914302-20 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:37	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987367	1	06/09/17 11:36	06/09/17 11:46	MLW
Metals (ICP) by Method 6010B	WG988572	1	06/13/17 11:24	06/13/17 15:32	NJB

S.O.-B2 L914302-21 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:40	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988571	1	06/13/17 14:43	06/13/17 22:22	ST

S.O.-B3 L914302-22 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:43	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987279	1	06/09/17 09:25	06/09/17 09:34	KDW
Metals (ICP) by Method 6010B	WG988571	1	06/13/17 14:43	06/13/17 22:25	ST

S.O.-B4 L914302-23 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:45	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988571	1	06/13/17 14:43	06/13/17 22:33	ST

SB-1 L914302-24 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 12:47	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987282	1	06/09/17 09:14	06/09/17 09:22	KDW
Metals (ICP) by Method 6010B	WG988571	1	06/13/17 14:43	06/13/17 22:35	ST
Pesticides (GC) by Method 8081	WG988762	1	06/14/17 08:28	06/14/17 16:23	VKS
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG988102	1	06/14/17 08:52	06/15/17 04:35	CLG

SB-1@1-1.5 L914302-25 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	06/05/17 13:14	06/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG987272	1	06/09/17 09:50	06/09/17 09:57	KDW
Metals (ICP) by Method 6010B	WG988571	1	06/13/17 14:43	06/13/17 22:38	ST
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG988102	1	06/14/17 08:52	06/15/17 04:57	CLG

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

[Preliminary Report]

Brian Ford
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	60.6	J3	1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.75		1.07	3.30	1	06/13/2017 14:24	WG988572
Lead	141	J3 J5 J6 O1	0.313	0.825	1	06/13/2017 14:24	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00223	0.0330	1	06/14/2017 16:10	WG988762
Alpha BHC	U		0.00224	0.0330	1	06/14/2017 16:10	WG988762
Beta BHC	U		0.00264	0.0330	1	06/14/2017 16:10	WG988762
Delta BHC	U		0.00236	0.0330	1	06/14/2017 16:10	WG988762
Gamma BHC	U		0.00239	0.0330	1	06/14/2017 16:10	WG988762
Chlordane	0.0874	J	0.0643	0.330	1	06/14/2017 16:10	WG988762
4,4-DDD	U		0.00257	0.0330	1	06/14/2017 16:10	WG988762
4,4-DDE	0.00450	J	0.00254	0.0330	1	06/14/2017 16:10	WG988762
4,4-DDT	U	P	0.00330	0.0330	1	06/14/2017 16:10	WG988762
Dieldrin	0.00510	J	0.00251	0.0330	1	06/14/2017 16:10	WG988762
Endosulfan I	U		0.00246	0.0330	1	06/14/2017 16:10	WG988762
Endosulfan II	U		0.00264	0.0330	1	06/14/2017 16:10	WG988762
Endosulfan sulfate	U		0.00249	0.0330	1	06/14/2017 16:10	WG988762
Endrin	U		0.00259	0.0330	1	06/14/2017 16:10	WG988762
Endrin aldehyde	U		0.00213	0.0330	1	06/14/2017 16:10	WG988762
Endrin ketone	U	J4	0.00272	0.0330	1	06/14/2017 16:10	WG988762
Hexachlorobenzene	U		0.00205	0.0330	1	06/14/2017 16:10	WG988762
Heptachlor	U		0.00254	0.0330	1	06/14/2017 16:10	WG988762
Heptachlor epoxide	U		0.00266	0.0330	1	06/14/2017 16:10	WG988762
Methoxychlor	U		0.00294	0.0330	1	06/14/2017 16:10	WG988762
Toxaphene	U		0.0594	0.660	1	06/14/2017 16:10	WG988762
(S) Decachlorobiphenyl	*30.9*			*10.0-148*		*06/14/2017 16:10*	WG988762
(S) Tetrachloro-m-xylene	*54.9*			*21.0-146*		*06/14/2017 16:10*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.3		1	06/09/2017 09:34	WG987279

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	23.2		0.712	2.19	1	06/13/2017 14:37	WG988572
Lead	196		0.208	0.547	1	06/13/2017 14:37	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00148	0.0219	1	06/14/2017 16:23	WG988762
Alpha BHC	U		0.00149	0.0219	1	06/14/2017 16:23	WG988762
Beta BHC	U		0.00175	0.0219	1	06/14/2017 16:23	WG988762
Delta BHC	U		0.00157	0.0219	1	06/14/2017 16:23	WG988762
Gamma BHC	U		0.00159	0.0219	1	06/14/2017 16:23	WG988762
Chlordane	4.46		0.213	1.09	5	06/16/2017 11:38	WG988762
4,4-DDD	U		0.00171	0.0219	1	06/14/2017 16:23	WG988762
4,4-DDE	0.187		0.00169	0.0219	1	06/15/2017 14:08	WG988762
4,4-DDT	0.437		0.00219	0.0219	1	06/15/2017 14:08	WG988762
Dieldrin	0.503		0.00832	0.109	5	06/16/2017 11:38	WG988762
Endosulfan I	U		0.00163	0.0219	1	06/14/2017 16:23	WG988762
Endosulfan II	U		0.00175	0.0219	1	06/14/2017 16:23	WG988762
Endosulfan sulfate	U		0.00165	0.0219	1	06/14/2017 16:23	WG988762
Endrin	U		0.00172	0.0219	1	06/14/2017 16:23	WG988762
Endrin aldehyde	U		0.00141	0.0219	1	06/14/2017 16:23	WG988762
Endrin ketone	U	J4	0.00181	0.0219	1	06/14/2017 16:23	WG988762
Hexachlorobenzene	U		0.00136	0.0219	1	06/14/2017 16:23	WG988762
Heptachlor	0.00958	J	0.00169	0.0219	1	06/14/2017 16:23	WG988762
Heptachlor epoxide	0.0548		0.00176	0.0219	1	06/14/2017 16:23	WG988762
Methoxychlor	U		0.00195	0.0219	1	06/14/2017 16:23	WG988762
Toxaphene	U		0.0394	0.438	1	06/14/2017 16:23	WG988762
(S) Decachlorobiphenyl	*122*			*10.0-148*		*06/14/2017 16:23*	WG988762
(S) Decachlorobiphenyl	*85.5*			*10.0-148*		*06/16/2017 11:38*	WG988762
(S) Decachlorobiphenyl	*107*			*10.0-148*		*06/15/2017 14:08*	WG988762
(S) Tetrachloro-m-xylene	*81.5*			*21.0-146*		*06/16/2017 11:38*	WG988762
(S) Tetrachloro-m-xylene	*82.3*			*21.0-146*		*06/14/2017 16:23*	WG988762
(S) Tetrachloro-m-xylene	*95.2*			*21.0-146*		*06/15/2017 14:08*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.8		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.02		0.758	2.33	1	06/13/2017 14:39	WG988572
Lead	92.2		0.221	0.583	1	06/13/2017 14:39	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00157	0.0233	1	06/14/2017 16:35	WG988762
Alpha BHC	U		0.00159	0.0233	1	06/14/2017 16:35	WG988762
Beta BHC	U		0.00187	0.0233	1	06/14/2017 16:35	WG988762
Delta BHC	U		0.00167	0.0233	1	06/14/2017 16:35	WG988762
Gamma BHC	U		0.00169	0.0233	1	06/14/2017 16:35	WG988762
Chlordane	1.04		0.0455	0.233	1	06/14/2017 16:35	WG988762
4,4-DDD	U		0.00182	0.0233	1	06/14/2017 16:35	WG988762
4,4-DDE	0.176		0.00180	0.0233	1	06/15/2017 14:20	WG988762
4,4-DDT	0.0595		0.00233	0.0233	1	06/15/2017 14:20	WG988762
Dieldrin	U		0.00177	0.0233	1	06/14/2017 16:35	WG988762
Endosulfan I	U		0.00174	0.0233	1	06/14/2017 16:35	WG988762
Endosulfan II	U		0.00187	0.0233	1	06/14/2017 16:35	WG988762
Endosulfan sulfate	U		0.00176	0.0233	1	06/14/2017 16:35	WG988762
Endrin	U		0.00183	0.0233	1	06/14/2017 16:35	WG988762
Endrin aldehyde	U		0.00150	0.0233	1	06/14/2017 16:35	WG988762
Endrin ketone	U	J4	0.00192	0.0233	1	06/14/2017 16:35	WG988762
Hexachlorobenzene	U		0.00145	0.0233	1	06/14/2017 16:35	WG988762
Heptachlor	U		0.00180	0.0233	1	06/14/2017 16:35	WG988762
Heptachlor epoxide	0.0480		0.00188	0.0233	1	06/14/2017 16:35	WG988762
Methoxychlor	U		0.00207	0.0233	1	06/14/2017 16:35	WG988762
Toxaphene	U		0.0420	0.466	1	06/14/2017 16:35	WG988762
(S) Decachlorobiphenyl	*54.6*			*10.0-148*		*06/14/2017 16:35*	WG988762
(S) Decachlorobiphenyl	*103*			*10.0-148*		*06/15/2017 14:20*	WG988762
(S) Tetrachloro-m-xylene	*76.4*			*21.0-146*		*06/14/2017 16:35*	WG988762
(S) Tetrachloro-m-xylene	*94.9*			*21.0-146*		*06/15/2017 14:20*	WG988762

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.0		1	06/09/2017 09:34	WG987279

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.61		0.774	2.38	1	06/13/2017 14:47	WG988572
Lead	237		0.226	0.595	1	06/13/2017 14:47	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00161	0.0238	1	06/14/2017 16:48	WG988762
Alpha BHC	U		0.00162	0.0238	1	06/14/2017 16:48	WG988762
Beta BHC	U		0.00190	0.0238	1	06/14/2017 16:48	WG988762
Delta BHC	U		0.00170	0.0238	1	06/14/2017 16:48	WG988762
Gamma BHC	U		0.00173	0.0238	1	06/14/2017 16:48	WG988762
Chlordane	0.465		0.0464	0.238	1	06/14/2017 16:48	WG988762
4,4-DDD	U		0.00186	0.0238	1	06/14/2017 16:48	WG988762
4,4-DDE	0.0278		0.00183	0.0238	1	06/15/2017 14:33	WG988762
4,4-DDT	U	P	0.00238	0.0238	1	06/14/2017 16:48	WG988762
Dieldrin	0.00722	J	0.00181	0.0238	1	06/14/2017 16:48	WG988762
Endosulfan I	U		0.00177	0.0238	1	06/14/2017 16:48	WG988762
Endosulfan II	U		0.00190	0.0238	1	06/14/2017 16:48	WG988762
Endosulfan sulfate	U		0.00180	0.0238	1	06/14/2017 16:48	WG988762
Endrin	U		0.00187	0.0238	1	06/14/2017 16:48	WG988762
Endrin aldehyde	U		0.00154	0.0238	1	06/14/2017 16:48	WG988762
Endrin ketone	U	J4	0.00196	0.0238	1	06/14/2017 16:48	WG988762
Hexachlorobenzene	U		0.00148	0.0238	1	06/14/2017 16:48	WG988762
Heptachlor	U		0.00183	0.0238	1	06/14/2017 16:48	WG988762
Heptachlor epoxide	U		0.00192	0.0238	1	06/14/2017 16:48	WG988762
Methoxychlor	U		0.00212	0.0238	1	06/14/2017 16:48	WG988762
Toxaphene	U		0.0429	0.476	1	06/14/2017 16:48	WG988762
(S) Decachlorobiphenyl	*40.2*			*10.0-148*		*06/14/2017 16:48*	WG988762
(S) Decachlorobiphenyl	*72.9*			*10.0-148*		*06/15/2017 14:33*	WG988762
(S) Tetrachloro-m-xylene	*91.3*			*21.0-146*		*06/15/2017 14:33*	WG988762
(S) Tetrachloro-m-xylene	*70.4*			*21.0-146*		*06/14/2017 16:48*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.7		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.28		0.749	2.31	1	06/13/2017 14:50	WG988572
Lead	558		0.219	0.577	1	06/13/2017 14:50	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00156	0.0231	1	06/14/2017 17:00	WG988762
Alpha BHC	U		0.00157	0.0231	1	06/14/2017 17:00	WG988762
Beta BHC	U		0.00184	0.0231	1	06/14/2017 17:00	WG988762
Delta BHC	U		0.00165	0.0231	1	06/14/2017 17:00	WG988762
Gamma BHC	U		0.00167	0.0231	1	06/14/2017 17:00	WG988762
Chlordane	0.163	J	0.0450	0.231	1	06/14/2017 17:00	WG988762
4,4-DDD	U		0.00180	0.0231	1	06/14/2017 17:00	WG988762
4,4-DDE	0.0371		0.00178	0.0231	1	06/15/2017 14:45	WG988762
4,4-DDT	0.0470		0.00231	0.0231	1	06/15/2017 14:45	WG988762
Dieldrin	0.00254	J P	0.00175	0.0231	1	06/14/2017 17:00	WG988762
Endosulfan I	U		0.00172	0.0231	1	06/14/2017 17:00	WG988762
Endosulfan II	U		0.00184	0.0231	1	06/14/2017 17:00	WG988762
Endosulfan sulfate	U		0.00174	0.0231	1	06/14/2017 17:00	WG988762
Endrin	U		0.00181	0.0231	1	06/14/2017 17:00	WG988762
Endrin aldehyde	U		0.00149	0.0231	1	06/14/2017 17:00	WG988762
Endrin ketone	U	J4	0.00190	0.0231	1	06/14/2017 17:00	WG988762
Hexachlorobenzene	U		0.00143	0.0231	1	06/14/2017 17:00	WG988762
Heptachlor	U		0.00178	0.0231	1	06/14/2017 17:00	WG988762
Heptachlor epoxide	U		0.00186	0.0231	1	06/14/2017 17:00	WG988762
Methoxychlor	U		0.00205	0.0231	1	06/14/2017 17:00	WG988762
Toxaphene	U		0.0415	0.461	1	06/14/2017 17:00	WG988762
(S) Decachlorobiphenyl	*113*			*10.0-148*		*06/15/2017 14:45*	WG988762
(S) Decachlorobiphenyl	*63.5*			*10.0-148*		*06/14/2017 17:00*	WG988762
(S) Tetrachloro-m-xylene	*77.8*			*21.0-146*		*06/14/2017 17:00*	WG988762
(S) Tetrachloro-m-xylene	*97.9*			*21.0-146*		*06/15/2017 14:45*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.1		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.67		0.721	2.22	1	06/13/2017 14:52	WG988572
Lead	66.6		0.211	0.555	1	06/13/2017 14:52	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00150	0.0222	1	06/14/2017 17:13	WG988762
Alpha BHC	U		0.00151	0.0222	1	06/14/2017 17:13	WG988762
Beta BHC	U		0.00178	0.0222	1	06/14/2017 17:13	WG988762
Delta BHC	U		0.00159	0.0222	1	06/14/2017 17:13	WG988762
Gamma BHC	U		0.00161	0.0222	1	06/14/2017 17:13	WG988762
Chlordane	0.255		0.0433	0.222	1	06/14/2017 17:13	WG988762
4,4-DDD	U		0.00173	0.0222	1	06/14/2017 17:13	WG988762
4,4-DDE	0.0495		0.00171	0.0222	1	06/15/2017 14:58	WG988762
4,4-DDT	0.0486		0.00222	0.0222	1	06/15/2017 14:58	WG988762
Dieldrin	0.0108	J	0.00169	0.0222	1	06/14/2017 17:13	WG988762
Endosulfan I	U		0.00165	0.0222	1	06/14/2017 17:13	WG988762
Endosulfan II	U		0.00178	0.0222	1	06/14/2017 17:13	WG988762
Endosulfan sulfate	U		0.00168	0.0222	1	06/14/2017 17:13	WG988762
Endrin	U		0.00174	0.0222	1	06/14/2017 17:13	WG988762
Endrin aldehyde	U		0.00143	0.0222	1	06/14/2017 17:13	WG988762
Endrin ketone	U	J4	0.00183	0.0222	1	06/14/2017 17:13	WG988762
Hexachlorobenzene	U		0.00138	0.0222	1	06/14/2017 17:13	WG988762
Heptachlor	U		0.00171	0.0222	1	06/14/2017 17:13	WG988762
Heptachlor epoxide	0.0113	J	0.00179	0.0222	1	06/14/2017 17:13	WG988762
Methoxychlor	U		0.00197	0.0222	1	06/14/2017 17:13	WG988762
Toxaphene	U		0.0399	0.444	1	06/14/2017 17:13	WG988762
(S) Decachlorobiphenyl	*128*			*10.0-148*		*06/15/2017 14:58*	WG988762
(S) Decachlorobiphenyl	*71.9*			*10.0-148*		*06/14/2017 17:13*	WG988762
(S) Tetrachloro-m-xylene	*79.5*			*21.0-146*		*06/14/2017 17:13*	WG988762
(S) Tetrachloro-m-xylene	*102*			*21.0-146*		*06/15/2017 14:58*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.6		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	11.5		0.769	2.36	1	06/13/2017 14:55	WG988572
Lead	511		0.225	0.591	1	06/13/2017 14:55	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00160	0.0236	1	06/14/2017 17:25	WG988762
Alpha BHC	U		0.00161	0.0236	1	06/14/2017 17:25	WG988762
Beta BHC	U		0.00189	0.0236	1	06/14/2017 17:25	WG988762
Delta BHC	U		0.00169	0.0236	1	06/14/2017 17:25	WG988762
Gamma BHC	U		0.00171	0.0236	1	06/14/2017 17:25	WG988762
Chlordane	0.0814	J	0.0461	0.236	1	06/14/2017 17:25	WG988762
4,4-DDD	U		0.00184	0.0236	1	06/14/2017 17:25	WG988762
4,4-DDE	0.0155	J	0.00182	0.0236	1	06/14/2017 17:25	WG988762
4,4-DDT	0.0409		0.00236	0.0236	1	06/15/2017 15:10	WG988762
Dieldrin	0.00201	J	0.00180	0.0236	1	06/14/2017 17:25	WG988762
Endosulfan I	U		0.00176	0.0236	1	06/14/2017 17:25	WG988762
Endosulfan II	U		0.00189	0.0236	1	06/14/2017 17:25	WG988762
Endosulfan sulfate	U		0.00179	0.0236	1	06/14/2017 17:25	WG988762
Endrin	U		0.00186	0.0236	1	06/14/2017 17:25	WG988762
Endrin aldehyde	U		0.00153	0.0236	1	06/14/2017 17:25	WG988762
Endrin ketone	U	J4	0.00195	0.0236	1	06/14/2017 17:25	WG988762
Hexachlorobenzene	U		0.00147	0.0236	1	06/14/2017 17:25	WG988762
Heptachlor	U		0.00182	0.0236	1	06/14/2017 17:25	WG988762
Heptachlor epoxide	0.00228	J	0.00190	0.0236	1	06/14/2017 17:25	WG988762
Methoxychlor	U		0.00210	0.0236	1	06/14/2017 17:25	WG988762
Toxaphene	U		0.0426	0.473	1	06/14/2017 17:25	WG988762
(S) Decachlorobiphenyl	*113*			*10.0-148*		*06/15/2017 15:10*	WG988762
(S) Decachlorobiphenyl	*68.1*			*10.0-148*		*06/14/2017 17:25*	WG988762
(S) Tetrachloro-m-xylene	*99.1*			*21.0-146*		*06/15/2017 15:10*	WG988762
(S) Tetrachloro-m-xylene	*76.9*			*21.0-146*		*06/14/2017 17:25*	WG988762

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.5		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.78		0.726	2.23	1	06/13/2017 14:57	WG988572
Lead	925		0.212	0.558	1	06/13/2017 14:57	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00151	0.0223	1	06/14/2017 17:25	WG988762
Alpha BHC	U		0.00152	0.0223	1	06/14/2017 17:25	WG988762
Beta BHC	U		0.00179	0.0223	1	06/14/2017 17:25	WG988762
Delta BHC	U		0.00160	0.0223	1	06/14/2017 17:25	WG988762
Gamma BHC	U		0.00162	0.0223	1	06/14/2017 17:25	WG988762
Chlordane	0.539		0.0436	0.223	1	06/14/2017 17:25	WG988762
4,4-DDD	U		0.00174	0.0223	1	06/14/2017 17:25	WG988762
4,4-DDE	0.0567	P	0.00172	0.0223	1	06/14/2017 17:25	WG988762
4,4-DDT	0.0559		0.00223	0.0223	1	06/14/2017 17:25	WG988762
Dieldrin	0.00920	J P	0.00170	0.0223	1	06/14/2017 17:25	WG988762
Endosulfan I	U		0.00166	0.0223	1	06/14/2017 17:25	WG988762
Endosulfan II	U		0.00179	0.0223	1	06/14/2017 17:25	WG988762
Endosulfan sulfate	U		0.00169	0.0223	1	06/14/2017 17:25	WG988762
Endrin	U		0.00175	0.0223	1	06/14/2017 17:25	WG988762
Endrin aldehyde	U		0.00144	0.0223	1	06/14/2017 17:25	WG988762
Endrin ketone	U	J4	0.00184	0.0223	1	06/14/2017 17:25	WG988762
Hexachlorobenzene	U		0.00138	0.0223	1	06/14/2017 17:25	WG988762
Heptachlor	U		0.00172	0.0223	1	06/14/2017 17:25	WG988762
Heptachlor epoxide	U		0.00180	0.0223	1	06/14/2017 17:25	WG988762
Methoxychlor	U		0.00199	0.0223	1	06/14/2017 17:25	WG988762
Toxaphene	U		0.0402	0.447	1	06/14/2017 17:25	WG988762
(S) Decachlorobiphenyl	*149*	J1		*10.0-148*		*06/14/2017 17:25*	WG988762
(S) Tetrachloro-m-xylene	*111*			*21.0-146*		*06/14/2017 17:25*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.2		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.18		0.669	2.06	1	06/13/2017 15:00	WG988572
Lead	207		0.196	0.515	1	06/13/2017 15:00	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00139	0.0206	1	06/14/2017 16:35	WG988762
Alpha BHC	U		0.00140	0.0206	1	06/14/2017 16:35	WG988762
Beta BHC	U		0.00165	0.0206	1	06/14/2017 16:35	WG988762
Delta BHC	U		0.00147	0.0206	1	06/14/2017 16:35	WG988762
Gamma BHC	U		0.00149	0.0206	1	06/14/2017 16:35	WG988762
Chlordane	0.292		0.0401	0.206	1	06/14/2017 16:35	WG988762
4,4-DDD	U		0.00161	0.0206	1	06/14/2017 16:35	WG988762
4,4-DDE	U		0.00792	0.103	5	06/16/2017 12:03	WG988762
4,4-DDT	0.388		0.00206	0.0206	1	06/14/2017 16:35	WG988762
Dieldrin	0.0342		0.00156	0.0206	1	06/14/2017 16:35	WG988762
Endosulfan I	U		0.00153	0.0206	1	06/14/2017 16:35	WG988762
Endosulfan II	U		0.00165	0.0206	1	06/14/2017 16:35	WG988762
Endosulfan sulfate	U		0.00155	0.0206	1	06/14/2017 16:35	WG988762
Endrin	U		0.00162	0.0206	1	06/14/2017 16:35	WG988762
Endrin aldehyde	U		0.00133	0.0206	1	06/14/2017 16:35	WG988762
Endrin ketone	U	J4	0.00170	0.0206	1	06/14/2017 16:35	WG988762
Hexachlorobenzene	U		0.00128	0.0206	1	06/14/2017 16:35	WG988762
Heptachlor	U		0.00158	0.0206	1	06/14/2017 16:35	WG988762
Heptachlor epoxide	U		0.00166	0.0206	1	06/14/2017 16:35	WG988762
Methoxychlor	0.0199	J	0.00183	0.0206	1	06/16/2017 12:40	WG988762
Toxaphene	U		0.0371	0.412	1	06/14/2017 16:35	WG988762
(S) Decachlorobiphenyl	*139*			*10.0-148*		*06/14/2017 16:35*	WG988762
(S) Decachlorobiphenyl	*84.0*			*10.0-148*		*06/16/2017 12:03*	WG988762
(S) Decachlorobiphenyl	*100*			*10.0-148*		*06/16/2017 12:40*	WG988762
(S) Tetrachloro-m-xylene	*103*			*21.0-146*		*06/14/2017 16:35*	WG988762
(S) Tetrachloro-m-xylene	*81.6*			*21.0-146*		*06/16/2017 12:40*	WG988762
(S) Tetrachloro-m-xylene	*77.0*			*21.0-146*		*06/16/2017 12:03*	WG988762

Cp Tc Ss Cn Sr Qc Gl Al Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.7		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.52		0.665	2.05	1	06/13/2017 15:03	WG988572
Lead	256		0.194	0.512	1	06/13/2017 15:03	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00138	0.0205	1	06/14/2017 17:00	WG988762
Alpha BHC	U		0.00139	0.0205	1	06/14/2017 17:00	WG988762
Beta BHC	U		0.00164	0.0205	1	06/14/2017 17:00	WG988762
Delta BHC	U		0.00146	0.0205	1	06/14/2017 17:00	WG988762
Gamma BHC	U		0.00148	0.0205	1	06/14/2017 17:00	WG988762
Chlordane	0.851		0.0399	0.205	1	06/14/2017 17:00	WG988762
4,4-DDD	U		0.00160	0.0205	1	06/14/2017 17:00	WG988762
4,4-DDE	0.0366	J	0.0158	0.205	10	06/16/2017 12:15	WG988762
4,4-DDT	0.0125	J	0.0102	0.102	5	06/16/2017 13:43	WG988762
Dieldrin	U		0.00156	0.0205	1	06/14/2017 17:00	WG988762
Endosulfan I	U		0.00152	0.0205	1	06/14/2017 17:00	WG988762
Endosulfan II	U		0.00164	0.0205	1	06/14/2017 17:00	WG988762
Endosulfan sulfate	U		0.00155	0.0205	1	06/14/2017 17:00	WG988762
Endrin	U		0.00161	0.0205	1	06/14/2017 17:00	WG988762
Endrin aldehyde	U		0.00132	0.0205	1	06/14/2017 17:00	WG988762
Endrin ketone	U	J4	0.00169	0.0205	1	06/14/2017 17:00	WG988762
Hexachlorobenzene	U		0.00127	0.0205	1	06/14/2017 17:00	WG988762
Heptachlor	U		0.00158	0.0205	1	06/14/2017 17:00	WG988762
Heptachlor epoxide	U		0.00165	0.0205	1	06/14/2017 17:00	WG988762
Methoxychlor	U		0.00182	0.0205	1	06/14/2017 17:00	WG988762
Toxaphene	U		0.0368	0.409	1	06/14/2017 17:00	WG988762
(S) Decachlorobiphenyl	*126*			*10.0-148*		*06/14/2017 17:00*	WG988762
(S) Decachlorobiphenyl	*99.6*			*10.0-148*		*06/16/2017 12:15*	WG988762
(S) Decachlorobiphenyl	*99.6*			*10.0-148*		*06/16/2017 13:43*	WG988762
(S) Tetrachloro-m-xylene	*86.6*			*21.0-146*		*06/16/2017 12:15*	WG988762
(S) Tetrachloro-m-xylene	*91.1*			*21.0-146*		*06/14/2017 17:00*	WG988762
(S) Tetrachloro-m-xylene	*86.6*			*21.0-146*		*06/16/2017 13:43*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.6		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.75		0.680	2.09	1	06/13/2017 15:05	WG988572
Lead	586		0.199	0.523	1	06/13/2017 15:05	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00141	0.0209	1	06/14/2017 17:12	WG988762
Alpha BHC	U		0.00142	0.0209	1	06/14/2017 17:12	WG988762
Beta BHC	U		0.00167	0.0209	1	06/14/2017 17:12	WG988762
Delta BHC	U		0.00150	0.0209	1	06/14/2017 17:12	WG988762
Gamma BHC	U		0.00152	0.0209	1	06/14/2017 17:12	WG988762
Chlordane	1.69		0.0408	0.209	1	06/14/2017 17:12	WG988762
4,4-DDD	U		0.00163	0.0209	1	06/14/2017 17:12	WG988762
4,4-DDE	0.0407	J P	0.00806	0.105	5	06/16/2017 12:28	WG988762
4,4-DDT	0.380		0.00209	0.0209	1	06/14/2017 17:12	WG988762
Dieldrin	0.0171	J P	0.00159	0.0209	1	06/14/2017 17:12	WG988762
Endosulfan I	U		0.00156	0.0209	1	06/14/2017 17:12	WG988762
Endosulfan II	U		0.00167	0.0209	1	06/14/2017 17:12	WG988762
Endosulfan sulfate	U		0.00158	0.0209	1	06/14/2017 17:12	WG988762
Endrin	U		0.00164	0.0209	1	06/14/2017 17:12	WG988762
Endrin aldehyde	U		0.00135	0.0209	1	06/14/2017 17:12	WG988762
Endrin ketone	U	J4	0.00173	0.0209	1	06/14/2017 17:12	WG988762
Hexachlorobenzene	U		0.00130	0.0209	1	06/14/2017 17:12	WG988762
Heptachlor	U		0.00161	0.0209	1	06/14/2017 17:12	WG988762
Heptachlor epoxide	0.0232		0.00168	0.0209	1	06/16/2017 13:05	WG988762
Methoxychlor	U		0.00186	0.0209	1	06/14/2017 17:12	WG988762
Toxaphene	U		0.0377	0.419	1	06/14/2017 17:12	WG988762
(S) Decachlorobiphenyl	*128*			*10.0-148*		*06/16/2017 12:28*	WG988762
(S) Decachlorobiphenyl	*186*	J1		*10.0-148*		*06/14/2017 17:12*	WG988762
(S) Decachlorobiphenyl	*150*	J1		*10.0-148*		*06/16/2017 13:05*	WG988762
(S) Tetrachloro-m-xylene	*71.1*			*21.0-146*		*06/16/2017 13:05*	WG988762
(S) Tetrachloro-m-xylene	*78.5*			*21.0-146*		*06/16/2017 12:28*	WG988762
(S) Tetrachloro-m-xylene	*105*			*21.0-146*		*06/14/2017 17:12*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.0		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.02		0.657	2.02	1	06/13/2017 15:08	WG988572
Lead	286		0.192	0.505	1	06/13/2017 15:08	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00136	0.0202	1	06/14/2017 16:47	WG988762
Alpha BHC	U		0.00137	0.0202	1	06/14/2017 16:47	WG988762
Beta BHC	U		0.00162	0.0202	1	06/14/2017 16:47	WG988762
Delta BHC	U		0.00145	0.0202	1	06/14/2017 16:47	WG988762
Gamma BHC	U		0.00147	0.0202	1	06/14/2017 16:47	WG988762
Chlordane	0.611	P	0.0394	0.202	1	06/14/2017 16:47	WG988762
4,4-DDD	U		0.00158	0.0202	1	06/14/2017 16:47	WG988762
4,4-DDE	0.0537		0.00156	0.0202	1	06/14/2017 16:47	WG988762
4,4-DDT	0.158		0.00202	0.0202	1	06/14/2017 16:47	WG988762
Dieldrin	0.0108	J P	0.00154	0.0202	1	06/14/2017 16:47	WG988762
Endosulfan I	U		0.00151	0.0202	1	06/14/2017 16:47	WG988762
Endosulfan II	U		0.00162	0.0202	1	06/14/2017 16:47	WG988762
Endosulfan sulfate	U		0.00153	0.0202	1	06/14/2017 16:47	WG988762
Endrin	U		0.00159	0.0202	1	06/14/2017 16:47	WG988762
Endrin aldehyde	U		0.00130	0.0202	1	06/14/2017 16:47	WG988762
Endrin ketone	U	J4	0.00167	0.0202	1	06/14/2017 16:47	WG988762
Hexachlorobenzene	U		0.00125	0.0202	1	06/14/2017 16:47	WG988762
Heptachlor	U		0.00156	0.0202	1	06/14/2017 16:47	WG988762
Heptachlor epoxide	U		0.00163	0.0202	1	06/14/2017 16:47	WG988762
Methoxychlor	U		0.00180	0.0202	1	06/14/2017 16:47	WG988762
Toxaphene	U		0.0364	0.404	1	06/14/2017 16:47	WG988762
(S) Decachlorobiphenyl	*210*	J1		*10.0-148*		*06/14/2017 16:47*	WG988762
(S) Tetrachloro-m-xylene	*95.9*			*21.0-146*		*06/14/2017 16:47*	WG988762

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.1		1	06/09/2017 09:34	WG987279

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	161		0.198	0.520	1	06/13/2017 15:11	WG988572

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.1		1	06/09/2017 09:34	WG987279

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	94.7		0.196	0.515	1	06/13/2017 15:18	WG988572

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.3		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	416		0.202	0.530	1	06/13/2017 15:21	WG988572

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.1		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	U		0.206	0.543	1	06/13/2017 16:18	WG988576

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.0		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	15.0		0.699	2.15	1	06/13/2017 15:24	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00145	0.0215	1	06/14/2017 17:38	WG988762
Alpha BHC	U		0.00146	0.0215	1	06/14/2017 17:38	WG988762
Beta BHC	U		0.00172	0.0215	1	06/14/2017 17:38	WG988762
Delta BHC	U		0.00154	0.0215	1	06/14/2017 17:38	WG988762
Gamma BHC	U		0.00156	0.0215	1	06/14/2017 17:38	WG988762
Chlordane	0.0550	J	0.0420	0.215	1	06/14/2017 17:38	WG988762
4,4-DDD	U		0.00168	0.0215	1	06/14/2017 17:38	WG988762
4,4-DDE	0.0385		0.00166	0.0215	1	06/15/2017 15:23	WG988762
4,4-DDT	0.0226		0.00215	0.0215	1	06/15/2017 15:23	WG988762
Dieldrin	0.00460	J P	0.00164	0.0215	1	06/14/2017 17:38	WG988762
Endosulfan I	U		0.00160	0.0215	1	06/14/2017 17:38	WG988762
Endosulfan II	U		0.00172	0.0215	1	06/14/2017 17:38	WG988762
Endosulfan sulfate	U		0.00162	0.0215	1	06/14/2017 17:38	WG988762
Endrin	U		0.00169	0.0215	1	06/14/2017 17:38	WG988762
Endrin aldehyde	U		0.00139	0.0215	1	06/14/2017 17:38	WG988762
Endrin ketone	U	J4	0.00178	0.0215	1	06/14/2017 17:38	WG988762
Hexachlorobenzene	U		0.00133	0.0215	1	06/14/2017 17:38	WG988762
Heptachlor	U		0.00166	0.0215	1	06/14/2017 17:38	WG988762
Heptachlor epoxide	0.00178	J	0.00173	0.0215	1	06/14/2017 17:38	WG988762
Methoxychlor	U		0.00191	0.0215	1	06/14/2017 17:38	WG988762
Toxaphene	U		0.0387	0.430	1	06/14/2017 17:38	WG988762
(S) Decachlorobiphenyl	*110*			*10.0-148*		*06/15/2017 15:23*	WG988762
(S) Decachlorobiphenyl	*60.1*			*10.0-148*		*06/14/2017 17:38*	WG988762
(S) Tetrachloro-m-xylene	*72.8*			*21.0-146*		*06/14/2017 17:38*	WG988762
(S) Tetrachloro-m-xylene	*93.7*			*21.0-146*		*06/15/2017 15:23*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.4		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	17.7		0.667	2.05	1	06/13/2017 15:26	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00139	0.0205	1	06/14/2017 15:58	WG988762
Alpha BHC	U		0.00140	0.0205	1	06/14/2017 15:58	WG988762
Beta BHC	U		0.00164	0.0205	1	06/14/2017 15:58	WG988762
Delta BHC	U		0.00147	0.0205	1	06/14/2017 15:58	WG988762
Gamma BHC	U		0.00149	0.0205	1	06/14/2017 15:58	WG988762
Chlordane	U		0.0400	0.205	1	06/14/2017 15:58	WG988762
4,4-DDD	U		0.00160	0.0205	1	06/14/2017 15:58	WG988762
4,4-DDE	0.00477	J	0.00158	0.0205	1	06/14/2017 15:58	WG988762
4,4-DDT	0.00261	J	0.00205	0.0205	1	06/14/2017 15:58	WG988762
Dieldrin	U		0.00156	0.0205	1	06/14/2017 15:58	WG988762
Endosulfan I	U		0.00153	0.0205	1	06/14/2017 15:58	WG988762
Endosulfan II	U		0.00164	0.0205	1	06/14/2017 15:58	WG988762
Endosulfan sulfate	U		0.00155	0.0205	1	06/14/2017 15:58	WG988762
Endrin	U		0.00161	0.0205	1	06/14/2017 15:58	WG988762
Endrin aldehyde	U		0.00132	0.0205	1	06/14/2017 15:58	WG988762
Endrin ketone	U	J4	0.00169	0.0205	1	06/14/2017 15:58	WG988762
Hexachlorobenzene	U		0.00127	0.0205	1	06/14/2017 15:58	WG988762
Heptachlor	U		0.00158	0.0205	1	06/14/2017 15:58	WG988762
Heptachlor epoxide	U		0.00165	0.0205	1	06/14/2017 15:58	WG988762
Methoxychlor	U		0.00183	0.0205	1	06/14/2017 15:58	WG988762
Toxaphene	U		0.0370	0.411	1	06/14/2017 15:58	WG988762
(S) Decachlorobiphenyl	*131*			*10.0-148*		*06/14/2017 15:58*	WG988762
(S) Tetrachloro-m-xylene	*96.3*			*21.0-146*		*06/14/2017 15:58*	WG988762

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.7		1	06/09/2017 09:21	WG987356

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.63		0.672	2.07	1	06/13/2017 15:29	WG988572

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00140	0.0207	1	06/14/2017 16:10	WG988762
Alpha BHC	U		0.00141	0.0207	1	06/14/2017 16:10	WG988762
Beta BHC	U		0.00165	0.0207	1	06/14/2017 16:10	WG988762
Delta BHC	U		0.00148	0.0207	1	06/14/2017 16:10	WG988762
Gamma BHC	U		0.00150	0.0207	1	06/14/2017 16:10	WG988762
Chlordane	0.509		0.0403	0.207	1	06/14/2017 16:10	WG988762
4,4-DDD	U		0.00161	0.0207	1	06/14/2017 16:10	WG988762
4,4-DDE	0.140		0.00159	0.0207	1	06/14/2017 16:10	WG988762
4,4-DDT	0.0687		0.00207	0.0207	1	06/14/2017 16:10	WG988762
Dieldrin	U		0.00157	0.0207	1	06/14/2017 16:10	WG988762
Endosulfan I	U		0.00154	0.0207	1	06/14/2017 16:10	WG988762
Endosulfan II	U		0.00165	0.0207	1	06/14/2017 16:10	WG988762
Endosulfan sulfate	U		0.00156	0.0207	1	06/14/2017 16:10	WG988762
Endrin	U		0.00162	0.0207	1	06/14/2017 16:10	WG988762
Endrin aldehyde	U		0.00133	0.0207	1	06/14/2017 16:10	WG988762
Endrin ketone	U	J4	0.00171	0.0207	1	06/14/2017 16:10	WG988762
Hexachlorobenzene	U		0.00128	0.0207	1	06/14/2017 16:10	WG988762
Heptachlor	U		0.00159	0.0207	1	06/14/2017 16:10	WG988762
Heptachlor epoxide	U		0.00167	0.0207	1	06/14/2017 16:10	WG988762
Methoxychlor	U		0.00184	0.0207	1	06/14/2017 16:10	WG988762
Toxaphene	U		0.0372	0.414	1	06/14/2017 16:10	WG988762
(S) Decachlorobiphenyl	*145*			*10.0-148*		*06/14/2017 16:10*	WG988762
(S) Tetrachloro-m-xylene	*95.1*			*21.0-146*		*06/14/2017 16:10*	WG988762

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.3		1	06/09/2017 11:46	WG987367

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	403		0.291	0.765	1	06/13/2017 15:32	WG988572

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.6		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	529		0.220	0.578	1	06/13/2017 22:22	WG988571

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.1		1	06/09/2017 09:34	WG987279

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	550		0.213	0.561	1	06/13/2017 22:25	WG988571

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.1		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	7200		0.226	0.595	1	06/13/2017 22:33	WG988571

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	71.0		1	06/09/2017 09:22	WG987282

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.78		0.915	2.82	1	06/13/2017 22:35	WG988571

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00190	0.0282	1	06/14/2017 16:23	WG988762
Alpha BHC	U		0.00192	0.0282	1	06/14/2017 16:23	WG988762
Beta BHC	U		0.00225	0.0282	1	06/14/2017 16:23	WG988762
Delta BHC	U		0.00201	0.0282	1	06/14/2017 16:23	WG988762
Gamma BHC	U		0.00204	0.0282	1	06/14/2017 16:23	WG988762
Chlordane	0.0896	J	0.0549	0.282	1	06/14/2017 16:23	WG988762
4,4-DDD	U		0.00220	0.0282	1	06/14/2017 16:23	WG988762
4,4-DDE	0.0426		0.00217	0.0282	1	06/14/2017 16:23	WG988762
4,4-DDT	0.00905	J	0.00282	0.0282	1	06/14/2017 16:23	WG988762
Dieldrin	U		0.00214	0.0282	1	06/14/2017 16:23	WG988762
Endosulfan I	U		0.00210	0.0282	1	06/14/2017 16:23	WG988762
Endosulfan II	U		0.00225	0.0282	1	06/14/2017 16:23	WG988762
Endosulfan sulfate	U		0.00213	0.0282	1	06/14/2017 16:23	WG988762
Endrin	U		0.00221	0.0282	1	06/14/2017 16:23	WG988762
Endrin aldehyde	U		0.00182	0.0282	1	06/14/2017 16:23	WG988762
Endrin ketone	U	J4	0.00232	0.0282	1	06/14/2017 16:23	WG988762
Hexachlorobenzene	U		0.00175	0.0282	1	06/14/2017 16:23	WG988762
Heptachlor	U		0.00217	0.0282	1	06/14/2017 16:23	WG988762
Heptachlor epoxide	U		0.00227	0.0282	1	06/14/2017 16:23	WG988762
Methoxychlor	U		0.00251	0.0282	1	06/14/2017 16:23	WG988762
Toxaphene	U		0.0507	0.563	1	06/14/2017 16:23	WG988762
(S) Decachlorobiphenyl	*95.0*			*10.0-148*		*06/14/2017 16:23*	WG988762
(S) Tetrachloro-m-xylene	*104*			*21.0-146*		*06/14/2017 16:23*	WG988762

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.000845	0.00845	1	06/15/2017 04:35	WG988102
Acenaphthene	U		0.000845	0.00845	1	06/15/2017 04:35	WG988102
Acenaphthylene	U		0.000845	0.00845	1	06/15/2017 04:35	WG988102
Benzo(a)anthracene	0.00144	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Benzo(a)pyrene	0.00158	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Benzo(b)fluoranthene	0.00253	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Benzo(g,h,i)perylene	0.00207	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Benzo(k)fluoranthene	0.00106	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Chrysene	0.00189	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Dibenz(a,h)anthracene	U		0.000845	0.00845	1	06/15/2017 04:35	WG988102
Fluoranthene	0.00290	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Fluorene	U		0.000845	0.00845	1	06/15/2017 04:35	WG988102
Indeno(1,2,3-cd)pyrene	0.00148	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Naphthalene	0.00625	J	0.00282	0.0282	1	06/15/2017 04:35	WG988102
Phenanthrene	0.00189	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
Pyrene	0.00278	J	0.000845	0.00845	1	06/15/2017 04:35	WG988102
1-Methylnaphthalene	0.00387	J	0.00282	0.0282	1	06/15/2017 04:35	WG988102

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	0.00426	J	0.00282	0.0282	1	06/15/2017 04:35	WG988102
2-Chloronaphthalene	U		0.00282	0.0282	1	06/15/2017 04:35	WG988102
(S) p-Terphenyl-d14	*54.5*			*23.0-120*		*06/15/2017 04:35*	WG988102
(S) Nitrobenzene-d5	*77.7*			*14.0-149*		*06/15/2017 04:35*	WG988102
(S) 2-Fluorobiphenyl	*74.2*			*34.0-125*		*06/15/2017 04:35*	WG988102

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.1		1	06/09/2017 09:57	WG987272

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	60.9		0.213	0.561	1	06/13/2017 22:38	WG988571

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Acenaphthene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Acenaphthylene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Benzo(a)anthracene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Benzo(a)pyrene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Benzo(b)fluoranthene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Benzo(g,h,i)perylene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Benzo(k)fluoranthene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Chrysene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Dibenz(a,h)anthracene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Fluoranthene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Fluorene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Indeno(1,2,3-cd)pyrene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Naphthalene	U		0.00224	0.0224	1	06/15/2017 04:57	WG988102
Phenanthrene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
Pyrene	U		0.000673	0.00673	1	06/15/2017 04:57	WG988102
1-Methylnaphthalene	U		0.00224	0.0224	1	06/15/2017 04:57	WG988102
2-Methylnaphthalene	U		0.00224	0.0224	1	06/15/2017 04:57	WG988102
2-Chloronaphthalene	U		0.00224	0.0224	1	06/15/2017 04:57	WG988102
(S) p-Terphenyl-d14	*63.2*			*23.0-120*		*06/15/2017 04:57*	WG988102
(S) Nitrobenzene-d5	*72.8*			*14.0-149*		*06/15/2017 04:57*	WG988102
(S) 2-Fluorobiphenyl	*74.5*			*34.0-125*		*06/15/2017 04:57*	WG988102

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3224559-1 06/09/17 09:57

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000800			

L914219-01 Original Sample (OS) • Duplicate (DUP)

(OS) L914219-01 06/09/17 09:57 • (DUP) R3224559-3 06/09/17 09:57

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	79.7	79.1	1	0.708		5

Laboratory Control Sample (LCS)

(LCS) R3224559-2 06/09/17 09:57

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3224557-1 06/09/17 09:34

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000600			

L914302-14 Original Sample (OS) • Duplicate (DUP)

(OS) L914302-14 06/09/17 09:34 • (DUP) R3224557-3 06/09/17 09:34

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	97.1	96.8	1	0.368		5

Laboratory Control Sample (LCS)

(LCS) R3224557-2 06/09/17 09:34

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

Method Blank (MB)

(MB) R3224556-1 06/09/17 09:22

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000300			

L914302-16 Original Sample (OS) • Duplicate (DUP)

(OS) L914302-16 06/09/17 09:22 • (DUP) R3224556-3 06/09/17 09:22

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	92.1	93.1	1	1.04		5

Laboratory Control Sample (LCS)

(LCS) R3224556-2 06/09/17 09:22

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3224572-1 06/09/17 09:21

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00140			

L914302-01 Original Sample (OS) • Duplicate (DUP)

(OS) L914302-01 06/09/17 09:21 • (DUP) R3224572-3 06/09/17 09:21

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	60.6	64.0	1	5.39	J3	5

Laboratory Control Sample (LCS)

(LCS) R3224572-2 06/09/17 09:21

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.9	85.0-115	

Method Blank (MB)

(MB) R3224583-1 06/09/17 11:46

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L914199-01 Original Sample (OS) • Duplicate (DUP)

(OS) L914199-01 06/09/17 11:46 • (DUP) R3224583-3 06/09/17 11:46

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	83.4	84.1	1	0.940		5

Laboratory Control Sample (LCS)

(LCS) R3224583-2 06/09/17 11:46

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3225359-1 06/13/17 21:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3225359-2 06/13/17 21:33 • (LCSD) R3225359-3 06/13/17 21:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	93.9	92.1	94	92	80-120			2	20
Lead	100	94.7	93.6	95	94	80-120			1	20

L914219-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L914219-01 06/13/17 21:38 • (MS) R3225359-6 06/13/17 21:45 • (MSD) R3225359-7 06/13/17 21:48

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	125	10.3	136	131	100	96	1	75-125			4	20
Lead	125	14.6	144	147	103	105	1	75-125			2	20

Method Blank (MB)

(MB) R3225276-1 06/13/17 14:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3225276-2 06/13/17 14:19 • (LCSD) R3225276-3 06/13/17 14:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	103	102	103	102	80-120			1	20
Lead	100	102	101	102	101	80-120			1	20

L914302-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L914302-01 06/13/17 14:24 • (MS) R3225276-6 06/13/17 14:32 • (MSD) R3225276-7 06/13/17 14:34

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	165	5.75	193	165	113	97	1	75-125			15	20
Lead	165	141	441	250	182	66	1	75-125	J5	J3 J6	55	20

Method Blank (MB)

(MB) R3225329-1 06/13/17 15:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Lead	U		0.19	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3225329-2 06/13/17 15:42 • (LCSD) R3225329-3 06/13/17 15:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Lead	100	101	102	101	102	80-120			1	20

L914268-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L914268-01 06/13/17 15:47 • (MS) R3225329-6 06/13/17 15:57 • (MSD) R3225329-7 06/13/17 16:00

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	126	10.0	148	133	110	98	1	75-125			11	20

Method Blank (MB)

(MB) R3225886-1 06/14/17 15:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00135	0.0200
Alpha BHC	U		0.00136	0.0200
Beta BHC	U		0.00160	0.0200
Delta BHC	U		0.00143	0.0200
Gamma BHC	U		0.00145	0.0200
4,4-DDD	U		0.00156	0.0200
4,4-DDE	U		0.00154	0.0200
4,4-DDT	U		0.00200	0.0200
Dieldrin	U		0.00152	0.0200
Endosulfan I	U		0.00149	0.0200
Endosulfan II	U		0.00160	0.0200
Endosulfan sulfate	U		0.00151	0.0200
Endrin	U		0.00157	0.0200
Endrin aldehyde	U		0.00129	0.0200
Endrin ketone	U		0.00165	0.0200
Heptachlor	U		0.00154	0.0200
Heptachlor epoxide	U		0.00161	0.0200
Hexachlorobenzene	U		0.00124	0.0200
Methoxychlor	U		0.00178	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	*71.9*			*10.0-148*
(S) Tetrachloro-m-xylene	*81.3*			*21.0-146*

Method Blank (MB)

(MB) R3225895-3 06/14/17 15:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00135	0.0200
Alpha BHC	U		0.00136	0.0200
Beta BHC	U		0.00160	0.0200
Delta BHC	U		0.00143	0.0200
Gamma BHC	U		0.00145	0.0200
4,4-DDD	U		0.00156	0.0200
4,4-DDE	U		0.00154	0.0200
4,4-DDT	U		0.00200	0.0200
Dieldrin	U		0.00152	0.0200
Endosulfan I	U		0.00149	0.0200

Method Blank (MB)

(MB) R3225895-3 06/14/17 15:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Endosulfan II	U		0.00160	0.0200
Endosulfan sulfate	U		0.00151	0.0200
Endrin	U		0.00157	0.0200
Endrin aldehyde	U		0.00129	0.0200
Endrin ketone	U		0.00165	0.0200
Heptachlor	U		0.00154	0.0200
Heptachlor epoxide	U		0.00161	0.0200
Hexachlorobenzene	U		0.00124	0.0200
Methoxychlor	U		0.00178	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	*164*	J1		*10.0-148*
(S) Tetrachloro-m-xylene	*124*			*21.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3225895-1 06/14/17 15:04 • (LCSD) R3225895-2 06/14/17 15:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0667	0.0902	0.0883	135	132	55.0-137			2.06	29
Alpha BHC	0.0667	0.0836	0.0825	125	124	55.0-136			1.35	28
Beta BHC	0.0667	0.0846	0.0812	127	122	53.0-133			4.14	28
Delta BHC	0.0667	0.0729	0.0736	109	110	53.0-139			0.980	29
Gamma BHC	0.0667	0.0785	0.0768	118	115	54.0-136			2.16	29
4,4-DDD	0.0667	0.0891	0.0896	134	134	51.0-141		P	0.590	29
4,4-DDE	0.0667	0.0830	0.0822	124	123	53.0-142			0.910	30
4,4-DDT	0.0667	0.0650	0.0648	97.5	97.1	47.0-143			0.390	30
Dieldrin	0.0667	0.0874	0.0873	131	131	54.0-141			0.0200	29
Endosulfan I	0.0667	0.0873	0.0855	131	128	54.0-141			2.11	29
Endosulfan II	0.0667	0.0874	0.0903	131	135	53.0-140		P	3.23	28
Endosulfan sulfate	0.0667	0.0837	0.0852	125	128	52.0-141	P	P	1.74	29
Endrin	0.0667	0.0753	0.0758	113	114	52.0-137			0.650	29
Endrin aldehyde	0.0667	0.0694	0.0646	104	96.9	30.0-127		P	7.10	31
Endrin ketone	0.0667	0.0943	0.0972	141	146	51.0-139	J4 P	J4 P	3.04	28
Heptachlor	0.0667	0.0764	0.0759	115	114	53.0-144			0.650	29
Heptachlor epoxide	0.0667	0.0780	0.0785	117	118	54.0-137			0.570	28
Hexachlorobenzene	0.0667	0.0814	0.0803	122	120	50.0-135			1.31	28
Methoxychlor	0.0667	0.0867	0.0853	130	128	49.0-145			1.55	29
(S) Decachlorobiphenyl				*146*	*152*	*10.0-148*		J1		

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3225895-1 06/14/17 15:04 • (LCSD) R3225895-2 06/14/17 15:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) Tetrachloro-m-xylene				*114*	*117*	*21.0-146*				

L914254-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L914254-22 06/14/17 19:17 • (MS) R3225895-4 06/14/17 19:30 • (MSD) R3225895-5 06/14/17 19:42

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0702	U	0.0969	0.105	138	150	1	19.0-152		P	8.06	24
Alpha BHC	0.0702	U	0.0975	0.105	139	150	1	39.0-152			7.74	21
Beta BHC	0.0702	U	0.0975	0.107	139	153	1	38.0-150		J5	9.70	20
Delta BHC	0.0702	U	0.0913	0.101	130	144	1	34.0-155			9.98	21
Gamma BHC	0.0702	U	0.0950	0.102	135	145	1	38.0-153			6.62	21
4,4-DDD	0.0702	U	0.117	0.138	166	197	1	22.0-160	J5	J5	16.7	25
4,4-DDE	0.0702	U	0.0965	0.106	137	150	1	10.0-160			8.93	27
4,4-DDT	0.0702	U	0.0624	0.0539	88.8	76.7	1	10.0-160			14.6	28
Dieldrin	0.0702	U	0.0993	0.111	141	158	1	30.0-158		P	11.1	25
Endosulfan I	0.0702	U	0.0969	0.108	138	154	1	31.0-155			11.0	25
Endosulfan II	0.0702	U	0.0967	0.112	138	160	1	32.0-156		J5	15.0	25
Endosulfan sulfate	0.0702	U	0.0950	0.109	135	156	1	31.0-158		P	14.0	24
Endrin	0.0702	U	0.0978	0.104	139	148	1	30.0-149			6.14	25
Endrin aldehyde	0.0702	U	0.0941	0.109	134	155	1	20.0-157			14.4	26
Endrin ketone	0.0702	U	0.106	0.122	151	173	1	32.0-154		J5 P	13.4	23
Heptachlor	0.0702	U	0.0916	0.0912	130	130	1	18.0-160			0.440	23
Heptachlor epoxide	0.0702	U	0.0931	0.103	133	147	1	31.0-154			10.2	25
Hexachlorobenzene	0.0702	U	0.0917	0.0993	131	141	1	26.0-146			7.92	21
Methoxychlor	0.0702	U	0.0821	0.0771	117	110	1	10.0-160			6.22	27
(S) Decachlorobiphenyl					*126*	*148*		*10.0-148*				
(S) Tetrachloro-m-xylene					*122*	*128*		*21.0-146*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3226031-3 06/15/17 03:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	*81.7*			*14.0-149*
(S) 2-Fluorobiphenyl	*86.3*			*34.0-125*
(S) p-Terphenyl-d14	*75.4*			*23.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3226031-1 06/15/17 03:15 • (LCSD) R3226031-2 06/15/17 03:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	0.0626	0.0632	78.2	79.0	50.0-125			0.970	20
Acenaphthene	0.0800	0.0656	0.0656	82.0	82.0	52.0-120			0.0800	20
Acenaphthylene	0.0800	0.0655	0.0651	81.9	81.4	51.0-120			0.590	20
Benzo(a)anthracene	0.0800	0.0583	0.0579	72.9	72.3	46.0-121			0.820	20
Benzo(a)pyrene	0.0800	0.0568	0.0567	71.0	70.8	42.0-121			0.230	20
Benzo(b)fluoranthene	0.0800	0.0557	0.0588	69.6	73.6	42.0-123			5.57	20
Benzo(g,h,i)perylene	0.0800	0.0610	0.0592	76.3	74.0	43.0-128			3.08	20
Benzo(k)fluoranthene	0.0800	0.0632	0.0595	79.0	74.3	45.0-128			6.12	20
Chrysene	0.0800	0.0622	0.0629	77.8	78.7	48.0-127			1.17	20
Dibenz(a,h)anthracene	0.0800	0.0533	0.0516	66.6	64.5	43.0-132			3.09	20
Fluoranthene	0.0800	0.0666	0.0653	83.2	81.6	49.0-129			2.02	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3226031-1 06/15/17 03:15 • (LCSD) R3226031-2 06/15/17 03:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	0.0800	0.0655	0.0649	81.8	81.1	50.0-120			0.910	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0576	0.0562	72.0	70.3	44.0-131			2.44	20
Naphthalene	0.0800	0.0660	0.0658	82.5	82.2	50.0-120			0.280	20
Phenanthrene	0.0800	0.0608	0.0605	75.9	75.6	48.0-120			0.500	20
Pyrene	0.0800	0.0647	0.0655	80.9	81.9	48.0-135			1.27	20
1-Methylnaphthalene	0.0800	0.0717	0.0723	89.7	90.3	52.0-122			0.720	20
2-Methylnaphthalene	0.0800	0.0683	0.0685	85.4	85.6	52.0-120			0.270	20
2-Chloronaphthalene	0.0800	0.0644	0.0639	80.5	79.9	50.0-120			0.720	20
(S) Nitrobenzene-d5				*87.5*	*83.0*	*14.0-149*				
(S) 2-Fluorobiphenyl				*87.6*	*85.4*	*34.0-125*				
(S) p-Terphenyl-d14				*75.7*	*72.7*	*23.0-120*				

L914302-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L914302-25 06/15/17 04:57 • (MS) R3226031-4 06/15/17 05:18 • (MSD) R3226031-5 06/15/17 05:39

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0897	U	0.0566	0.0600	63.1	66.9	1	20.0-136			5.90	24
Acenaphthene	0.0897	U	0.0612	0.0622	68.2	69.3	1	29.0-124			1.71	20
Acenaphthylene	0.0897	U	0.0627	0.0642	69.9	71.6	1	35.0-120			2.37	20
Benzo(a)anthracene	0.0897	U	0.0521	0.0547	58.0	60.9	1	13.0-132			4.85	27
Benzo(a)pyrene	0.0897	U	0.0510	0.0544	56.8	60.6	1	14.0-138			6.57	27
Benzo(b)fluoranthene	0.0897	U	0.0475	0.0496	52.9	55.3	1	10.0-129			4.40	31
Benzo(g,h,i)perylene	0.0897	U	0.0549	0.0575	61.2	64.1	1	10.0-133			4.71	30
Benzo(k)fluoranthene	0.0897	U	0.0537	0.0589	59.9	65.6	1	15.0-131			9.11	27
Chrysene	0.0897	U	0.0586	0.0625	65.3	69.6	1	15.0-137			6.37	25
Dibenz(a,h)anthracene	0.0897	U	0.0555	0.0578	61.9	64.4	1	15.0-132			3.91	27
Fluoranthene	0.0897	U	0.0578	0.0586	64.5	65.3	1	13.0-139			1.29	28
Fluorene	0.0897	U	0.0594	0.0610	66.2	67.9	1	27.0-122			2.59	22
Indeno(1,2,3-cd)pyrene	0.0897	U	0.0539	0.0565	60.0	62.9	1	11.0-133			4.78	29
Naphthalene	0.0897	U	0.0654	0.0661	72.8	73.7	1	18.0-136			1.11	21
Phenanthrene	0.0897	U	0.0542	0.0551	60.4	61.4	1	15.0-133			1.67	25
Pyrene	0.0897	U	0.0545	0.0562	60.8	62.7	1	11.0-146			3.07	29
1-Methylnaphthalene	0.0897	U	0.0694	0.0697	77.3	77.6	1	24.0-137			0.390	22
2-Methylnaphthalene	0.0897	U	0.0663	0.0660	73.8	73.6	1	23.0-136			0.340	22
2-Chloronaphthalene	0.0897	U	0.0612	0.0627	68.2	69.9	1	36.0-120			2.51	20
(S) Nitrobenzene-d5					*79.8*	*82.2*		*14.0-149*				
(S) 2-Fluorobiphenyl					*80.2*	*84.4*		*34.0-125*				
(S) p-Terphenyl-d14					*66.1*	*71.3*		*23.0-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL (dry)	Reported Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P	RPD between the primary and confirmatory analysis exceeded 40%.

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Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Conneticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1]	90010
Kentucky [2]	16
Louisiana	AI30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [2]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-07-TX
Texas [5]	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

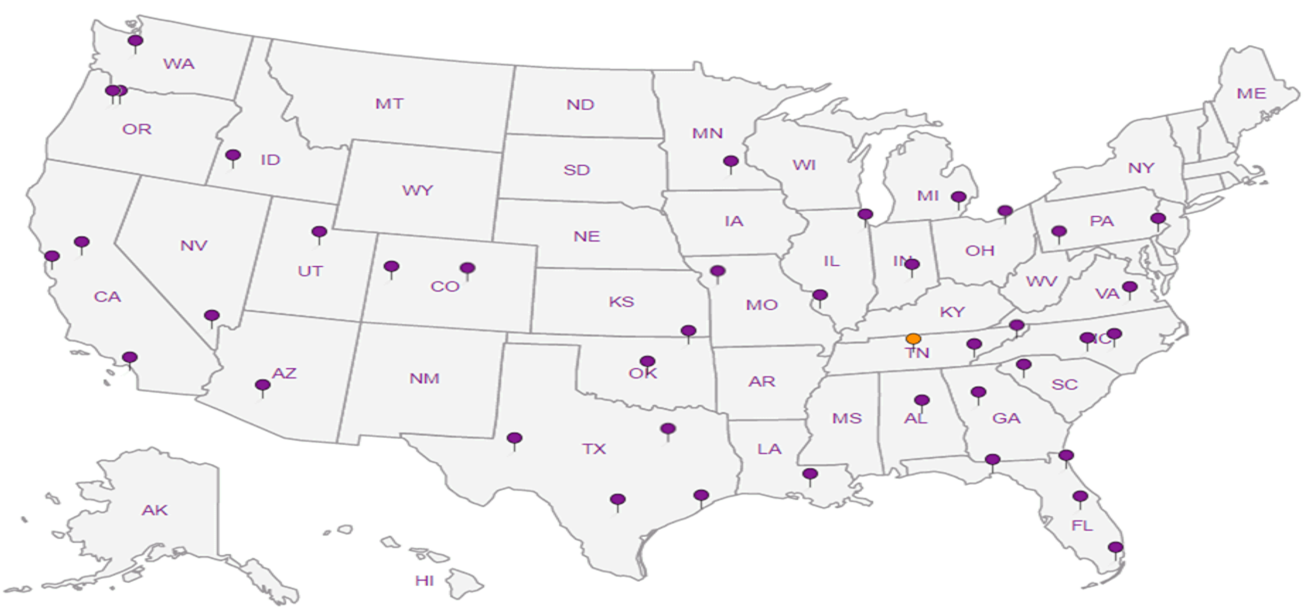
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC	100789
DOD	1461.01
USDA	S-67674

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



McCloskey Consultants Inc

Billing Information:

chris@cvenvironmental.com

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 3

ESC LAB SCIENCES

YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L914302

G134

Report to: Tom McCloskey/ Chris Vertin

Email To: tom@mccloskeyconsultants.com

Project Description: 10206 Orange Avenue

City/State Collected: Cupertino, California

Phone: 925-786-2667

Fax:

Client Project #

Lab Project #

Collected by (print): Chris Vertin

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)

___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Metals - Lead + Arsenic	OCPs - 8081								Remarks	Sample # (lab only)
BP-1		SS	0-1/2	6.5.17	10:50	1	X	X									-01
BP-2					10:53		X	X									02
BP-3					11:03		X	X									03
BP-4					10:55		X	X									04
BP-5					11:09		X	X									05
BP-6					11:11		X	X									06
BP 7					11:13		X	X									07
BP-8					11:15		X	X									08
BP-9					11:23		X	X									09
BP 10					11:25		X	X									10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ________

Remarks:

pH ______ Temp ______

Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier __ ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date: 6/6/17	Time: 10:02	Received by: (Signature)	Temp: 5.1 °C Bottles Received: 25
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6.7.17 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page 2 of 3

ESC LAB SCIENCES

YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

McCloskey Consultants Inc

Billing Information: chris@cvenvironmental.com

Pres Chk

Report to: Tom McCloskey/ Chris Vertin

Email To: tom@mccloskeyconsultants.com

Project Description: 10206 Orange Avenue

City/State Collected: Cupertino, California

Phone: 925. 786.2667

Fax:

Client Project #

Lab Project #

Collected by (print): Chris Vertin

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)

___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

L# L914302

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	OCP's-8081	Metals - Lead + Arsenic	Metal - Lead	Metal - Arsenic							Remarks	Sample # (lab only)
BP-11		SS	0-½	6-5-17	11:27	1	X	X										-11
BP-12					11:30		X	X										12
S.O.-A1					11:50				X									13
S.O.-A2					11:52				X									14
S.O.-A3					11:55				X									15
SA-e 1-1½'			1-1½		13:07				X									16
AG-1			0-½		12:07		X			X								17
AG-2 / Surface C					12:10		X			X								18
AG-3					12:13		X			X								19

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_______

Remarks:

pH _______ Temp _______

Flow _______ Other _______

Samples returned via:
__ UPS __ FedEx __ Courier __ ______

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact: NP _Y _N
COC Signed/Accurate: Y _N
Bottles arrive intact: Y _N
Correct bottles used: Y _N
Sufficient volume sent: Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	6/6/17	10:02			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 5.1 °C Bottles Received: 25	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/7/17 Time: 0845	Hold: Condition: NCF / OK

McCloskey Consultants

Billing Information:

Chris@cvenvironmental.com

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Tom McCloskey/ Chris Vertin

Email To: tom@mccloskeyconsultants.com

Project Description: 10206 Orange Avenue

City/State Collected: Cupertino, California

Phone: 925.786.2667
Fax:

Client Project #

Lab Project #

L# L914301

Table #

Collected by (print): Chris Vertin

Site/Facility ID #

P.O. #

Acctnum:

Collected by (signature):

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Metals-Lead	OCPs-8081s	PAHs-8270 SIM	Metal-Arsenic						Remarks	Sample # (lab only)
S.O-B1		SS	0-½'	6.5.17	12:37	1	X										20
S.O.-B2		|	|	|	12:40	|	X										21
S.O-B3		|	|	|	12:43	|	X										22
S.O.-B4		|	|	|	12:45	|	X										23
SB-1		|	|	|	12:47	|		X	X	X							24
SB-1 @ 1-1½		|	1-1½	|	13:14	|	X		X								25

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_______

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: X NP _Y _N
COC Signed/Accurate: X Y _N
Bottles arrive intact: X Y _N
Correct bottles used: X Y _N
Sufficient volume sent: X Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	6/6/17	10:02			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 5.1 °C Bottles Received: 25	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/7/17 Time: 0845	Hold: Condition: NCF / OK

ANALYTICAL REPORT

July 27, 2017

McCloskey Consulting - Danville, CA

Sample Delivery Group:	L923795
Samples Received:	07/20/2017
Project Number:	
Description:	10206 Orange Avenue
Report To:	Tom McCloskey 420 Sycamore Valley Rd West Danville, CA 94526

Entire Report Reviewed By:

Brian Ford

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

SS-1 L923795-01 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:35	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 14:52	CCE

SS-2 L923795-02 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:37	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 14:40	CCE
Pesticides (GC) by Method 8081	WG1001896	1	07/26/17 00:28	07/26/17 12:41	VKS

SS-3 L923795-03 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:49	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 14:55	CCE

SS-4 L923795-04 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:52	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:02	CCE

SS-5 L923795-05 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:54	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:09	CCE

SS-6 L923795-06 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:57	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:11	CCE

SS-7 L923795-07 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:00	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:14	CCE

SS-8 L923795-08 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:04	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:17	CCE

SS-9 L923795-09 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:10	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:19	CCE

SS-10 L923795-10 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:13	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001306	1	07/21/17 10:34	07/21/17 10:42	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:22	CCE

SS-11 L923795-11 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:25	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:24	CCE

SS-12 L923795-12 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:22	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:27	CCE

SS-13 L923795-13 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 12:16	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:29	CCE

BP-1 S.O. L923795-14 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:40	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:37	CCE

BP-1 L923795-15 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 13:00 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:39	CCE

BP-4 S.O. L923795-16 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 12:36 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:42	CCE

BP-5 L923795-17 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 13:08 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:44	CCE

BP-8 S.O. L923795-18 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 12:39 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:47	CCE

BP-10 S.O. L923795-19 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 12:02 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:50	CCE
Pesticides (GC) by Method 8081	WG1001896	1	07/26/17 00:28	07/26/17 12:56	VKS

AG-2/SURFACE C L923795-20 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 13:13 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001311	1	07/21/17 13:46	07/21/17 13:55	MLW
Metals (ICP) by Method 6010B	WG1001949	1	07/26/17 14:54	07/27/17 15:52	CCE

S.O. A5 L923795-21 Solid

Collected by: Chris Vertin | Collected date/time: 07/18/17 11:45 | Received date/time: 07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001315	1	07/21/17 13:19	07/21/17 13:45	MLW
Metals (ICP) by Method 6010B	WG1003083	1	07/26/17 18:19	07/27/17 17:24	CCE
Pesticides (GC) by Method 8081	WG1001896	1	07/26/17 00:28	07/26/17 13:10	VKS

S.O. A6 L923795-22 Solid

Collected by	Collected date/time	Received date/time
Chris Vertin	07/18/17 11:47	07/20/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1001315	1	07/21/17 13:19	07/21/17 13:45	MLW
Metals (ICP) by Method 6010B	WG1003083	1	07/26/17 18:19	07/27/17 17:32	CCE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford

Brian Ford
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	59.8		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	101		0.318	0.837	1	07/27/2017 14:52	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.5		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.73		0.695	2.14	1	07/27/2017 14:40	WG1001949
Lead	46.4		0.203	0.535	1	07/27/2017 14:40	WG1001949

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00144	0.0214	1	07/26/2017 12:41	WG1001896
Alpha BHC	U		0.00145	0.0214	1	07/26/2017 12:41	WG1001896
Beta BHC	U		0.00171	0.0214	1	07/26/2017 12:41	WG1001896
Delta BHC	0.00292	J	0.00153	0.0214	1	07/26/2017 12:41	WG1001896
Gamma BHC	U		0.00155	0.0214	1	07/26/2017 12:41	WG1001896
Chlordane	1.59		0.0417	0.214	1	07/26/2017 12:41	WG1001896
4,4-DDD	U		0.00167	0.0214	1	07/26/2017 12:41	WG1001896
4,4-DDE	0.153		0.00165	0.0214	1	07/26/2017 12:41	WG1001896
4,4-DDT	0.121		0.00214	0.0214	1	07/26/2017 12:41	WG1001896
Dieldrin	U		0.00163	0.0214	1	07/26/2017 12:41	WG1001896
Endosulfan I	U		0.00159	0.0214	1	07/26/2017 12:41	WG1001896
Endosulfan II	U		0.00171	0.0214	1	07/26/2017 12:41	WG1001896
Endosulfan sulfate	U		0.00162	0.0214	1	07/26/2017 12:41	WG1001896
Endrin	U		0.00168	0.0214	1	07/26/2017 12:41	WG1001896
Endrin aldehyde	U		0.00138	0.0214	1	07/26/2017 12:41	WG1001896
Endrin ketone	U		0.00176	0.0214	1	07/26/2017 12:41	WG1001896
Hexachlorobenzene	U		0.00133	0.0214	1	07/26/2017 12:41	WG1001896
Heptachlor	U		0.00165	0.0214	1	07/26/2017 12:41	WG1001896
Heptachlor epoxide	0.0693		0.00172	0.0214	1	07/26/2017 12:41	WG1001896
Methoxychlor	0.0345	P	0.00190	0.0214	1	07/26/2017 12:41	WG1001896
Toxaphene	1.34		0.0385	0.428	1	07/26/2017 12:41	WG1001896
(S) Decachlorobiphenyl	*78.2*			*10.0-148*		*07/26/2017 12:41*	WG1001896
(S) Tetrachloro-m-xylene	*68.5*			*21.0-146*		*07/26/2017 12:41*	WG1001896

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.6		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	107		0.201	0.529	1	07/27/2017 14:55	WG1001949

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.1		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	525		0.202	0.531	1	07/27/2017 15:02	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.9		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	201		0.198	0.521	1	07/27/2017 15:09	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.0		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	716		0.192	0.505	1	07/27/2017 15:11	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.1		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	270		0.194	0.510	1	07/27/2017 15:14	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.1		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	11.5		0.698	2.15	1	07/27/2017 15:17	WG1001949
Lead	64.7		0.204	0.537	1	07/27/2017 15:17	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.9		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	11.3		0.664	2.04	1	07/27/2017 15:19	WG1001949
Lead	94.8		0.194	0.511	1	07/27/2017 15:19	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.7		1	07/21/2017 10:42	WG1001306

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.45		0.665	2.05	1	07/27/2017 15:22	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.4		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.99		0.661	2.03	1	07/27/2017 15:24	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.2		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.28	J	0.669	2.06	1	07/27/2017 15:27	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.5		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.55		0.673	2.07	1	07/27/2017 15:29	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	68.7		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	108		0.276	0.728	1	07/27/2017 15:37	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.1		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	4.17		0.202	0.531	1	07/27/2017 15:39	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.2		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	28.2		0.195	0.514	1	07/27/2017 15:42	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.1		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	7.41		0.200	0.526	1	07/27/2017 15:44	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	97.4		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	169		0.195	0.514	1	07/27/2017 15:47	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.5		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	67.1		0.197	0.518	1	07/27/2017 15:50	WG1001949

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00140	0.0207	1	07/26/2017 12:56	WG1001896
Alpha BHC	U		0.00141	0.0207	1	07/26/2017 12:56	WG1001896
Beta BHC	U		0.00166	0.0207	1	07/26/2017 12:56	WG1001896
Delta BHC	U		0.00148	0.0207	1	07/26/2017 12:56	WG1001896
Gamma BHC	U		0.00150	0.0207	1	07/26/2017 12:56	WG1001896
Chlordane	U		0.0404	0.207	1	07/26/2017 12:56	WG1001896
4,4-DDD	0.00411	J	0.00162	0.0207	1	07/26/2017 12:56	WG1001896
4,4-DDE	0.275		0.00160	0.0207	1	07/26/2017 12:56	WG1001896
4,4-DDT	0.127		0.00207	0.0207	1	07/26/2017 12:56	WG1001896
Dieldrin	0.00194	J	0.00158	0.0207	1	07/26/2017 12:56	WG1001896
Endosulfan I	U		0.00154	0.0207	1	07/26/2017 12:56	WG1001896
Endosulfan II	U		0.00166	0.0207	1	07/26/2017 12:56	WG1001896
Endosulfan sulfate	U		0.00157	0.0207	1	07/26/2017 12:56	WG1001896
Endrin	U		0.00163	0.0207	1	07/26/2017 12:56	WG1001896
Endrin aldehyde	U		0.00134	0.0207	1	07/26/2017 12:56	WG1001896
Endrin ketone	U		0.00171	0.0207	1	07/26/2017 12:56	WG1001896
Hexachlorobenzene	U		0.00129	0.0207	1	07/26/2017 12:56	WG1001896
Heptachlor	U		0.00160	0.0207	1	07/26/2017 12:56	WG1001896
Heptachlor epoxide	U		0.00167	0.0207	1	07/26/2017 12:56	WG1001896
Methoxychlor	U		0.00185	0.0207	1	07/26/2017 12:56	WG1001896
Toxaphene	U		0.0373	0.415	1	07/26/2017 12:56	WG1001896
(S) Decachlorobiphenyl	*73.0*			*10.0-148*		*07/26/2017 12:56*	WG1001896
(S) Tetrachloro-m-xylene	*75.7*			*21.0-146*		*07/26/2017 12:56*	WG1001896

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.7		1	07/21/2017 13:55	WG1001311

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.10	J	0.686	2.11	1	07/27/2017 15:52	WG1001949

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.4		1	07/21/2017 13:45	WG1001315

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.81		0.735	2.26	1	07/27/2017 17:24	WG1003083
Lead	68.6		0.215	0.565	1	07/27/2017 17:24	WG1003083

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00153	0.0226	1	07/26/2017 13:10	WG1001896
Alpha BHC	U		0.00154	0.0226	1	07/26/2017 13:10	WG1001896
Beta BHC	U		0.00181	0.0226	1	07/26/2017 13:10	WG1001896
Delta BHC	U		0.00162	0.0226	1	07/26/2017 13:10	WG1001896
Gamma BHC	U		0.00164	0.0226	1	07/26/2017 13:10	WG1001896
Chlordane	0.170	J	0.0441	0.226	1	07/26/2017 13:10	WG1001896
4,4-DDD	U		0.00176	0.0226	1	07/26/2017 13:10	WG1001896
4,4-DDE	0.0316		0.00174	0.0226	1	07/26/2017 13:10	WG1001896
4,4-DDT	0.0152	J	0.00226	0.0226	1	07/26/2017 13:10	WG1001896
Dieldrin	0.00822	J	0.00172	0.0226	1	07/26/2017 13:10	WG1001896
Endosulfan I	U		0.00169	0.0226	1	07/26/2017 13:10	WG1001896
Endosulfan II	U		0.00181	0.0226	1	07/26/2017 13:10	WG1001896
Endosulfan sulfate	U		0.00171	0.0226	1	07/26/2017 13:10	WG1001896
Endrin	U		0.00178	0.0226	1	07/26/2017 13:10	WG1001896
Endrin aldehyde	U		0.00146	0.0226	1	07/26/2017 13:10	WG1001896
Endrin ketone	U		0.00187	0.0226	1	07/26/2017 13:10	WG1001896
Hexachlorobenzene	U		0.00140	0.0226	1	07/26/2017 13:10	WG1001896
Heptachlor	U		0.00174	0.0226	1	07/26/2017 13:10	WG1001896
Heptachlor epoxide	0.0134	J	0.00182	0.0226	1	07/26/2017 13:10	WG1001896
Methoxychlor	0.00491	J	0.00201	0.0226	1	07/26/2017 13:10	WG1001896
Toxaphene	U		0.0407	0.452	1	07/26/2017 13:10	WG1001896
(S) Decachlorobiphenyl	*67.4*			*10.0-148*		*07/26/2017 13:10*	WG1001896
(S) Tetrachloro-m-xylene	*75.4*			*21.0-146*		*07/26/2017 13:10*	WG1001896

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.6		1	07/21/2017 13:45	WG1001315

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Lead	187		0.197	0.518	1	07/27/2017 17:32	WG1003083

Method Blank (MB)

(MB) R3235451-1 07/21/17 10:42

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000500			

L923795-10 Original Sample (OS) • Duplicate (DUP)

(OS) L923795-10 07/21/17 10:42 • (DUP) R3235451-3 07/21/17 10:42

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	97.7	97.4	1	0.262		5

Laboratory Control Sample (LCS)

(LCS) R3235451-2 07/21/17 10:42

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3235458-1 07/21/17 13:55

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00140			

L923795-11 Original Sample (OS) • Duplicate (DUP)

(OS) L923795-11 07/21/17 13:55 • (DUP) R3235458-3 07/21/17 13:55

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	98.4	98.3	1	0.0445		5

Laboratory Control Sample (LCS)

(LCS) R3235458-2 07/21/17 13:55

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3235457-1 07/21/17 13:45

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00130			

L923807-03 Original Sample (OS) • Duplicate (DUP)

(OS) L923807-03 07/21/17 13:45 • (DUP) R3235457-3 07/21/17 13:45

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	81.9	83.4	1	1.82		5

Laboratory Control Sample (LCS)

(LCS) R3235457-2 07/21/17 13:45

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3236734-1 07/27/17 14:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3236734-2 07/27/17 14:36 • (LCSD) R3236734-3 07/27/17 14:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	102	97.2	102	97	80-120			5	20
Lead	100	102	97.8	102	98	80-120			4	20

L923795-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L923795-02 07/27/17 14:40 • (MS) R3236734-6 07/27/17 14:47 • (MSD) R3236734-7 07/27/17 14:50

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	107	6.73	114	110	100	96	1	75-125			4	20
Lead	107	46.4	157	156	103	102	1	75-125			1	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3236804-8 07/27/17 17:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3236804-9 07/27/17 17:04 • (LCSD) R3236804-10 07/27/17 17:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	99.2	98.9	99	99	80-120			0	20
Lead	100	100	99.9	100	100	80-120			0	20

L923771-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L923771-10 07/27/17 17:09 • (MS) R3236804-13 07/27/17 17:17 • (MSD) R3236804-14 07/27/17 17:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	ND	93.7	93.5	92	92	1	75-125			0	20
Lead	100	26.6	124	125	97	99	1	75-125			1	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3236620-3 07/26/17 11:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00135	0.0200
Alpha BHC	U		0.00136	0.0200
Beta BHC	U		0.00160	0.0200
Delta BHC	U		0.00143	0.0200
Gamma BHC	U		0.00145	0.0200
4,4-DDD	U		0.00156	0.0200
4,4-DDE	U		0.00154	0.0200
4,4-DDT	U		0.00200	0.0200
Dieldrin	U		0.00152	0.0200
Endosulfan I	U		0.00149	0.0200
Endosulfan II	U		0.00160	0.0200
Endosulfan sulfate	U		0.00151	0.0200
Endrin	U		0.00157	0.0200
Endrin aldehyde	U		0.00129	0.0200
Endrin ketone	U		0.00165	0.0200
Heptachlor	U		0.00154	0.0200
Heptachlor epoxide	U		0.00161	0.0200
Hexachlorobenzene	U		0.00124	0.0200
Methoxychlor	U		0.00178	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	*84.4*			*10.0-148*
(S) Tetrachloro-m-xylene	*76.7*			*21.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3236620-1 07/26/17 11:14 • (LCSD) R3236620-2 07/26/17 11:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0667	0.0485	0.0542	72.7	81.2	55.0-137			11.1	29
Alpha BHC	0.0667	0.0465	0.0526	69.8	78.9	55.0-136			12.3	28
Beta BHC	0.0667	0.0454	0.0507	68.1	76.0	53.0-133			11.0	28
Delta BHC	0.0667	0.0462	0.0517	69.2	77.5	53.0-139			11.2	29
Gamma BHC	0.0667	0.0469	0.0525	70.4	78.7	54.0-136			11.2	29
4,4-DDD	0.0667	0.0489	0.0546	73.4	81.9	51.0-141			10.9	29
4,4-DDE	0.0667	0.0460	0.0531	69.0	79.6	53.0-142			14.2	30
4,4-DDT	0.0667	0.0497	0.0555	74.5	83.3	47.0-143			11.1	30
Dieldrin	0.0667	0.0486	0.0542	72.9	81.2	54.0-141			10.8	29
Endosulfan I	0.0667	0.0478	0.0532	71.6	79.8	54.0-141			10.7	29

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3236620-1 07/26/17 11:14 • (LCSD) R3236620-2 07/26/17 11:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Endosulfan II	0.0667	0.0467	0.0514	70.0	77.1	53.0-140			9.68	28
Endosulfan sulfate	0.0667	0.0468	0.0512	70.2	76.7	52.0-141			8.88	29
Endrin	0.0667	0.0496	0.0552	74.4	82.7	52.0-137			10.6	29
Endrin aldehyde	0.0667	0.0413	0.0391	61.9	58.7	30.0-127			5.35	31
Endrin ketone	0.0667	0.0585	0.0647	87.7	97.0	51.0-139			10.1	28
Heptachlor	0.0667	0.0487	0.0543	73.0	81.5	53.0-144			11.0	29
Heptachlor epoxide	0.0667	0.0471	0.0524	70.6	78.5	54.0-137			10.7	28
Hexachlorobenzene	0.0667	0.0437	0.0489	65.5	73.4	50.0-135			11.4	28
Methoxychlor	0.0667	0.0542	0.0595	81.3	89.2	49.0-145			9.27	29
(S) Decachlorobiphenyl				*80.5*	*86.0*	*10.0-148*				
(S) Tetrachloro-m-xylene				*73.3*	*78.5*	*21.0-146*				

L923069-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L923069-08 07/26/17 15:06 • (MS) R3236620-4 07/26/17 16:48 • (MSD) R3236620-5 07/26/17 17:02

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0883	U	0.0567	0.0762	64.2	86.3	1	19.0-152		J3	29.3	24
Alpha BHC	0.0883	U	0.0570	0.0760	64.5	86.2	1	39.0-152		J3	28.7	21
Beta BHC	0.0883	U	0.0557	0.0745	63.1	84.4	1	38.0-150		J3	28.9	20
Delta BHC	0.0883	U	0.0557	0.0742	63.1	84.1	1	34.0-155		J3	28.5	21
Gamma BHC	0.0883	U	0.0570	0.0764	64.6	86.6	1	38.0-153		J3	29.0	21
4,4-DDD	0.0883	U	0.0640	0.0869	72.5	98.5	1	22.0-160		J3	30.4	25
4,4-DDE	0.0883	U	0.0538	0.0735	61.0	83.3	1	10.0-160		J3	30.9	27
4,4-DDT	0.0883	U	0.0436	0.0649	49.4	73.6	1	10.0-160		J3	39.3	28
Dieldrin	0.0883	U	0.0580	0.0787	65.7	89.2	1	30.0-158		J3	30.4	25
Endosulfan I	0.0883	U	0.0572	0.0773	64.8	87.6	1	31.0-155		J3	29.9	25
Endosulfan II	0.0883	U	0.0567	0.0777	64.3	88.0	1	32.0-156		J3	31.2	25
Endosulfan sulfate	0.0883	U	0.0564	0.0782	63.9	88.6	1	31.0-158		J3	32.5	24
Endrin	0.0883	U	0.0582	0.0793	65.9	89.8	1	30.0-149		J3	30.6	25
Endrin aldehyde	0.0883	U	0.0539	0.0742	61.0	84.1	1	20.0-157		J3	31.8	26
Endrin ketone	0.0883	U	0.0657	0.0925	74.4	105	1	32.0-154		J3	33.9	23
Heptachlor	0.0883	U	0.0566	0.0755	64.1	85.5	1	18.0-160		J3	28.5	23
Heptachlor epoxide	0.0883	U	0.0563	0.0753	63.8	85.4	1	31.0-154		J3	28.9	25
Hexachlorobenzene	0.0883	U	0.0513	0.0682	58.1	77.3	1	26.0-146		J3	28.3	21
Methoxychlor	0.0883	U	0.0511	0.0745	57.9	84.4	1	10.0-160		J3	37.3	27
(S) Decachlorobiphenyl					*45.8*	*62.2*		*10.0-148*				
(S) Tetrachloro-m-xylene					*55.3*	*71.2*		*21.0-146*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL (dry)	Reported Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P	RPD between the primary and confirmatory analysis exceeded 40%.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

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Alaska	UST-080
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Colorado	TN00003
Conneticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1]	90010
Kentucky [2]	16
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Nevada	TN-03-2002-34
New Hampshire	2975
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New Mexico	TN00003
New York	11742
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North Carolina [1]	DW21704
North Carolina [2]	41
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Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-07-TX
Texas [5]	LAB0152
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Vermont	VT2006
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Washington	C1915
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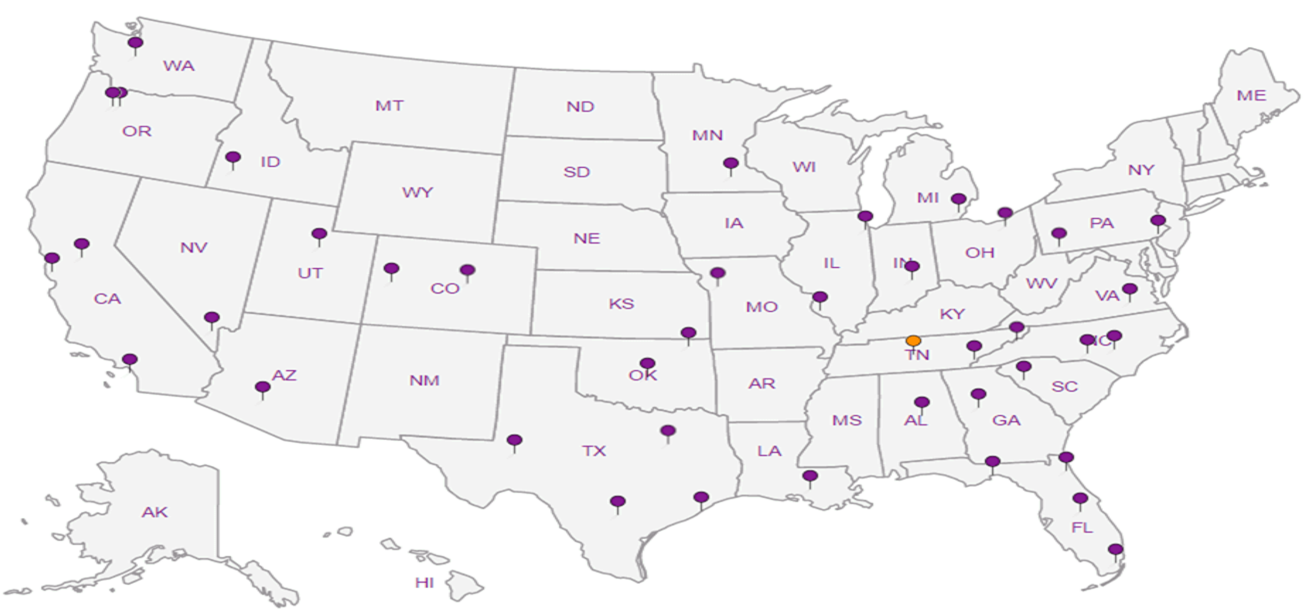
A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC	100789
DOD	1461.01
USDA	S-67674

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



McCloskey Consultants Inc.
420 Sycamore Valley Rd West
Danville CA 94526

Billing Information:
420 Sycamore Valley Road West
Danville, Ca 94526

chris@cvenvironmental.com

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 3

ESC

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Tom McCloskey/Chris Vertin

Email To: tom@mccloskeyconsultants.com

Project Description: 10206 Orange Avenue

City/State Collected: Cupertino, CA

Phone: 925.786.2667
Fax:

Client Project #

Lab Project #

L# 923795

C214

Collected by (print): Chris Vertin

Site/Facility ID #

P.O. #

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Collected by (signature):

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	OCPs -	Lead -	Arsenic -									Remarks	Sample # (lab only)
SS-1	Grab	SS	0-1/2'	7/18/17	11:35	1		X											01
SS-2					11:37		X	X	X										02
SS-3					11:49			X											03
SS-4					11:52			X											04
SS-5					11:54			X											05
SS-6					11:57			X											06
SS-7					12:00			X											07
SS-8					12:04			X	X										08
SS-9					12:10			X	X										09
SS-10					12:13				X										10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ___

Remarks:

pH ___ Temp ___

Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier __ ___

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP _Y _N
COC Signed/Accurate: X Y _N
Bottles arrive intact: X Y _N
Correct bottles used: X Y _N
Sufficient volume sent: X Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	7/19/17	1457			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1 °C	Bottles Received: 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/20/17	Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

McCloskey Consultants Inc.

Billing Information:
420 Sycamore Valley Road West
Danville, Ca 94526

chris@cvenvironmental.com

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 3

ESC LAB SCIENCES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Tom McCloskey/Chris Vertin

Email To: tom@mccloskeyconsultants.com

Project Description: 10206 Orange Avenue

City/State Collected: Cupertino, CA

Phone: 925.786.2667
Fax:

Client Project #

Lab Project #

L# 923795

Table #

Collected by (print): Chris Vertin

Site/Facility ID #

P.O. #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	OCPs -	Lead -	Arsenic -								Remarks	Sample # (lab only)
SS-11	Grab	SS	0-½'	7/18/17	12:25	1			X									11
SS-12					12:22				X									12
SS-13					12:16				X									13
BP-1 S.O.					11:40			X										14
BP-1			1-1½'		13:00			X										15
BP-4 S.O.			0-½'		12:36			X										16
BP-5			1-1½		13:08			X										17
BP-8 S.O.			0-½'		12:39			X										18
BP-10 S.O.			0-½'		12:02		X	X										19
AG-2/ Surface C			1-1½'		13:13				X									20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ______

Remarks:

pH ______ Temp ______

Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP _Y _N
COC Signed/Accurate: Y _N
Bottles arrive intact: Y _N
Correct bottles used: Y _N
Sufficient volume sent: Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
	7/19/17	14:57		Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1 JSW 11 °C Bottles Received: 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/20/17 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

McCloskey Consultants Inc.

Billing Information: 420 Sycamore Valley Road West
Danville, Ca 94526

Chris@cvenvironmental.com

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

ESC

12065 Lebanon Rd
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Phone: 925.786.2667
Fax:

Client Project #

Lab Project #

L# 923795

Table #

Collected by (print): Chris Vertin

Site/Facility ID #

P.O. #

Acctnum:

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Template:
Prelogin:
TSR:
PB:
Shipped Via:

Immediately Packed on Ice N___ Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	OCPs	Lead	Arsenic								Remarks	Sample # (lab only)
S.O.-A5	Grab	SS	0-½'	7/18/17	11:45	1	X	X	X									21
S.O.-A6	|	|	|	|	11:47	1		X										22

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:

pH ______ Temp ______

Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier __ ______

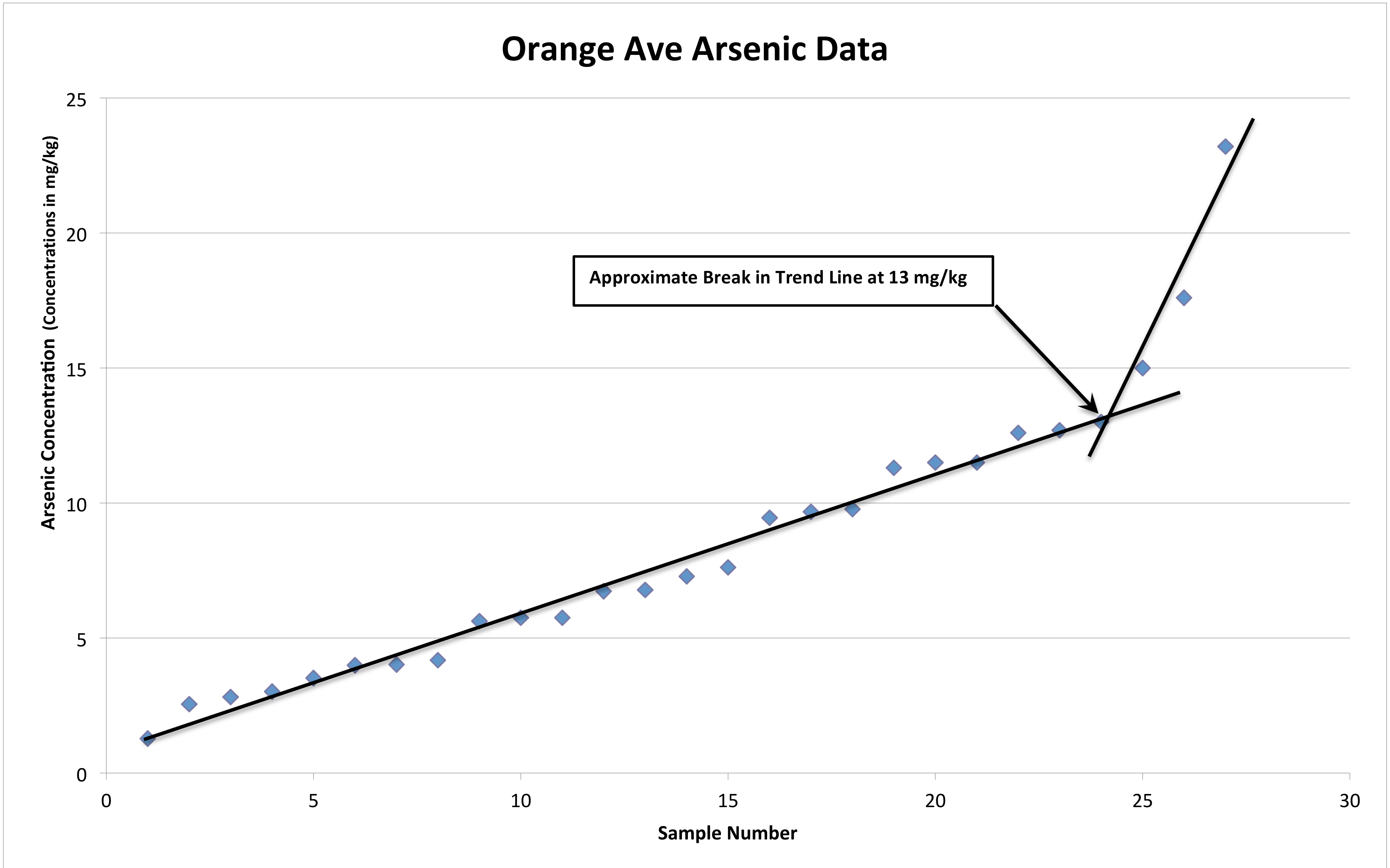
Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP _Y _N
COC Signed/Accurate: ✓Y _N
Bottles arrive intact: ✓Y _N
Correct bottles used: ✓Y _N
Sufficient volume sent: ✓Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	7/19/17	14:57			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1 °C Bottles Received: 24	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/20/17 Time: 8:45	Hold: Condition: NCF / OK

Appendix B

Background Arsenic



Background Arsenic Calculation

10206 Orange Avenue

Cupertino, California

Figure B-1

McCloskey Consultants

Appendix C

Health and Safety Plan

SITE SAFETY PLAN FOR SAMPLING

Project Name: 10206 Orange Avenue **Date:** 08/11/17

Anyone who enters a hazardous waste site must recognize and understand the potential hazards to health and safety associated with the cleanup/investigation of that site. Personnel actively involved in the field project must he thoroughly familiar with program and procedures contained in this SSP. This SSP must be available on-site when performing fieldwork. Periodic inspections may be made to evaluate if proper safety measures are being followed. In addition, a copy of the SSP must be kept in the job file.

Site Description

Client Contact: Mr. Thomas Adamo

Telephone Number: (650)279-3905

Site Location: 10206 Orange Avenue, Cupertino, California

Site Type (Check if Applicable): ☑ Residential ☐ Commercial ☐ Industrial ☐ Undeveloped ☐ Other ________

Notable Features: ________

Site Background: The Site is currently improved with a small home, garage, shed and another small building used as a studio rental that date back to at least the 1940's . Remedial activities will take place around the three existing structures, along the northern and northeastern portion of the Site and the center portion of the Site.

Organizational Structure

Project Manager: Tom McCloskey Site Safety Officer: Chris Vertin

Field Personnel: Chris Vertin Phone Number (925) 895-6628

Regulatory Agency Contact: ________ Phone Number: ________

All of the above personnel have had 40-hour OSHA training and Project Leader has had 8-hour Supervisory training.

Work Plan* (check if applicable)

Objective of the proposed work: Remediation of contaminated soil around the Site.

The following would be performed during this project:

- ☑ Excavation / Trenching
- ☐ Drilling / Soil Boring
- ☐ Monitoring Well Installation
- ☐ Well Gauging
- ☐ Well Development
- ☐ Groundwater Sampling
- ☑ Soil Sampling
- ☐ Soil Vapor Sampling
- ☐ Remediation System Installation
- ☐ Other(s) ________

Chemical Hazards (check if applicable)

Chemical hazards possibly to be on-site in soils and/or groundwater are as follows:

		Symptoms of Over-Exposure
☐	**Gasoline -**	Skin irritant, disturbance of eyes. Deep burning in the throat and respiratory tract and bronchopneumonia. Repeated or chronic dermal contact may result in drying of the skin, lesions, and other dermalogic conditions.
☐	**Diesel -**	Irritation to *skin.* Prolonged breathing at high vapor concentrations can effect central nervous system.
☐	**Benzene -**	Irritation of the eyes, nose, and respiratory system. Headache, giddiness, fatigue, anorexia, staggered gait, and dermatitis.
☐	**Ethylbenzene -**	Irritation of eyes and mucous membranes, headache, dermatitis, narcosis, and coma.
☐	**Toluene -**	Irritation of eyes and mucous membranes, headache, dermatitis, narcosis, and coma.
☐	**Xylenes -**	Dizziness, excitement, drowsiness, staggering gait, irritation of eyes, nose, and throat, nausea, vomiting, and dermatitis.
☑	**Arsenic -**	Irritation of the skin, possible dermatitis, respiratory distress, diarrhea, kidney damage, muscular tremors, seizure; possible gastrointestinal tract and reproductive effects, and possible liver damage.
☑	**Lead -**	Weakness, insomnia, constipation, abdominal pain, colic, anemia, paralysis of the wrists and ankles, encephalopathy, kidney disease, irritation of the eyes, and hypotension.
☐	**Asbestos - NOA**	Difficulty breathing, interstitial fibrosis, restricted pulmonary effects, finger clubbing, and irritation of the eyes.
☑	**Chlordane -**	Blurred vision, conjunctivitis, ataxia, delirium, coughing, abdominal pains, nausea, vomiting, diarrhea, irritability, and convolutions.
☑	**Dieldrin -**	Headache, dizziness, nausea, vomiting, sweating, myoclonic limb jerks, clonic and tonic convulsions, and coma.
☐	**Total DDT -**	Irritation of the eyes and skin, paresthesia of the tongue, lips, and face, dizziness, confusion, headache, fatigue, convulsions, and paresis of the hands
☑	**Toxaphene -**	Convulsions were experienced by some people who accidentally or intentionally swallowed large amounts of toxaphene. Toxaphene temporarily damages the liver and kidneys (swollen kidneys have been observed) and negatively effects the immune system.
☐	**DCE -**	Irritation of eyes and respiratory system, and depression of the central nervous system.
☐	**TCA -**	Irritation of the eyes, skin, nose, throat, and respiratory system, coughing, dyspnea, delayed pulmonary edema, eye and skin burns, dermatitis, salivation, vomiting, and diarrhea.

☐ **TCE -** Irritation of the eyes and skin, headaches, vertigo, giddiness, sleepiness, nausea, vomiting, dermatitis, cardiac arrhythmia, paresthesia, and liver injury.

☐ **H_2S** Irritation of the eyes and respiratory system, apnea, coma, convolutions, conjunctivitis, eye pain, lacrimation, photophobia, corneal vesiculation, dizziness, headaches, fatigue, irritability, insomnia, and gastrointestinal disturbance.

☐ **PCBs** The most commonly observed health effects in people exposed to extremely high levels of PCBs are skin conditions, such as chloracne and rashes. Common symptoms included dermal and ocular lesions, irregular menstrual cycles and lowered immune responses. Other symptoms included fatigue, headaches, coughs, and unusual skin sores.

☐ **Dioxins** Short-term exposure of humans to high levels of dioxins may result in skin lesions, such as chloracne and patchy darkening of the skin, and altered liver function. Long-term exposure is linked to impairment of the immune system, the developing nervous system, the endocrine system and reproductive functions.

☐ **PAHs** Eye irritation, nausea, vomiting, diarrhea and confusion. Other symptoms to the skin include irritation and inflammation.

Exposure to chemicals should be avoided through proper personal hygiene practices. Although some chemicals can exhibit identifiable acute health effects these exposures are unlikely. Unless the chemical exposure is excessive, it is unlikely that the exposure will be identifiable or exhibit the above symptoms of over-exposure. If you think you have been exposed to a chemical notify your supervisor immediately.

If any of the above symptoms occur, please leave the site for a safe location immediately. First aid should also he given immediately and the Project Manager and Site Safety Officer should be contacted. If needed, emergency procedures should he followed.

Non-Chemical Hazards (check if applicable)

Non-chemical hazards known or suspected to be on-site are as follows:

☑ **Heavy Equipment** Heavy equipment should he in good working order and operated by an experienced and licensed person in accordance with recognized industry standards. Keep safe distance from heavy machinery so that you would not be in the path of a moving part if it were to swing suddenly. Always be aware of the movements of machinery around you. Approach vehicles from the driver's side. Make sure the vehicle operator sees you. Make eye contact. Personnel working in the vicinity of construction equipment shall wear orange safety vests for increased visibility, hard hat, and steel-toed boots at a minimum. Vehicles should be equipped with a flag, beacon and/or hazard flashers should be activated per the IIPP when working around heavy equipment.

☑ **Slip/Fall Hazards -** Wet surfaces, inclines, or other obstacles that make movement on-site difficult; good housekeeping shall be practiced and shoes with traction shall be worn.

☐ **Noise -** Excessive noise can make communication difficult or impossible; workers will be required to wear earplugs for all operations involving the use of power or pneumatic equipment that generates loud noise levels.

☑ **Heat/Cold Stress -** Physical work in warm weather and/or the use of personal protective equipment may induce heat issues symptoms including cramps, discomfort, and drowsiness, resulting in impaired function; can lead to heat stroke and death. Cool drinking water or other electrolyte replacing liquids shall be available on-site at all times. Work breaks shall be given as necessary, based on temperature and monitoring of workers.

☐ **Vehicular Traffic -** If the work area is in or near traffic areas where vehicular dangers are present, on-sire workers shall wear orange safety vests or other suitable garments marked with or made of reflectorized or high-visibility material. The work area should he clearly marked using signs, barricades, temporary fencing, safety cones, and/or caution tape. Flaggers are to be used to direct traffic if needed.

☑ **Excavation -** Excavation areas present a danger of falling and cave-in. For excavations of less than 5 feet in depth, follow general excavation safety protocols. Never leave open excavations unmarked. If possible, avoid entering any excavation. If entry is necessary and the excavation is greater than 5 feet in depth (even if it is shored), an OSHA excavation permit must he obtained and a separate excavation safety plan shall be prepared

☑ **Underground Utilities -** Subsurface utilities are within the work area and may be encountered during drilling or any subsurface exploration. Utility companies or owners must he contacted and asked to determine the location of the underground utility before excavation. While the excavation is open, underground installations must be protected, supported, or removed to protect employees. When utility companies cannot respond to a request to locate underground utility installations, or cannot establish the exact location of the installations, work may proceed with caution, only upon approval by the Project Manager and Site Safety Officer. Use of detection equipment or other methods of locating utility installations may be additionally required. In an area with suspected underground utilities, all boring locations must he hand probed to a minimum depth of 5 feet.

Please indicate the following were performed prior to work:

☑ **Underground Service Alert (USA)**

☐ **Private Utility Locator**

Please indicate any concerns discussed with wither USA or the private utility locator:

☐ No Concerns Identified

☐ Concerns (Please Describe Below)

____

____

____

☑ **Overhead Lines -** Power and electrical lines are present within the work area. Extreme caution should be used when overhead electrical power or other lines are present. Use of equipment directly under or near lines should be avoided. If possible, the utility company or owner should be contacted to temporary turn off line power or reroute line the path during the course of work in that location.

☐ **Lifting Hazards -** Proper lifting technique should be used by bending at the knees and using the legs for strength. Item being lifted should be held close to the body and back-twisting motions should be avoided.

- ☐ **55-Gallon Drums & Containers -** Caution should be used when handling drums and other heavy containers. During movement, the integrity of the drums may be compromised. Drums or containers on-site may be cracked, dented, or altered such that lids are not securely attached. If needed, contents should be secured in another drum, or drums should be placed in drum packers for further protection. Always use the proper equipment, designed for the specific application, when handling and moving heavy objects.

- ☐ **High Crime Area -** Any area in which one feels threatened or is known to be a high crime area. Always be aware of your surroundings and never leave equipment unattended.

- ☐ **Hot Surface -** Surfaces on-site will be at extreme temperature conditions (i.e. asphalt). Caution should be used around hot surfaces on-site, and steel-toed hoots should not be worn when hot surfaces are present. All hot surface hazards should be marked and taped-off to guard against accidental entry.

- ☐ **Low Lighting Conditions -** Time or location may introduce inadequately lit work areas. On-site work should be concluded before dark. If work is anticipated to continue after dark, a light tower should be used in appropriate areas, as directed by the Project Manager and Site Safety Officer.

- ☐ **Poisonous / Dangerous Animals & Insects** Including but not limited to snakes, wasps, dogs, cattle, etc. Use caution on-site when dangerous animals and insects are suspected to be present. Avoid contact when possible and if the situation becomes threatening, leave the site immediately. If allergic to insect stings, always carry an anaphylactic shock kit.

- ☐ **Confined Space -** Any space that limits or constricts entry or exit; is not designed for continuous employee occupancy; has unfavorable natural ventilation. Examples of possible confined spaces include tanks, vessels, excavations, silos, storage bins, etc. For all work in confined spaces, a separate confined space entry program and permit must be established.

- ☐ **Other -(Specify) ______________** ____
  ____
  ____

Emergency Notification

Local Police, 911 or if NA: (408) 868.6600 – Santa Clara County Sheriff Department - West Valley Division - Non-Emergency Calls

State Police, 911 or if NA: ____________________

Fire, 911 or if NA : (408) 378-4010 (Main Administrative Headquarters) – Santa Clara County Fire Department – Monta Vista Fire Station (Closest Station)

Ambulance, 911 or if NA: ____________________

Medical (Attach Map--Mandatory)

Nearest Hospital: El Camino Hospital – Emergency Room– 2500 Grant Road, Mountain View, CA 94040

Hospital Telephone Number: (650) 940-7055

Directions: **See Attached Map**

Local Regulatory Agencies: (For Reference)

San Francisco Bay Regional Water Quality Control Board (510) 622-2300	Department of Toxic Substances Control (800) 728-9642	Santa Clara County Environmental Health Division (408) 918-3400
		Other:

Communications

☐ Two-Ways Radios ☑ Cellular Phone ☑ Verbal

Personal Protective Equipment (PPE)

Appropriate on-site personnel have had the 40-hour OSHA class in Hazardous Waste Operations / Emergency Response.

Level of Protective Equipment ☐ A ☐ B ☐ C ☑ D ☑ See PPE Below

The following PPE is required to be available on-site and is to be used on an as needed basis:

☑ Hard Hat	☑ Safety Eye Wear (Type) ________
☑ Safety Boots	☐ Respirator (Type) ________
☑ Orange Vest	Filter (Type) ________
☑ Hearing Protection	☑ Gloves (Type) Nitrile
☑ Tyvex Coverall	☐ Other ________

Monitoring Equipment On-Site

The following monitoring equipment is to be available on-site and is to be used on an as needed basis:

☐ Organic Vapor Meter	☐ Draeger Tube ________
☐ Oxygen Meter	☐ Passive Dosimeter

☐ Combustible Gas Meter ☐ Air Sampling Pump
☐ H_2S Meter ☐ Filter Media ________________

All field equipment shall be properly calibrated and functioning normally. If the equipment calibration date is unknown, the equipment should be taken out of service until calibrated to manufacturers specifications.

Site Control Procedures

All unauthorized persons shall be kept a safe distance form the work area. The work area shall be denoted with fencing, barricades, cones, and/or barrier tape.

Decontamination

Unless notified otherwise by the Project Manager and/or Site Safety Officer.

Personnel: Wash with soap and water.

Equipment: All sampling equipment is to be cleaned with a steam cleaner or a liquinox solution and distilled water prior to use at each sampling location.

Standard Safe Work Practices

1. Eating, drinking, chewing gum or tobacco, and smoking are prohibited in the contaminated or potentially contaminated area where the possibility for the transfer of contaminants exists.

2. Avoid contact with potentially contaminated substances. Do not walk through puddles, pools, mud, etc. Avoid, whenever possible, kneeling on the ground and leaning or sitting on equipment or the ground. Do not place monitoring equipment on potential contaminated surfaces (i.e., ground, etc.).

3. All field crew members should make use of their senses to alert them to potentially dangerous situations in which they should not become involved (i.e, the presence of strong, irritating, or nauseating odors).

4. Prevent spillage to the extent possible. In the event that a spill occurs, contain liquid if possible.

5. Prevent splashing of the contaminated materials.

6. Field crew members shall be familiar with the physical characteristics of the site, including:

- Wind direction in relation to work area contaminant location;
- Accessibility of other workers, equipment, vehicles;
- Communications;
- Exclusion zone (areas of known or suspected contamination);
- Site access;
- Nearest water source;

• The location of the nearest telephone;
• The location of the nearest medical facility.

7. The number of personnel and equipment in the contaminated area should be minimized, but only to the extent consistent with workforce requirements for safe site operations.

8. Personal Protection Equipment must be used properly to their fullest extent.

9. For more information, please review (Injury and Illness Prevention Program).

Standard Site Safety Protocol

1. If the site is located in a neighborhood known for high crime (i.e. East Palo Alto, South-Central Los Angeles, the Tenderloin in San Francisco, etc.) discuss personal protection, such as hiring of security personnel, with your Project Manager.

2. Leave the site destination, including address and time expected to return with Project Manager. If the Project Manager is not in the office, leave the information with another person who has knowledge of the project.

3. Always take a radio or cellular phone along for quick communication. Keep the radio and/or cellular phone on your person. (It will not do you any good in the truck).

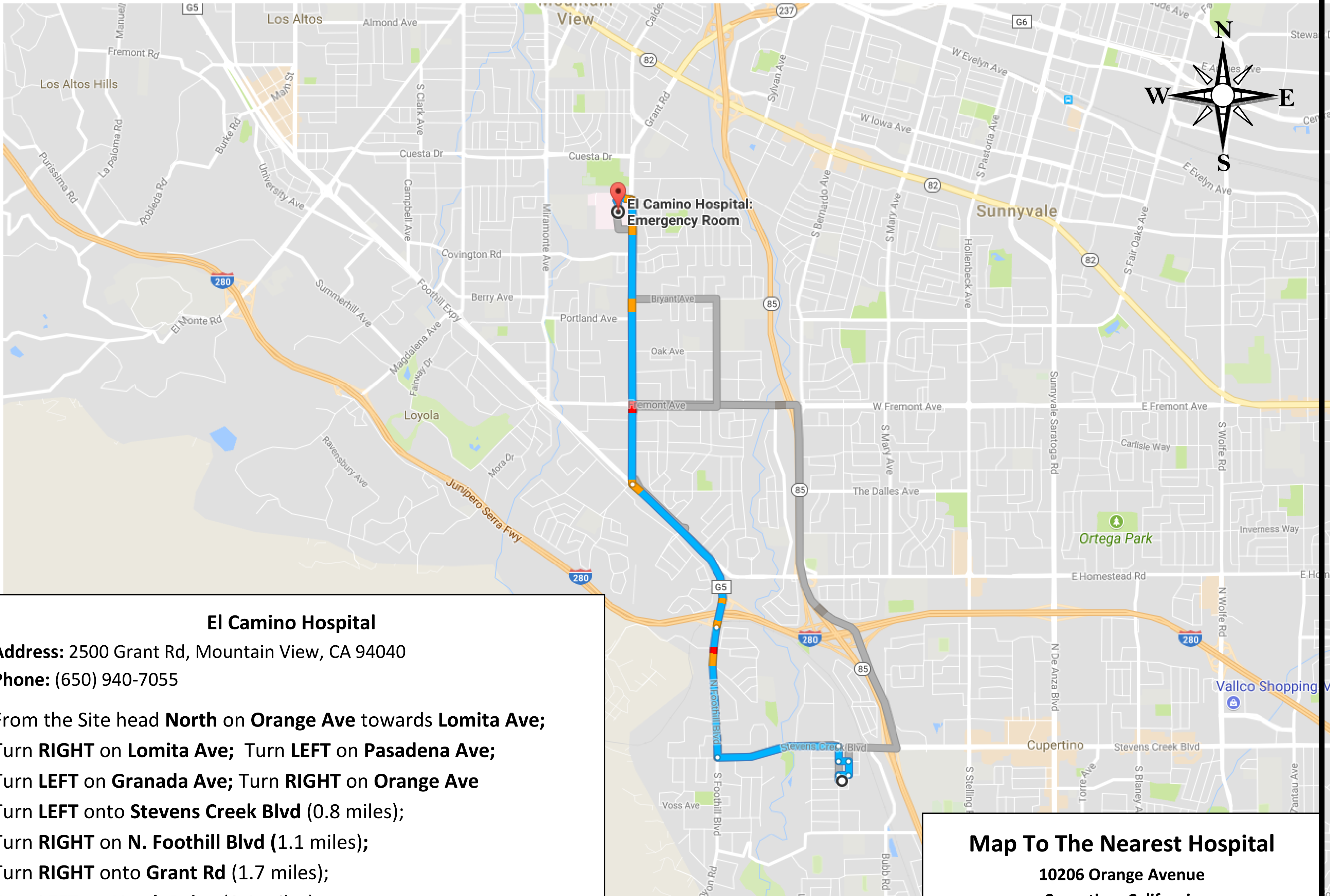
4. Be aware of your surroundings and trust your instincts. Leave if you feel threatened.

5. Do not stay on-site alone after dark unless the Project Manager is aware.

6. If the site visit will take place in or near a high crime neighborhood, fill the vehicle with gasoline prior to entering the area, take a map, drive with the doors locked, and avoid stopping in unfamiliar areas.

7. While performing the site visit, keep the key readily accessible, and the vehicle nearby. If possible, for quick access.

8. Do not carry large amounts of cash on your person and do not give any money to pan handlers as this encourages others to approach you.



El Camino Hospital

Address: 2500 Grant Rd, Mountain View, CA 94040

Phone: (650) 940-7055

From the Site head **North** on **Orange Ave** towards **Lomita Ave;**

Turn **RIGHT** on **Lomita Ave;** Turn **LEFT** on **Pasadena Ave;**

Turn **LEFT** on **Granada Ave;** Turn **RIGHT** on **Orange Ave**

Turn **LEFT** onto **Stevens Creek Blvd** (0.8 miles);

Turn **RIGHT** on **N. Foothill Blvd (**1.1 miles**);**

Turn **RIGHT** onto **Grant Rd** (1.7 miles);

Turn **LEFT** on **North Drive** (0.1 miles)**;**

Arrive at **2500 Grant Rd, Mountain View, CA 94040**

Estimate Distance: 4.7 Miles

Map To The Nearest Hospital

10206 Orange Avenue

Cupertino, California

Health & Safety Plan
Figure C-1

McCloskey Consultants