Attachment 1

Draft

ORCHARD GARDENS PARK EXPANSION

Initial Study / Mitigated Negative Declaration

Prepared for
City of Sunnyvale

December 2013

ESA

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CITY OF SUNNYVALE

California Environmental Quality Act (CEQA) Draft Initial Study / Mitigated Negative Declaration

1. Introduction

This draft Initial Study /Mitigated Negative Declaration (IS/MND) evaluates the potential environmental effects of the Orchard Gardens Park expansion. The project would demolish three homes (252, 266 and 278 Garner Drive) owned by the City of Sunnyvale, which are directly adjacent to Orchard Gardens Park. The project would also remove or relocate some of the existing overhead utilities within the project boundaries. The area currently occupied by the three homes would be replaced with landscaping, benches, hardscape walkways, lighting and parking spaces. The plan will be brought in front of the City Council on November 26, 2013. A more detailed description of the proposed project is provided in the Project Description below.

The environmental approval process, which is regulated by California Environmental Quality Act (CEQA) Statutes and Guidelines, includes circulation of this IS/MND for public and agency review for a 30-day period. Written comments received during this review period will then be reviewed and formal responses prepared. These responses and any additions or revisions made to the IS/MND, will then be incorporated into a final IS/MND. The City Council, at a regularly scheduled meeting, will review all of the related material and make a determination as to adequacy of this analysis. A Notice of Determination, if made, will then be filed with the County Recorder. The proposed project, which includes demolition of existing buildings and park construction, would proceed after filing the Notice of Determination.

The organization and format of this document is stipulated by the CEQA Guidelines. Section 4 of this IS/MND, the "Environmental Checklist," includes 18 specific elements (e.g., Air Quality, Cultural Resources, Transportation and Traffic, etc.) which must be addressed. The four levels of impact are: "Potentially Significant Impact," "Less Than Significant with Mitigation Incorporation," "Less than Significant Impact," and "No Impact." A discussion relating the anticipated impacts to each of the CEQA issues then follows. If a significant impact is identified, mitigation is presented to offset any potentially significant impacts. Each checklist item includes a reference section, which lists technical studies, agencies, and other resources consulted in this evaluation.

Project Specifics

A. Project Address and Title:

Address: 252, 266 and 278 Garner Drive, Sunnyvale, CA, 94089
APN 110-12-094

Title: Orchard Gardens Park Expansion

B. Lead Agency Name and Address:

City of Sunnyvale
Department of Public Works / Parks Division
221 Commercial Street
Sunnyvale, California 94088-3707

C. Contact Person and Phone Number:

Nate Scribner, P.E., Senior Engineer
City of Sunnyvale
Dept of Public Works
603 All America Way

P.O. Box 3707
Sunnyvale, CA 94088-3707
408-730-2783

D. Project Sponsor's Names and Addresses:

City of Sunnyvale
Department of Public Works / Parks Division
221 Commercial Street
Sunnyvale, California 94085

E. Existing General Plan Designation and Zoning:

General Plan: Low Density Residential

Zoning: Low-Density Residential (RO)

F. Project Description:

See page 3.

G. Location of Project:

See page 3.

2. Project Description

The City of Sunnyvale, Department of Public Works / Parks Division (the City), is proposing to expand the existing 2.57 acre Orchard Gardens Park by demolishing three City-owned homes (252, 266 and 278 Garner Drive) directly adjacent to Orchard Gardens Park, adding approximately a third of an acre to the existing park. The properties are currently leased to tenants for residential use that will terminate on December 31, 2013.

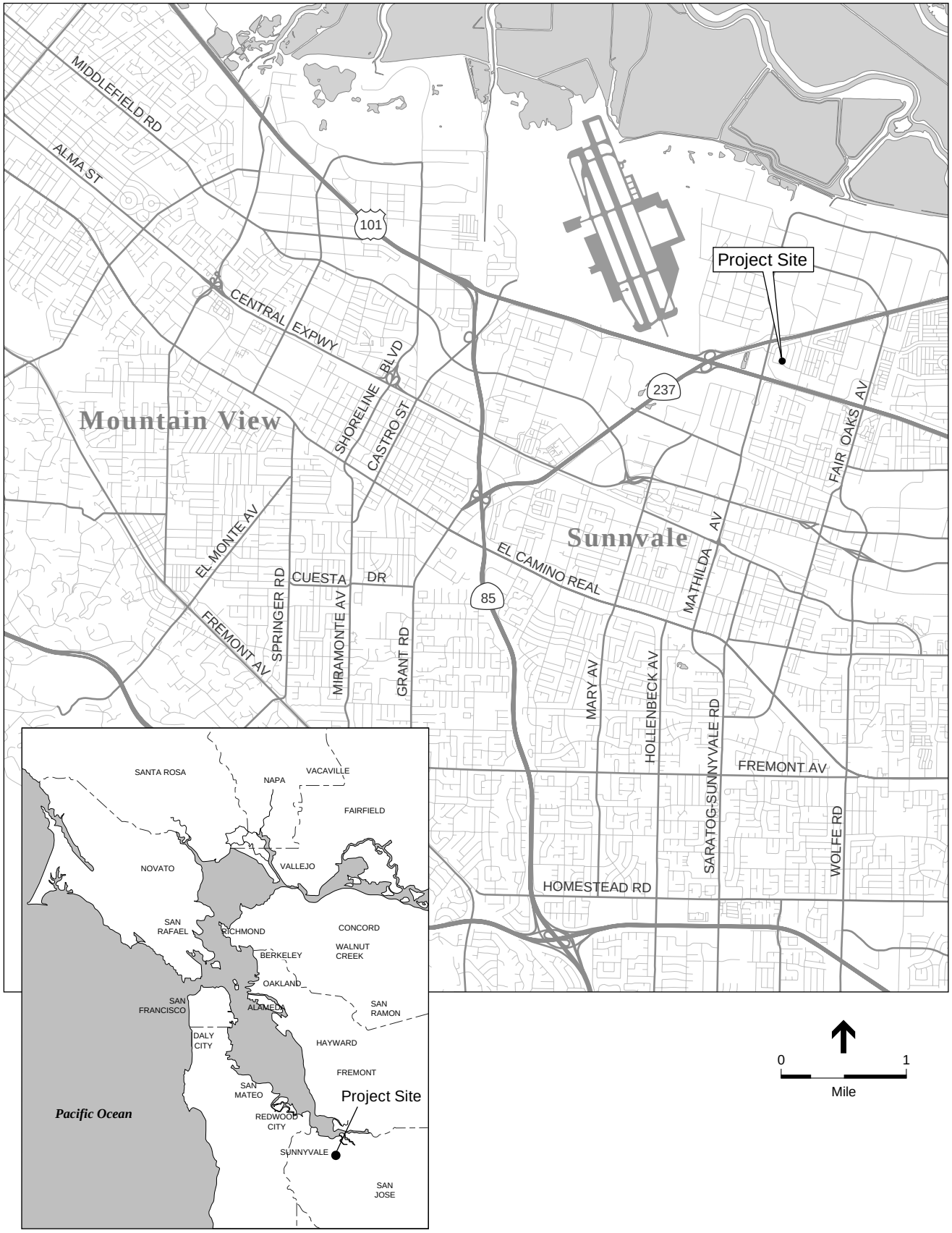
The project would consist of the demolition of these homes as well as the removal or relocation of some of the existing overhead utilities within the project boundaries. This area would be replaced with landscaping, benches, hardscape walkways, lighting and parking spaces using input gathered from the neighborhood residents. Other than minor changes to some pathways and the park entry sign, no improvements to the existing park are anticipated as part of this project.

Project and Site Vicinity

The site is located at 252, 266 and 278 Garner Drive in the City of Sunnyvale, County of Santa Clara, east of North Mathilda Avenue between Highway 237 and Highway 101. Sunnyvale is located along the U.S. Highway 101 corridor in Santa Clara County in the heart of Silicon Valley (see **Figures 1 and 2**). The site is currently zoned Low-Density Residential (RO).

The area surrounding the site is predominantly low-density residential. Land adjacent to the site is zoned High Density Residential Planned Development (R4-PD), High-Density Residential and Office District-Planned Development (R5-PD), and Residential Mobile Home (RMH). A Quality Inn is located south of the project site and adjacent to the southwest edge of the project site is the Ponderosa apartment complex (see **Figure 3**). A San Francisco Public Utilities (SFPUC) Hetch-Hetchy right-of-way (ROW) runs along the southern boundary, containing high volume potable water transmission lines. The John W. Christian Greenbelt, a paved trail for pedestrians and bicycles, extends along portions of the SFPUC right-of-way and through the existing Orchard Gardens Park. The trail runs east to west for 2.7 miles linking Orchard Gardens Park on the City of Santa Clara border and Fairwood Park in Sunnyvale (see **Figure 4**).

The project site includes three wooden-framed, single story, single-family houses (252, 266, and 278 Garner Drive). Each lot is approximately 5,000 square feet (sq. ft.) with an approximately 1,000 sq. ft. one-story, three-bedroom residential home with one-car garage and other site improvements such as fences, landscaping, and concrete pathways and driveways. Each of the buildings is expected to remain occupied until December 31, 2013. The homes were constructed in 1955 and may contain asbestos and lead. The properties were purchased in the following years: 266 Garner in 1980; 278 Garner in 1983; and 252 Garner in 1999. The City intends to demolish the existing structures to redevelop the site.



Orchard Gardens Park Expansion . 130249

SOURCE: ESA

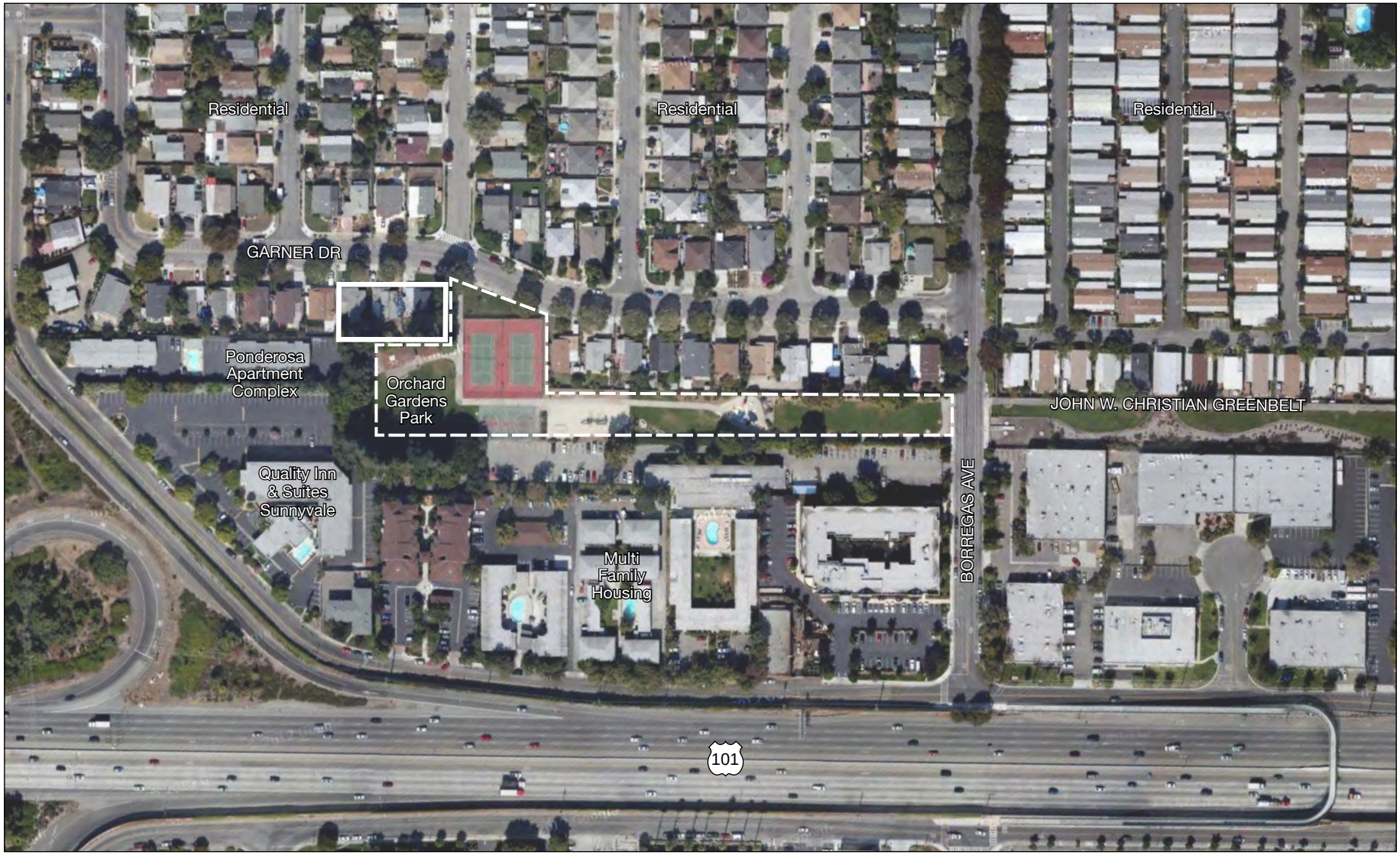
Figure 1
Regional Location

Orchard Gardens Park Expansion . 130249

SOURCE: ESA

Figure 2

Site Location Map

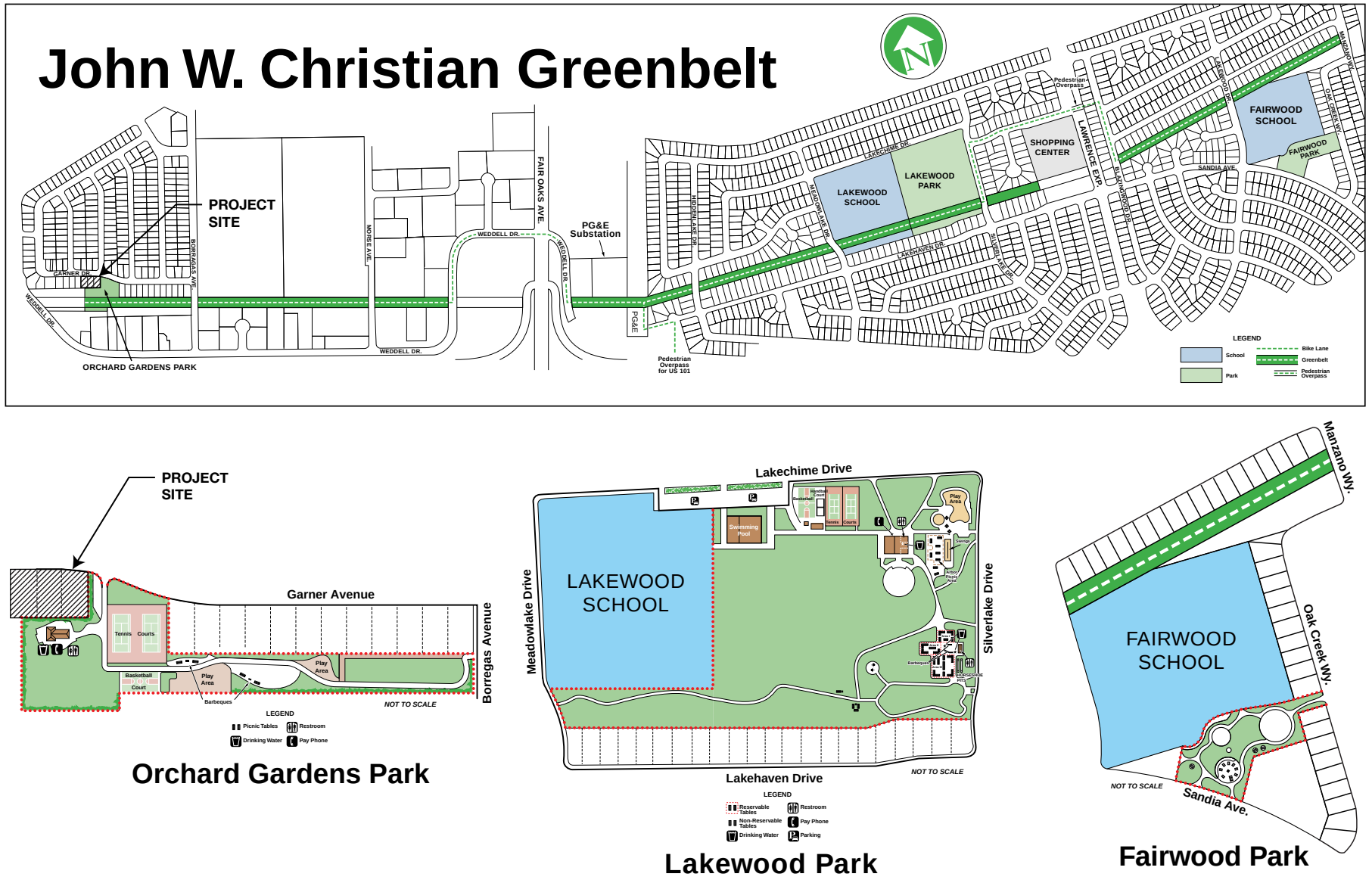


SOURCE: ESA

Orchard Gardens Park Expansion . 130249

Figure 3

Project Site Vicinity



SOURCE: City of Sunnyvale

Orchard Gardens Park Expansion . 130249

Figure 4

John W. Christian Greenbelt

Project Characteristics

The proposed project would expand the existing Orchard Gardens neighborhood park and would be developed per the City's Mini Park and Neighborhood Park Design Guidelines. A neighborhood park is intended for community members that live within a half a mile radius of the site; however, use would not be restricted to the neighborhood area.

The conceptual park plan is illustrated in **Figure 5**. The design includes passive areas, seating, walkways, landscaping, picnic tables, and outdoor exercise equipment. The park would incorporate sustainable design and water management policies and would follow the City's design guidelines.

Park Development Project

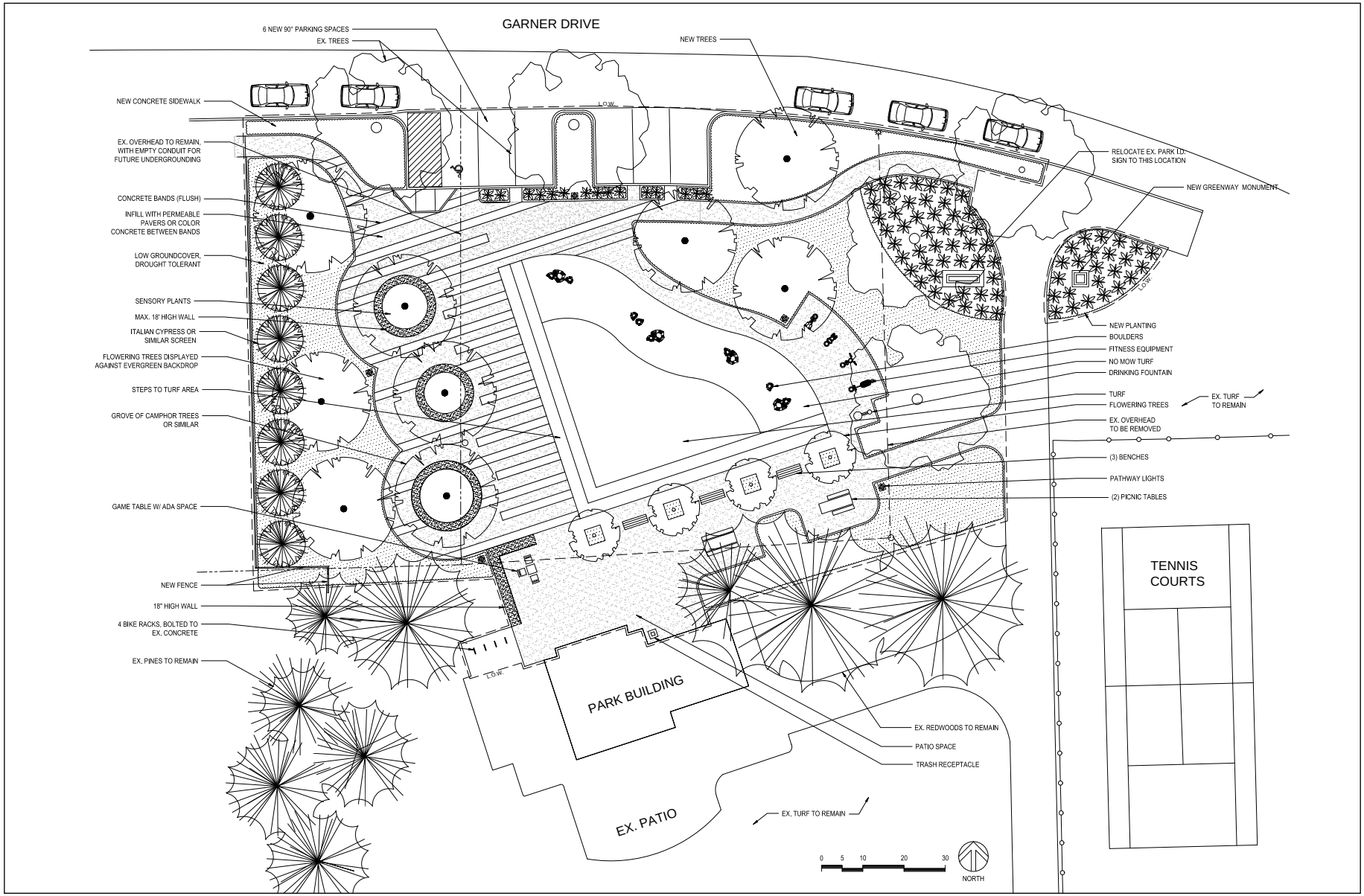
The overall project construction schedule is expected to last for four months, from May 2014 to August 2014. The project includes work in three phases:

- **Demolition** of the existing structures and improvements on the site would be completed in approximately one month. Demolition would include testing for and removal of hazardous construction materials (asbestos containing construction materials, mercury vapor lamps, peeling lead paint) prior to mass demolition, demolition and removal of all structures and selective utilities, as necessary, removal of chain link fence, wood fence, public sidewalk and curb, concrete slab at community building and one power pole~~s~~ and overhead wires as well as one multi- trunked tree, with two 12-inch diameter trunks at breast height (dbh) on the existing Orchard Garden Park property behind the park building. The existing trees along Garner Avenue would be preserved. Five smaller trees with trunks less than six inches dbh located in the back yard of the property of 278 Garner Drive would be removed.
- **Grading and drainage i**mprovements as necessary to prepare the site. The proposed project would require trenching, and minor cut and fill as part of construction.
- **Park construction** would be completed in approximately four months, followed by a 90-day plant establishment period. The general park features are described below.

Park Expansion Features

The park would include features, such as: new walkways, six parking spaces, four bike racks, patio space with a game table, two picnic tables, three benches, pathway lights, concrete seat wall, a turf area with boulders and fitness equipment, as well as trees, plants and groundcover and a trash receptacle.

The park expansion is intended for neighborhood use, and as such would include minimal parking. It would include approximately six motor-vehicle parking spaces, and four bicycle racks. Pedestrians would access the park expansion area from Garner Drive or existing pathways in Orchard Gardens Park.



SOURCE: Harris Design

Orchard Gardens Park Expansion . 130249

Figure 5

Conceptual Plan

Existing Park Features

The 2.57 acre park opened in 1966 on Garner Drive. It includes two tennis courts, a basketball court, two play areas, benches, barbeques, pathways, landscaping and open lawn as well as a Park building with restrooms and a meeting room. The John W. Christian Greenbelt runs through the park linking it with Fairwood Park to the east. It is currently open from approximately 6:00 a.m. to 9:00 p.m. daily, or from dawn to dusk.

Approvals Required

The project would require the following approvals and discretionary actions from the City of Sunnyvale:

- Adoption of the Initial Study/Mitigated Negative Declaration
- Adoption of the Mitigation Monitoring and Reporting Program
- Permits (demolition permits and construction permits)
- Award of construction contracts

Other approvals may be required from the following agency:

- Bay Area Air Quality Management District (BAAQMD) – for demolition of buildings involving asbestos removal.

3. Environmental Factors Potentially Affected and City's Mitigation Determination

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

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

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 project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Matt Scribner — Signature

4/7/14 — Date

NATHAN SCRIBNER — Printed Name

For

4. Environmental Checklist, Discussion, and Mitigation Measures

Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
1.	**AESTHETICS — Would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Discussion

a-c) **Less than Significant.** The proposed Orchard Gardens Park expansion site is located on a block bounded by Garner Drive to the north, West Weddell Drive to the west and south, and Borregas Avenue to the east. None of these roadways have been designated or are considered eligible to be state scenic highways, nor is the project site visible from a state scenic highway (Caltrans, 2011). The site is directly adjacent to residential housing units to the west, the Ponderosa apartment complex to the southwest, and the existing Orchard Gardens Park to the east and south. A Quality Inn is located south of the project site.

The boundary of the project site along Garner Drive is lined by three trees, which would be retained. Additional trees and plants would be planted internally along circulation aisles. A total of six trees would be removed none of them in the public right-of-way. Five smaller trees located in the back yard of the property of 278 Garner Drive and one larger tree on the existing park property behind the park building. Short-range publicly available views through the project site are of neighboring uses, including the residential uses to the west and north the existing Orchard Gardens Park to the south and east.

Demolition of the existing houses and the addition of recreational facilities would change the visual character of the site. The park expansion would include open turf area, concrete sidewalk, picnic areas, walkways, trees, plants, groundcover, parking and security lighting.

Short-range public views would be intermittent, as new trees may obstruct views through the interior of the park. The proposed project complements existing land uses and

development in the vicinity in terms of scale, use, and location. The project would not adversely affect long-range views, nor would the project result in a substantial adverse effect on a scenic vista. Therefore, the project would result in a less than significant impact on scenic resources and scenic vistas.

d) **Less than Significant.** The park facilities would include low-level, lighting contained onsite. The proposed project includes plans for pathway lights using a 12 foot high modular light column system with a 360 degrees cylindrical lens for site lighting with 37 watt LEVO LED light. Lighting within the park would stay on from dusk to dawn and would include cut-off fixtures.

Project plans, including lighting plans, will be reviewed to reduce light and glare impacts to surrounding properties in accordance with City code. Additionally, the residents on the northern and eastern property boundary would be further protected from potential light and glare by a landscaping buffer and perimeter wall/fence. The proposed project would have a less-than-significant impact on light and glare.

References

California Department of Transportation (Caltrans), California Scenic Highway Mapping System website, http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm, accessed September 9, 2013.

Agricultural and Forest Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
2. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to 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 result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

a-b) **No Impact.** The project site is not designated by either the General Plan or the Zoning Ordinance as agricultural (Sunnyvale, 2011). It is not designated as important farmland by the state (DOC, 2012). Thus, no significant agricultural resources or operations would be affected as a result of the proposed project.

c-d) **No Impact.** The project site is not zoned or designated for forestry or timberland uses (Sunnyvale, 2011). It currently contains three residential homes that would be demolished and replaced by a neighborhood park. Therefore, there would be no impacts.

References

City of Sunnyvale, 2011. Sunnyvale General Plan, Land Use and Transportation. Consolidated in July 2011.

Department of Conservation, California, 2012. Important Farmland of Santa Clara County (Map). Division of Land Resource Protection. Accessed September 9, 2013.

Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard 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?	☐	☐	☒	☐

Discussion

The BAAQMD *CEQA Air Quality Guidelines* were adopted in 2010 and amended in 2011 to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In 2012, the Alameda County Superior Court ruled that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD *CEQA Air Quality Guidelines*. In August 2013, the First District Court of Appeal reversed the trial court's judgment and upheld the BAAQMD's *CEQA Guidelines*. However, as of November 2013, an appeal is pending at the California Supreme Court.Although reliance on the 2011 thresholds is no longer required, local agencies still have a duty to evaluate impacts related to air quality and GHG emissions. In addition, CEQA grants local agencies broad discretion to develop their own thresholds of significance, or to rely on thresholds previously adopted or recommended by other public agencies or experts so long as they are supported by substantial evidence. Accordingly, the City of Sunnyvale is using the BAAQMD's 2011 thresholds to evaluate project impacts in order to protectively evaluate the potential effects of the project on air quality. The City finds that, despite the court ruling, the science and reasoning contained in the BAAQMD 2011 *CEQA Air Quality Guidelines* provide the latest state-of-the-art guidance available. For that reason,

substantial evidence supports continued use of the BAAQMD 2011 *CEQA Air Quality Guidelines*.

a) **Less than Significant.** The project site is within the San Francisco Bay Area Air Basin (Bay Area), which is currently designated as a nonattainment area for state and national ozone standards, state particulate matter (PM10 and PM2.5) standards, and federal PM2.5 (24-hour) standard. The Bay Area Air Quality Management District's (BAAQMD's) 2010 Clean Air Plan (BAAQMD, 2010) is the applicable Clean Air Plan (2010 CAP) that has been prepared to address ozone nonattainment issues.

The BAAQMD Guidelines identify a three-step methodology for determining a project's consistency with the current CAP. If the responses to these three questions can be concluded in the affirmative and those conclusions are supported by substantial evidence, then BAAQMD considers the project to be consistent with air quality plans prepared for the Bay Area.

The first question to be assessed in this methodology is "does the project support the goals of the Air Quality Plan" (currently the 2010 CAP)? The BAAQMD-recommended measure for determining project support for these goals is consistency with BAAQMD thresholds of significance. If a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation measures, the project would be consistent with the goals of the 2010 CAP. As indicated in the following discussion with regard to air quality impact questions b) and c), the project would result in less than significant construction emissions with implementation of **Mitigation Measure AIR-1**, and would not result in long-term adverse air quality impacts. Therefore, the project would be considered to support the primary goals of the 2010 CAP and, therefore, would be consistent with the 2010 CAP.

The second question to be assessed in this consistency methodology is "does the project include applicable control measures from the CAP?" The 2010 CAP contains 55 control measures aimed at reducing air pollution in the Bay Area. Projects that incorporate all feasible air quality plan control measures are considered consistent with the CAP. The proposed project would include the expansion of an existing park, and there are no measures in the CAP that appear to apply to this type and size of project. Therefore, no inconsistency with the 2010 CAP is identified.

The third question to be assessed in this consistency methodology is "does the project disrupt or hinder implementation of any control measures from the CAP?"[1] The proposed project would not create any barriers or impediments to planned or future improvements to transit or bicycle facilities in the area and therefore would not hinder implementation of CAP control measures.

[1] Examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path, or proposes excessive parking beyond parking requirements.

In summary, the responses to all three of the questions with regard to CAP consistency are either affirmative or not applicable, and the proposed project would not conflict with or obstruct implementation of the 2010 CAP. This is a less than significant impact.

b) **Less than Significant with Mitigation.** The Bay Area Air Basin experiences occasional violations of ozone and particulate matter (PM10 and PM2.5) standards. Thus, during the construction phase of any given project basin wide violations can occur. The proposed demolition of the existing structures and the subsequent redevelopment of the area into a neighborhood park would result in emissions primarily from construction related vehicles. Demolition and construction would involve use of equipment and materials that would emit ozone precursor emissions (i.e., reactive organic gases or ROG, and nitrogen oxides, or NOx). Demolition, remediation, and construction activities would also result in the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for these activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NOx from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during project development. Emissions were estimated using the latest CalEEMod (version 2013.2.2) model and are depicted below in **Table 3-1**. Additional assumptions and information are included in **Appendix A**.

TABLE 3-1
AVERAGE DAILY CONSTRUCTION-RELATED POLLUTANT EMISSIONS (Pounds/Day)[a]

Year	ROG	NOx	Exhaust PM10[b]	Exhaust PM2.5[b]
2014 (Unmitigated Emissions)	2	15	1	1
BAAQMD Construction Threshold	54	54	82	54
Significant Impact?	No	No	No	No

[a] Emissions were modeled using CalEEMod and assume demolition of 4,800 SF of existing buildings. It was also assumed that approximately 1,000 CY of topsoil would be exported and equivalent clean soil imported during the grading phase. Default CalEEMod equipment assumptions were assumed for construction. Construction activities were assumed to occur for a duration of four months. Additional information is included in Appendix A.
[b] BAAQMD's proposed construction-related significance thresholds for PM10 and PM2.5 apply to exhaust emissions only and not to fugitive dust.

Notably, if soil remediation is required for the project, air quality concerns related to soil remediation and export are addressed in the DTSC CEQA document, which includes control measures where appropriate. In addition, compliance with all applicable BAAQMD Rules and Regulations, such as Regulation 11 (Hazardous Pollutants) Rule 2 (Asbestos Demolition, Renovation, and Manufacturing), would be required by law.

Although the project would not generate emissions during construction that would exceed the BAAQMD thresholds, due the potential for localized impacts on the adjacent

sensitive land uses, implementation of **Mitigation Measure AIR-1** would ensure that impacts are reduced to a less-than-significant level.

In regards to operations, the proposed project would alter the use of the project site by expanding the existing Orchard Gardens Park on to residential land use. The proposed neighborhood park would generate approximately 16 one-way vehicle trips on a weekday (8 inbound and 8 outbound). However, the existing single-family residential units generate approximately 38 one-way vehicle trips on a weekday (19 inbound and 19 outbound), thus negating the increase in traffic on local roadways. Overall project emissions were estimated using the CalEEMod software and are depicted below in **Table 3-2,** and as a conservative estimate, do not subtract out existing emissions associated with the residential uses. Additional assumptions and information are included in **Appendix A**.

As shown in Table 3-2, long-term operational emissions of the project would be less than significant.

TABLE 3-2
AVERAGE DAILY OPERATION-RELATED POLLUTANT EMISSIONS (Pounds/Day)[a]

Year	ROG	NOx	PM10	PM2.5
Area Sources	0.3	0	0	0
On-road Vehicles	0.1	0.1	0.1	0
Total Operational Emissions	0.4	0.1	0.1	0
BAAQMD Operational Threshold	54	54	82	54
Significant Impact?	No	No	No	No

[a] Emissions were modeled using CalEEMod and assume 16 daily trips and default assumptions regarding landscape equipment (area sources). Additional information is included in Appendix A.

Mitigation Measure AIR-1: During active construction, the City shall require construction contractors to implement all the BAAQMD's Basic Construction Mitigation Measures, listed below:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All 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.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. 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.

c) **Less than Significant with Mitigation.** According to the BAAQMD, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In addition, according to the BAAQMD CEQA Air Quality Guidelines, if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (BAAQMD, 2011). Alternatively, if a project does not exceed the identified significance thresholds, then the project would not be considered cumulatively considerable and would result in less-than-significant air quality impacts. As discussed for criteria "b" above, the project would result in less than significant construction emissions with mitigation incorporation, and less than significant operational emissions.

Mitigation Measure: Implement Mitigation Measure AIR-1.

d) **Less than Significant.** BAAQMD defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, colleges and universities, daycares, hospitals, and senior-care facilities. Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees (BAAQMD, 2012).

Construction of the project would result in short-term diesel exhaust emissions (DPM), which are toxic air contaminants (TACs), from on-site heavy-duty equipment. Project construction would generate DPM emissions from the use of off-road diesel equipment required for construction activities. Exposure of sensitive receptors—such as the adjacent multifamily residences—is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the

extent of exposure that person has with the substance. A longer exposure period would result in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities (4 months) would only constitute a small percentage of the total 70-year exposure period. OEHHA recommends that a minimum exposure duration of two years be assumed for health risk assessment of short-term projects, such as construction. However, in this case, with a maximum of 4 months of construction, the assumption of a two-year exposure would overstate potential health risks. DPM from construction activities is not anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards. However, implementation of Mitigation Measure AIR-1 (BAAQMD's Basic Construction Mitigation Measures) would also reduce potential DPM emissions.

The long-term operation of the project would not result in any sources of toxic air emissions. The proposed project expands the existing park and would not expose visitors to increased TACs from any nearby sources. This impact would be less than significant.

e) **Less than Significant.** As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities and transfer stations. No such uses would occupy the project site. Therefore the project would not create objectionable odors that would affect a substantial number of people.

References

Bay Area Air Quality Management District (BAAQMD), 2010. Bay Area 2010 Clean Air Plan, adopted September 15, 2010. Available at http://www.baaqmd.gov.

Bay Area Air Quality Management District (BAAQMD), 2011. CEQA Air Quality Guidelines, revised May 2011.

Biological Resources

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

Discussion

a) **Less than Significant.** The California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) documents 20 occurrences of special-status[2] species within the USGS quadrangle containing the site (Mountain View) (CDFW, 2013). Natural habitat for all of these species no longer exists at the project site and a recent search shows no sightings within a half mile of the project area.

b) **No Impact.** The project site is currently comprised of three City-owned 5,000 sq. ft. lots, each with a 1,000 sq. ft. single-story, residential home with one-car garage, concrete footpaths and driveways, and minimal landscaping. Mature street trees exist on the verge

[2] The term "special-status" species includes those that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as Threatened or Endangered, but designated as "Rare" or "Sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations, or policies adopted by local agencies such as counties, cities, and special districts to meet local conservation objectives.

between the sidewalk and street, however none would be removed under the project. The project would however, remove six trees outside the public right-of-way. One multi-trunked tree, with two 12-inch diameter trunks at breast height (dbh) on the existing Orchard Garden Park property behind the park building and five smaller trees with trunks less than six inches dbh located in the back yard of the property of 278 Garner Drive would be removed to accommodate the proposed park expansion. There is no riparian habitat or other sensitive natural community present onsite.

c) **No Impact.** The project site is on developed land that generally either includes a building or is paved for parking, with small and underdeveloped landscaped lawns. As such, the project site is largely impervious and contains no wetlands as defined by the Clean Water Act.

d) **Less than Significant with Mitigation.** Mature trees exist within the Orchard Gardens Park abutting the project site and all along Garner Drive which provides suitable habitat for nesting and foraging migratory birds as well as roosting bats. Bats could also roost in existing buildings to be demolished under the project.

Nesting Birds

Construction disturbance from building demolition or vegetation and tree removal during breeding bird season could result in incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The general raptor and passerine bird nesting period cited by CDFW is often cautiously interpreted as the period between February 1 and August 31.

Breeding birds are protected under Section 3503 of the California Fish and Game Code (Code), and raptors are protected under Section 3503.5. In addition, both Section 3513 of the Code and the Federal Migratory Bird Treaty Act (16 USC, Sec. 703 Supp. I, 1989) prohibit the killing, possession, or trading of migratory birds. Finally, Section 3800 of the Code prohibits the taking of non-game birds, which are defined as birds occurring naturally in California that are neither game birds nor fully protected species.

In general, CDFW recommends a 250-foot construction exclusion zone around the nests of active passerine songbirds during the breeding season, and a 500-foot buffer for nesting raptors. These buffer distances are considered initial starting distances once a nest has been identified, and are sometimes revised downward to 100 feet and 250 feet, respectively, based on site conditions and the nature of the work being performed. These buffer distances may also be modified if obstacles such as buildings or trees obscure the construction area from active bird nests, or existing disturbances create an ambient background disturbance similar to the proposed disturbance.

Potential project-related impacts to breeding or nesting birds would be minimized to a less-than-significant level with the implementation of **Mitigation Measure BIO-1**, as described below.

Mitigation Measure BIO-1: To the extent practicable, construction activities including building demolition, vegetation and tree removal, and new site construction shall be performed between September 1 and January 31 in order to avoid breeding and nesting season for birds. If these activities cannot be performed during this period, pre-construction survey for nesting birds shall be conducted by a qualified biologist.

In coordination with the City, surveys shall be performed no more than 14 days prior to construction activities listed above in order to locate any active passerine nests within 250 feet of the project site and any active raptor nests within 500 feet of the project site. Vegetation removal and construction activities performed between September 1 and January 31 avoid the general nesting period for birds and therefore would not require pre-construction surveys.

If active nests are found on either the project site or within the 500-foot survey buffer surrounding the project site, no-work buffer zones shall be established around the nests in coordination with CDFW. No demolition, vegetation removal, or ground-disturbing activities shall occur within a buffer zone until young have fledged or the nest is otherwise abandoned as determined by the qualified biologist. If work during the nesting season stops for 14 days or more and then resumes, then nesting bird surveys shall be repeated, to ensure that no new birds have begun nesting in the area.

Roosting Bats

Bats have the potential to roost in existing buildings and trees within or near the project site. All bats and non-game mammals are protected under California Fish and Game Code Section 4150, and destruction of a maternity colony of even a relatively common species would be considered significant. This impact can be reduced to a less-than-significant level through implementation of **Mitigation Measure BIO-2**, as described below.

Mitigation Measure BIO-2: If any evidence of bats (i.e., visual or acoustic detection, guano, staining, strong odors) are present on site, a qualified bat biologist (i.e., a biologist holding a CDFW collection permit and a Memorandum of Understanding with the CDFW allowing the biologist to handle and collect bats) shall survey for bats at the project site. If no evidence of bats (i.e., visual or acoustic detection, guano, staining, strong odors) is present on-site, no further mitigation is required.

If bats raising pups (also called a maternity colony) are identified at the project site, the project applicant will create a no-disturbance buffer acceptable in size to the CDFW around the bat roosts. The buffer shall remain in-place until after the young are flying (i.e., after July 31, confirmed by a qualified bat biologist) or before maternity colonies form the following year (i.e, prior to March 1). Bat roosts initiated during construction are presumed to be unaffected, and no buffer is necessary. Non-maternity bat roosts shall be removed by a qualified biologist, by either making the roost unsuitable for bats by opening the roost area to allow airflow through the cavity, or excluding the

bats using one-way doors, funnels, or flaps. The "take[3]" of individuals (e.g., direct mortality of individuals, or destruction of roosts while bats are present) is prohibited.

If known bat roosting habitat is destroyed during building demolition and/or tree removal, artificial bat roosts shall be constructed in an undisturbed area in the project site vicinity at least 200 feet from project demolition and construction activities. The design and location of the artificial bat roost(s) shall be determined by a qualified bat biologist.

Significance after Mitigation: Less than Significant.

e) **No Impact.** The Sunnyvale Municipal Code, Chapter 19.94 Tree Preservation outlines the requirements for tree removal permits on private property and any city owned golf course or park. The City will obtain permits for the removal of any trees meeting the definition of "Protected Trees."

The Sunnyvale Municipal Code (Chapter 19.94 Tree Preservation) protects trees in which a single trunk tree is 38 inches or greater in circumference when measured at 4.5 feet above the ground or multi-trunk trees in which one trunk is 38 inches or greater in circumference or where the measurements of the multiple trunks together total 113 inches in circumference when measured at 4.5 feet above the ground. One multi-trunk tree, with trunk circumference totaling 57 inches when measured at 4.5 feet above the ground, is planned for removal under the project and does not qualify for protection under the Sunnyvale Municipal Code. Similarly, due to size (less than six inches dbh), the five smaller trees located in the back yard of the property of 278 Garner Drive do not qualify for protection.

f) **Less than Significant.** The Santa Clara Valley Habitat Plan (SCVHP) provides a framework for promoting the protection and recovery of natural resources, including endangered species, while streamlining the permitting process for planned development, infrastructure, and maintenance activities. The Plan would protect, enhance, and restore natural resources in specific areas of Santa Clara County and contribute to the recovery of endangered species. Rather than separately permitting and mitigating individual projects, the Plan evaluates natural-resource impacts and mitigation requirements comprehensively in a way that is more efficient and effective for at-risk species and their essential habitats. Because the project would comply with the regulations set forth in the SCVHP, conflicts to the Habitat Plan would be less than significant.

[3] "Take," as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act that actually kills or injures wildlife. This may include significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

References

California Department of Fish and Wildlife (CDFW), California Natural Diversity Database Rarefind -commercial version 4 for the Mountain View 7.5-minute topographic quadrangle, September 2013.

Santa Clara County, 2012. Santa Clara Valley Habitat Plan. Santa Clara County Government Center, August 2012.

Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

a) **No Impact.** A significant impact would occur if the project would cause a substantial adverse change to a historical resource, herein referring to historic-period architectural resources or the built environment, including buildings, structures, and objects. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource.

ESA completed a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System on June 26, 2013 (File No. 12-1637). The review included the project area and a ½-mile radius. Previous surveys, studies, and site records were accessed. Records were also reviewed in the Historic Property Data File for Santa Clara County, which contains information on places of recognized historical significance including those evaluated for listing in the *National Register of Historic Places*, the *California Register of Historical Resources*, the *California Inventory of Historical Resources*, *California Historical Landmarks*, and *California Points of Historical Interest*. The City of Sunnyvale Heritage Resources Inventory was also reviewed for properties with local importance. The purpose of the records search was to (1) determine whether known cultural resources have been recorded within the project vicinity; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources.

The residences proposed for demolition at 252, 266 and 278 Garner Drive are not listed on any national, State, or local historic registers. The three, single-family residences were constructed in 1954 as part of the Orchard Gardens subdivision. Architecturally, they exhibit modernistic versions of the common Ranch and Minimal Traditional styles typical of the mid-1950s, with shallow gable roofs, plaster and horizontal wood siding, recessed entry porches, aluminum frame windows, and attached single-car garages. They are architecturally undistinguished from the other homes in the subdivision, which share

similar footprints and architectural expressions. Historically, the residences are associated with post-war residential growth in Sunnyvale and Santa Clara County in general, as the area was changing rapidly from a primarily agricultural economy to one based on the research and development of high technologies, as well as residential construction to house the growing numbers of middle-class workers involved in the new post-war economy. The properties proposed for demolition do not appear to be significant examples of a particular architectural type, as they are relatively common forms found throughout the neighborhood and general vicinity.[4] There is nothing to indicate that the Orchard Gardens subdivision is in any way significantly associated, or particularly unique, with regard to post-war residential growth in Sunnyvale or Santa Clara County, as this was a common historical theme for the city, state, as well as the country as a whole. For these reasons, the properties at 252, 266 and 278 Garner Drive would not qualify as historical resources under CEQA Section 15064.5. Therefore, the removal of these buildings would have no impact on historical resources. No mitigation would be required.

b) **Less than Significant with Mitigation.** A significant impact would occur if the project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

The project area is within the traditional territory of the Costanoan or Ohlone people (Levy, 1978: 485–495). The people collectively referred to by ethnographers as Costanoan were actually distinct sociopolitical groups that spoke at least eight languages of the same Penutian language group. The Ohlone occupied a large territory from San Francisco Bay in the north to the Big Sur and Salinas Rivers in the south. The primary sociopolitical unit was the tribelet, or village community, which was overseen by one or more chiefs. The project area is in the greater *Puichon* tribal area (Milliken, 1995). After European contact, Ohlone society was severely disrupted by missionization, disease, and displacement. Today, the Ohlone still have a strong presence in the San Francisco Bay Area, and are highly interested in their historic and prehistoric past.

Base maps at the NWIC show that no prehistoric archaeological resources have been previously recorded within a ½-mile radius of the project area (NWIC, 2013). The nearest archaeological sites (CA-SCL-12/H and P-43-002241) are located just over ½-mile to the west and east respectively. CA-SCL-12/H incorporates two intact Early Period (8000–500 B.C.) components as well as a very large assemblage of cultural materials including almost 2,500 artifacts and large quantities of shellfish, vertebrates, and carbonized plant remains (Byrd, 2009).

ESA completed a surface survey of the project area on July 17, 2013 (Koenig, 2013). Ground visibility was limited due to the existing buildings. The soil was a dark medium

[4] Sunnyvale has not identified the neighborhood as including Eichlers: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Residential/Additions/EichlerDGADOPTEDlowresolution.pdf. Eichler built nothing north of U.S. 101, where the park is located.

brown with gravels. No archaeological resources, including midden soil, shell fragments, or other evidence of past human use, were identified in the project area.

The project area is underlain by Holocene-age alluvial deposits (Witter, et al). Active alluvial fan deposits are generally less than 5,000 years old and overlie older land surfaces (including stabilized/abandoned Pleistocene-age alluvial deposits). In many places, the interface between older land surfaces and active alluvial fans is marked by a well-developed buried soil profile, or a paleosol.[5] Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archaeological resources if the area was occupied or settled by humans (Meyer and Rosenthal, 2007). The project area is located in an area that has been highly disturbed from previous impacts related to the construction of the current residences.

No archaeological features or artifacts have been identified in the project area. Based on the results of the surface survey, nearby site distribution, and previous disturbance in the project area it does not appear that the project has the potential to impact significant archaeological resources; however the discovery of archaeological materials during ground disturbing activities cannot be entirely discounted. In the event of the discovery of any cultural resources during project construction activities, implementation of the following mitigation measure would reduce potential impacts to a less-than-significant level.

> **Mitigation Measure CUL-1:** If prehistoric or historic-period archaeological resources are encountered, all construction activities within 100 feet shall halt and the City of Sunnyvale shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the City of Sunnyvale. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation,

[5] A paleosol is a buried soil that forms when sediment is deposited over a surface with a developed soil profile without it being eroded away first.

artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

c) **No Impact.** A significant impact would occur if the project would destroy a unique paleontological resource or site, or a unique geologic feature. Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils—particularly vertebrate fossils—are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life.

Rock formations that are considered of paleontological sensitivity are those rock units that have yielded significant vertebrate or invertebrate fossil remains. This includes, but is not limited to, sedimentary rock units that contain significant paleontological resources anywhere within its geographic extent. The project area is underlain by Holocene alluvium, and is not likely yield significant paleontological remains because they are surface deposits that are not considered fossil-bearing rock units. In addition, construction of the proposed project would not require substantial excavation to depths at which paleontological resources could be encountered. The project would therefore have no impact on paleontological resources.

d) **Less than Significant with Mitigation.** There is no indication from the archival research results that any part of the project area has been used for human burial purposes in the recent or distant past. Therefore, it is unlikely that human remains would be encountered during construction of the proposed project. However, the possibility of inadvertent discovery cannot be entirely discounted, and would result in a potentially adverse impact. Implementation of **Mitigation Measure CUL-2** would ensure that inadvertent discovery impacts to human remains would be reduced to a less-than-significant level.

Mitigation Measure CUL-2: In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Santa Clara County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the City of Sunnyvale for the appropriate means of treating the human remains and any grave goods.

References

Byrd, Brian, Site Record Update for CA-SCL-12/H. On file, NWIC, November 2009.

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Witter, R.C., K.L. Knudsen, J.M. Sowers, C.M. Wentworth, R.D. Koehler, and C.E. Randolph. Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California. United State Geological Survey Open-file report 2006-1037, 2006.

Geology, Soils, and Seismicity

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

Discussion

a.i) **Less than Significant.** The project site is not located in an Alquist-Priolo Earthquake Fault Zone nor is it located on or immediately adjacent to an active or potentially active fault.[6] The Alquist-Priolo Earthquake Fault Zoning Act requires the delineation of zones by the California Department of Conservation, Geological Survey (CGS, formerly known as the California Division of Mines and Geology [CDMG]) along sufficiently active and well-defined faults. The purpose of the Act is to restrict construction of structures intended for human occupancy along traces of known active faults. Alquist-Priolo Zones

[6] An active fault is defined by the State of California is a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. Sufficiently active is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

are designated areas most likely to experience surface fault rupture, although fault rupture is not necessarily restricted to those specifically zoned areas. The active faults nearest to the project site are the San Andreas, located 8 miles southwest of the project site, and the Hayward, located 9 miles northeast. Other nearby active Bay Area faults include the San Gregorio-Hosgri fault, located 21 miles west, and the Calaveras fault, located 16 miles west of the project site. As the project site is not located in an Alquist-Priolo Earthquake Fault Zone nor is it located on or immediately adjacent to an active fault, fault rupture hazards associated with the proposed project are considered less than significant.

a.ii, iii) **Less than Significant.** The City of Sunnyvale is located in a seismically active region. Recent studies by the United States Geological Survey (USGS) indicate there is a 63 percent likelihood of a Richter magnitude 6.7 or higher earthquake occurring in the Bay Area in the next 30 years (USGS, 2008a; 2008b). The project site could experience a range of ground shaking effects during an earthquake on one of the aforementioned Bay Area faults. An earthquake on the San Andreas Fault could result in very strong (Modified Mercalli Index VII) ground shaking intensities.[7] Ground shaking of this intensity could result in moderate damage, such as collapsing chimneys and falling plaster from buildings in Sunnyvale (ABAG, 2013a). Seismic shaking of this intensity can also trigger ground failures caused by liquefaction, potentially resulting in foundation damage, disruption of utility service and roadway damage.[8] The project site is underlain by alluvial materials that can cause moderate to very high shaking amplification, and is within an area designated by the CGS and Santa Clara County as a liquefaction Seismic Hazard Zone (CGS, 2006; Santa Clara County, 2002; ABAG, 2013b).

The Seismic Hazards Mapping Act (SHMA) was enacted in 1990 to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failures caused by earthquakes. SHMA requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation must be conducted and appropriate mitigation measures incorporated into the project design. The CGS Special Publication 117A, first adopted in 1997 (and updated in 2008) by the CGS in accordance with the SHMS, provides guidelines for evaluating seismic hazards other than surface faulting, and for recommending mitigation measures as required by Public Resources Code Section 2695(a).

Although the proposed project would include few above-ground structures, the park design would be required to comply with all applicable City of Sunnyvale regulations and standards to address potential geologic impacts associated with the minor development

7 Shaking intensity is a measure of ground shaking effects at a particular location, and can vary depending on the overall magnitude of the earthquake, distance to the fault, focus of earthquake energy, and type of underlying geologic material. The Modified Mercalli (MM) intensity scale is commonly used to measure earthquake effects due to ground shaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total).

8 Liquefaction is the process by which saturated, loose, fine-grained, granular, soil, like sand, behaves like a dense fluid when subjected to prolonged shaking during an earthquake.

(e.g., walkways, parking spaces, etc.) of the project site, including ground shaking and liquefaction. Geotechnical and seismic design criteria must also conform to engineering recommendations in accordance with the seismic requirements of the 2010 California Building Code (Title 24). As the project site is located within a liquefaction Seismic Hazard Zone according to the CGS, the City would be required to comply with the guidelines set by CGS Special Publication 117A to minimize the potential for liquefaction to adversely affect these park improvements.

a.iv) **No Impact.** The project site is relatively level, and is not located on or adjacent to a hillside. Improvements resulting from the proposed project would therefore not be affected by potential impacts associated with landslides or mudslides.

b) **Less than Significant.** Redevelopment of the project site would involve earthwork activities such as grading and trenching. These activities could expose soils to the effects of erosion. The proposed project site is only 1/3 of an acre in size, and is not subject to the National Pollutant Discharge Elimination System (NPDES) requirements for construction. However, erosion control measures during construction are required before grading permits are issued, in conformance with Santa Clara County Urban Runoff Pollution Prevention Program (SCVURPPP) (SCVURPPP, 2003). Therefore, despite the relatively small area of disturbance the City would be required to develop and implement a best management practices (BMPs) to minimize potential erosion and subsequent sedimentation of stormwater runoff. Incorporation of these BMPs during construction would reduce the potential impact to less than significant.

c) **Less than Significant.** The City of Sunnyvale has historically experienced subsidence resulting from excessive withdrawal of groundwater. However, the stabilization of groundwater pumping rates and a groundwater re-injection program administered by the Santa Clara Valley Water District has halted subsidence in the surrounding area. Operation of the proposed project would not involve the withdrawal of groundwater. Given the limited loading of the proposed project improvements, potential impacts associated with unstable units would be less than significant. Potential impacts related to liquefaction are discussed under a.ii, above.

d) **Less than Significant.** The presence of expansive soils can only be determined through laboratory analysis of soil samples obtained from the site. The completion of a site-specific geotechnical investigation and incorporation of geotechnical recommendations, as required by the City's Building Division and the California Building Code prior to issuance of a building permit, would ensure that site-specific information on shrink-swell capabilities of onsite soils is obtained. The site-specific geotechnical investigation would include measures to minimize hazards associated with expansive soils, if present.

e) **No Impact.** The proposed improvements at the project site would be connected to the City of Sunnyvale sewer system which does not require septic or other alternative wastewater disposal; therefore the project would have no impact related to the support of septic systems.

References

ABAG, 2013a. Modified Mercalli Intensity Scale. http://www.abag.ca.gov/bayarea/eqmaps/doc/mmi.html. Accessed September 9, 2013.

ABAG, 2013b. Earthquake Hazard Maps. http://quake.abag.ca.gov/earthquakes/. September 9, 2013.

California Geological Survey (CGS), 2006. Seismic Hazard Zone Report for the Mountain View 7.5- Minute Quadrangle, Santa Clara, Alameda, and San Mateo Counties, California. Department of Conservation. http://gmw.consrv.ca.gov/shmp/download/quad/MOUNTAIN_VIEW/reports/mview_eval.pdf, accessed September 9, 2013.

Hart, E.W. Fault-Rupture Hazard Zones in California: Alquist-Priolo Earthquake Fault Zoning Act of 1972 with Index to Earthquake Fault Zones, California Geological Survey (formerly the California Division of Mines and Geology), Special Publication 42, 1990, Revised and Updated 1997.

Santa Clara County, 2002. Geologic Hazard Zones Map. Planning Office.

Santa Clara County, 2003. Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), http://www.scvurppp-w2k.com/default.htm, accessed September 9, 2013.

USGS, 2008a. 2008 Bay Area Earthquake Probabilities. http://earthquake.usgs.gov/regional/nca/ucerf/images/2008probabilities-lrg.jpg. Accessed September 9, 2013.

USGS, 2008b. Uniform California Earthquake Rupture Forecast, Version 2. Working Group on California Earthquake Probabilities (WG07). Findings, http://www.conservation.ca.gov/cgs/information/publications/sr/Documents/SR_203.pdf. Accessed September 9, 2013

Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

a-b) **Less than Significant.** Greenhouse gas (GHG) impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). GHG emissions associated with project construction and operations were modeled with CalEEMod (version 2013.2.2) and are described below.

The project would consist of demolition of the existing buildings, potential soil remediation, and the subsequent redevelopment of the project site into a neighborhood park. Greenhouse gases (GHGs) associated with demolition, remediation, and construction would be generated by construction equipment, haul trucks, and worker vehicles. As shown in Appendix A, maximum annual GHGs of 64 metric tons of CO_2 would be emitted during the year 2014.

In regards to long-term operations, in accordance with the BAAQMD CEQA Air Quality Guidelines (BAAQMD, 2011), this project would have a significant impact if the project emits GHGs greater than 1,100 metric tons per year CO_2e from sources other than permitted stationary sources. In regards to operations, the proposed project would alter the use of the project site by expanding the existing Orchard Gardens Park on to residential land use. On-road vehicles, landscaping maintenance activities, and water/wastewater conveyance would be the primary sources of GHGs associated with project operations. The proposed neighborhood park would generate approximately 16 one-way vehicle trips on a weekday (8 inbound and 8 outbound). However, the existing single-family residents generate approximately 38 one-way vehicle trips on a weekday (19 inbound and 19 outbound), thus negating the increase in traffic on local roadways. Overall project emissions were estimated using the CalEEMod software**,** and as a conservative estimate, do not subtract out existing emissions associated with the residential uses. As shown in **Appendix A**, GHG emissions generated by the project would equate to 15 metric tons of CO_2 per year. Thus, the project would not exceed the BAAQMD GHG threshold and would be considered less than significant.

The City of Sunnyvale has established a GHG reduction plan for City operations (KEMA, Inc. 2007). Notably, the project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This would be a less than significant impact.

References

Bay Area Air Quality Management District (BAAQMD), 2011. *CEQA Air Quality Guidelines*, revised May 2011.

California Air Pollution Control Officers Association (CAPCOA), 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*.

KEMA, Inc., 2007. *City of Sunnyvale Climate Action Plan – City Operations*. June 2007.

Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within 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 a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Discussion

a,d) **Less than Significant with Mitigation.** The construction of the proposed project would require demolition, soil remediation, and minor grading activities. If not addressed beforehand, construction activities could potentially expose construction workers and the public to hazardous conditions through disturbance of hazardous materials present in subsurface soils or building materials.

Demolition

Demolition of the existing residences may expose construction workers, the public, or the environment to hazardous materials such as lead-based paint, asbestos, and polychlorinated biphenyls (PCBs). The residences were constructed in the mid-20th

century which indicates that any of the aforementioned hazardous building materials could be present. If asbestos containing materials (ACMs) are present and disturbed, it could expose workers and the public to potentially hazardous airborne fibers during demolition. Any ACMs, if present, would need appropriate abatement of identified asbestos prior to demolition.

ACMs are regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal-OSHA. Cal-OSHA also regulates worker exposure to lead-based paint. Potential exposure to these hazardous building materials can be reduced through appropriate identification, removal and disposal according to applicable regulations.

Structures slated for demolition under the project must be assessed for ACMs, and if present, abatement carried out in accordance with state and federal regulations prior to the start of demolition or renovation activities.

Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The Bay Area Air Quality Management District (BAAQMD) is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified 10 days in advance of any proposed demolition or abatement work.

Notification must include the names and addresses of operations and persons responsible; description and location of the structure to be demolished/altered including size, age, and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. The BAAQMD randomly inspects asbestos removal operations and would inspect any removal operation about which a complaint has been received.

Asbestos abatement contractors must follow state regulations contained in 8 CCR 1529 and 8 CCR 341.6 through 341.14 where there is asbestos related work involving 100 square feet or more of asbestos-containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a hazardous waste generator number assigned by and registered with the Department of Toxic Substances Control (DTSC) in Sacramento. The site owner or responsible party and the transporter of the waste are required to file a hazardous waste manifest that details the transportation of the material from the site and its disposal.

Both the federal OSHA and Cal-OSHA regulate worker exposure during construction activities that disturb lead-based paint. The Interim Final Rule found in 29 CFR 1926.62

covers construction work in which employees may be exposed to lead during such activities as demolition, removal, surface preparation for repainting, renovation, cleanup, and routine maintenance. The OSHA-specified compliance includes respiratory protection, protective clothing, housekeeping, special high-efficiency filtered vacuums, hygiene facilities, medical surveillance, and training. No minimum level of lead is specified to activate the provisions of this regulation.

Fluorescent lighting ballasts manufactured prior to 1978, and electrical transformers, capacitors, and generators manufactured prior to 1977, may contain PCBs and/or mercury. To prevent unintentional release, these lighting fixtures are required to be removed intact and transported to a regulated facility. In accordance with the Toxic Substances Control Act and other federal and state regulations, the proposed project would be required to properly handle and dispose of electrical equipment and lighting ballasts that contain PCBs and/or mercury, reducing potential impacts to a less-than-significant level.

Compliance with these regulations and procedures would ensure that any potential impacts due to hazardous building materials are less than significant.

Subsurface Contamination

The project site is located in a region that has a history of agricultural uses. Historical use of pesticides or herbicides could potentially indicate the presence of residual pesticides or metals such as lead or arsenic in surface soils. Lead-arsenate was once a commonly used pesticide in orchards and if not addressed appropriately could present exposure hazards for future users of the project site if present. Although the project would only require trenching, and minor cut and fill, soil sampling as required by **Mitigation Measures HAZ-1**, and any required follow up remediation, if necessary, would ensure that any contaminated site soils would be removed from the project site and thus would not be a potential health threat to proposed future users.

Otherwise, during operation of the proposed project, there would be no routine transport, use, or disposal of hazardous materials. Landscaping maintenance may require the use of limited quantities of industry standard hazardous materials such as herbicides or pesticides but not in such a manner as to represent a significant threat to human health and the environment. Such materials are stored in cabinets onsite in accordance with all laws and regulations and with proper permits, where applicable.

> **Mitigation Measure HAZ-1:** Prior to obtaining a grading or building permit, the City shall obtain a qualified environmental professional to prepare a Phase I Environmental Site Assessment in accordance with the standards set forth in ASTM E1527-05. The Phase I shall determine the presence of recognized environmental conditions and provide recommendations for further investigation, if applicable. Prior to receiving a building or grading permit, project applicant shall provide documentation from overseeing agency that any identified contamination has been remediated to levels where no threat to human health or the environment remains.

b) **Less than Significant.** Construction at the site could involve minor quantities of paints, solvents, oil and grease, and petroleum hydrocarbons as discussed in Section 9, Hydrology and Water Quality. Compliance with hazardous materials BMPs, as identified in a Stormwater Pollution Prevention Plan (SWPPP)[9] would reduce potential impacts from spills or leaks associated with construction hazardous materials to a less-than-significant level. Following construction, no substantial hazardous materials storage, use, or disposal would be likely. Therefore potential impacts from upset or accidental releases during or after project construction would be considered less than significant.

c) **Less than Significant.** The project site is not located within a quarter mile of any school. The closest school to the project site is the Columbia Middle School located approximately a half mile south of the project site. However, as discussed above, the proposed project would not handle or disturb significant hazardous materials; therefore this is a less-than-significant impact.

e,f) **No Impact.** The project site is located within two miles of the Moffett Federal Airfield, which is operated by the NASA Ames Research Center. Five to ten flights per day take off or land at this field. The project site is not located within any airport land use plan, and it is located outside the airport's noise contour and approach zone. The project site's proximity to the airfield would not result in a safety hazard for people residing or working in the project site.

g) **No Impact.** The proposed project would alter an existing developed site to expand a recreational area. Construction and operation of the proposed project would not involve the temporary or permanent closure of roads, and would not interfere with emergency response or evacuation plans. There would be no impact.

h) **Less than Significant.** The project site is located in an urban setting. The project site is not located in a designated wildland area that would contain substantial forest fire risks or hazards. The risk of increased fire hazards from implementation of the proposed improvements at the project site is considered less than significant.

References

State Water Resources Control Board (SWRCB), *Geotracker Database*, http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Garner+Drive%2C+Sunnyvale+CA, accessed August 30, 2013.

Department of Toxic Substances Control (DTSC), Envirostor Database, http://www.envirostor.dtsc.ca.gov/public/mapfull.asp?global_id=&x=-119&y=37&zl=18&ms=640,480&mt=m&findaddress=True&city=215%20Garner%20Drive,%20Sunnyvale%20CA&zip=&county=&federal_superfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&ca_site=true&tiered_permit=true&evaluati

[9] Note that a NPDES General Construction Permit is not required for the project because it will disturb less than one acre but that certain BMPs would be required as part of the City's requirements and collected in a SWPPP.

on=true&military_evaluation=true&school_investigation=true&operating=true&post_closure=true&non_operating=true, accessed August 30, 2013.

Hydrology and Water

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that 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 flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
h) Place within a 100-year flood hazard area structures that 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) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Discussion

a) **Less than Significant.** Stormwater runoff generated from the project site is currently collected onsite and delivered to existing storm sewer facilities which direct flows to the north of the site, ultimately emptying into the San Francisco Bay.

The project site is less than one acre and not required to apply for coverage under the State General Construction Permit to comply with federal National Pollutant Discharge

Elimination System (NPDES) regulations. However, in accordance with General Plan/Municipal Code requirements, construction activities would still be required to adhere to appropriate construction Best Management Practices (BMPs) contained in a Stormwater Pollution Prevention Plan (SWPPP) in order to minimize potential sedimentation or contamination of stormwater runoff generated from the project site. The BMPs would be implemented before, during, and after construction as part of the project in accordance with the grading permit. These erosion and sedimentation control measures would therefore reduce potential degradation of water quality associated with future project construction to a less-than-significant level.

The City of Sunnyvale is a co-permittee agency listed in the Municipal NPDES Stormwater Permit. Municipal agencies in Santa Clara County, including Sunnyvale, the County of Santa Clara, and the Santa Clara Valley Water District, joined to form the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) to coordinate compliance with the Permit, including the regulations that require stormwater treatment controls at certain new development and redevelopment projects. The City and SCVURPPP have developed complementary guidelines for the post-construction treatment requirements. However, as the project would replace less 10,000 square feet of impervious surfaces and is expected to reduce impervious surface areas by 92 square feet, there would likely be no increase in pollutant loading.

Hazardous materials associated with construction activities would likely involve minor quantities of paint, solvents, oil and grease, and petroleum hydrocarbons. Storage and use of hazardous materials at the project site during construction activities would comply with BMPs as required by the local grading permit. Adherence to BMPs would effectively reduce potential impacts to groundwater quality associated with spills or leaks of hazardous materials and stormwater quality during construction to a less-than-significant level.

Following the completion of construction activities, application of pesticides and herbicides related to landscape maintenance could be potential sources of polluted stormwater runoff. In addition, the creation of 6 new parking spaces could become a source of polluted runoff associated with automobile use. However, the number of spaces is relatively small and less than the 5,000 square foot threshold that would require treatment controls. Otherwise, there would be no sources that would significantly impact stormwater runoff quality, and the proposed project would not adversely affect ground water quality. Regardless, as previously discussed, the proposed project would be required to comply with City of Sunnyvale and SCVURPPP stormwater quality protection requirements where applicable. Therefore, potential groundwater quality impacts associated with potential development would be considered less than significant.

b,c) **Less than Significant.** Development of the site would not involve groundwater extraction, nor the alteration of a stream or river. The proposed improvements at the project site would overall slightly decrease the amount of impervious surfaces, and thus

no increased offsite runoff would occur. Therefore, the proposed project would not lower the groundwater table as a result of groundwater extraction or reduction in groundwater recharge and would not otherwise cause offsite sedimentation or erosion to occur.

d,e) **Less than Significant.** As discussed above, the proposed project would not alter any stream or river. The decrease in impervious surfaces with the proposed improvements, albeit relatively minor, would nonetheless not increase flows to receiving waters. Therefore, the potential impact of altered drainage causing offsite or onsite flooding would be less than significant.

f) **Less than Significant.** Operation of the proposed project would not result in any substantial changes to onsite water quality associated with stormwater runoff. As discussed under Comment a), above, implementation of BMPs and compliance with any City requirements where applicable would reduce potential impacts to water quality to a less-than-significant level.

g,h,i) **Less than Significant.** The project site is not located near levees or dams and would not be exposed to flooding from failure of these structures. According to maps compiled by the San Francisco Bay Conservation and Development Commission (BCDC), a projected sea-level rise of 55 inches by the year 2100 would affect large areas around the bay perimeter. The maps indicate that the proposed project site would be located outside of anticipated inundation (BCDC, 2011). The project site is also located outside the 100-year flood zone designated by the Federal Emergency Management Agency (FEMA) (FEMA, 1997). In addition, the proposed project does not include the construction of any residential units, and proposes no substantial above ground improvements. Therefore, flooding hazards related to the proposed project would be less than significant.

j) **Less than Significant.** The project site is located approximately ½ mile inland from the San Francisco Bay. Tsunami waves would have to travel from the Pacific Ocean through the Golden Gate to finally reach the shoreline nearest the project site. Due to natural attenuation, the probability of significant tsunami waves impacting the project site are very low. Seiches are large waves on an enclosed or semi-enclosed body of water that can be caused by seismic activity. San Francisco Bay is partially enclosed, with outlets to San Pablo Bay, as well as the Pacific Ocean via the Golden Gate, and is relatively shallow, with a mean depth of approximately 27.6 feet. Geologic-induced seiche events have not been documented in the San Francisco Bay. The proposed project site is relatively flat and not subject to mudflows. Therefore, the potential impact of seiche, tsunamis and mudflows is less than significant.

References

Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM), Panel 0603520001D, City of Sunnyvale, December 19, 1997.

San Francisco Bay Conservation and Development Commission (BCDC), 55-Inch Sea Level Rise By End Of Century South Bay, available online at

http://www.bcdc.ca.gov/planning/climate_change/maps/55/south_bay.pdf, accessed April 12, 2011.

Land Use and Land Use Planning

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

a) **Less than Significant.** The project site is located within an urban area, surrounded by residential, commercial and industrial land uses. The project would demolish four single family homes and expand the existing park with more passive recreation opportunities.

The project site is designated low density residential (0-7 dwelling units per acre [du/ac]) in the General Plan and is zoned for Low-Density Residential (RO). All adjacent parcels are zoned RO, with some nearby parcels zoned as High Density Residential Planned Development (R4-PD), High-Density Residential and Office District-Planned Development (R5-PD), and Residential Mobile Home (RMH). The site is near areas planned for future commercial, industrial and transit-oriented development under the Moffet Park Specific Plan, and areas that are planned for future industrial intensification. As parks are permitted uses in a residential neighborhood, the project would not require a General Plan amendment or zoning change.

The proposed recreational uses on the site would be consistent with the existing neighboring residential uses, as well as the John W. Christian Greenbelt that forms the southern boundary of the project site, linking the proposed park to additional recreational opportunities.

Expanding an existing neighborhood park onto the site would not change the character of the neighborhood in a negative way as it would provide additional recreational opportunities and a gathering place for the adjacent community. The project would have a less than significant impact on the surrounding land uses.

b) **Less than Significant.** As stated in Section 4, Biological Resources, the site is not located in an area governed by any adopted environmental plans or policies by agencies, outside of the City of Sunnyvale, with jurisdiction over the project. Therefore, the proposed project would not conflict with environmental plans or policies adopted by agencies with jurisdiction over the project.

c) **No Impact.** The project site is not located within the boundaries of the Santa Clara Valley Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) study area; therefore, the proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan affecting the area.

References

City of Sunnyvale General Plan Land Use Map, March 2011

City of Sunnyvale Zoning Map, North of U.S. 101, March 2011

ESA, Review of Orchard Gardens Park Extension Site Plan.

Orchard Gardens Park, Google Earth Search. October 1, 2013.

Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

a-b) **No Impact.** There are no known mineral resources within the project site, and no operational mineral resource recovery sites at the project site or in the vicinity. Therefore, the project would not result in any impacts to mineral resources since it would not result in the loss of availability of a known mineral resource that would be of value to the region or the state, or result in the loss of a locally-important mineral resource. Therefore, the project would not affect mineral resources.

Noise

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12.	**NOISE — Would the project:**				
a)	Result in 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)	Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d)	Result in 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 area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☒	☐
f)	For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion

a) **Less than Significant with Mitigation.** Applicable noise regulations, existing setting, and impacts associated with the construction and operation of the proposed project are provided below.

The City of Sunnyvale General Plan contains guidelines for determining the compatibility of various land uses with different noise environments (City of Sunnyvale, 2011). For neighborhood parks and playgrounds, the General Plan guidelines indicate that an exterior noise environment of less than 65 dBA Ldn or CNEL is considered "normally acceptable", between 65 dBA and 80 dBA Ldn or CNEL is considered "conditionally acceptable", and 80 dBA or greater is considered "unacceptable". A noise increase of 3 to 5 dBA Ldn or CNEL (depending on the ambient noise environment and land use compatibility standards) would be considered a significant noise increase.

The Municipal Code sets noise standards for construction (Title 16), and operation (Title 19), equipment and maintenance as follows:

16.08.030. Hours of construction—Time and noise limitations.

Construction activity shall be permitted between the hours of 7:00 a.m. and 6:00 p.m. daily Monday through Friday. Saturday hours of operation shall be between 8:00 a.m. and 5:00 p.m. There shall be no construction activity on Sunday or national holidays when city offices are closed.

No loud environmentally disruptive noises, such as air compressors without mufflers, continuously running motors or generators, loud playing musical instruments, radios, etc., will be allowed where such noises may be a nuisance to adjacent residential neighborhoods.

Exceptions:

(a) Construction activity is permitted for detached single-family residential properties when the work is being performed by the owner of the property, provided no construction activity is conducted prior to 7:00 a.m. or after 7:00 p.m. Monday through Friday, prior to 8:00 a.m. or after 7:00 p.m. on Saturday and prior to 9:00 a.m. or after 6:00) p.m. on Sunday and national holidays when city offices are closed. It is permissible for up to two persons to assist the owner of the property so long as they are not hired by the owner to perform the work. For purposes of this section, "detached single-family residential property" refers only to housing that stands completely alone with no adjoining roof, foundation or sides.

(b) As determined by the chief building official:

(1) No loud environmentally disruptive noises, such as air compressors without mufflers, continuously running motors or generators, loud playing musical instruments, radios, etc., will be allowed where such noises may be a nuisance to adjacent properties.

(2) Where emergency conditions exist, construction activity may be permitted at any hour or day of the week. Such emergencies shall be completed as rapidly as possible to prevent any disruption to other properties.

(3) Where additional construction activity will not be a nuisance to surrounding properties, based on location and type of construction, a waiver may be granted to allow hours of construction other than as stated in this section. (Ord. 2930-10 §2).

19.42.030. Noise or sound level. (Not for construction activities)

(a) Operational noise shall not exceed 75 dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level shall not exceed 50 dBA during nighttime or 60 dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined

that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed 45 dBA.

(b) Powered equipment used on a temporary, occasional or infrequent basis which produces a noise greater than the applicable operational noise limit set forth in subsection (a) shall be used only during daytime hours when used adjacent to a property with a residential zoning district. Powered equipment used on other than a temporary, occasional or infrequent basis shall comply with the operational noise requirements. For the purpose of this section, powered equipment does not include leaf blowers. Construction activity regulated by Title 16 of this code shall not be governed by this section.

(c) It is unlawful for any person to make or allow to be made a nighttime delivery to a commercial or industrial establishment when the loading/unloading area of the establishment is adjacent to a property in a residential zoning district. Businesses legally operating at a specific location as of February 1, 1995, are exempt from this requirement.

(d) A "leaf blower" is a small, combustion engine-powered device used for property or landscape maintenance that can be hand-held or carried on the operator's back and which operates by propelling air under pressure through a cylindrical tube. It is unlawful for any person to operate a leaf blower on private property in or adjacent to a residential area except between the hours of 8:00 a.m. and 8:00 p.m. Effective January 1, 2000, all leaf blowers operated in or adjacent to a residential area shall operate at or below a noise level of 65 dBA at a distance of fifty feet, as determined by a test conducted by the American National Standards Institute or an equivalent. The dBA rating shall be prominently displayed on the leaf blower. (Ord. 2623-99 § 1 (part): prior zoning code § 19.24.020(b)—(d)).

Sensitive Receptors

The project area contains sensitive residential land uses, the nearest of which is adjacent to a residence to be demolished (approximately 5 feet west of the project boundary). Additional single family residences are located along Garner Drive, and multi-family residences are located south of the park. The distance to the nearest receptors will be used for the purpose of citing distance from construction equipment that would occur during the demolition and park construction.

Existing Noise Environment

The noise environment surrounding the project site is influenced primarily by residential areas and on-road vehicles on local roadways. U.S. Highway 101 is approximately 575 feet south of the park expansion site. The noise environment along anticipated construction truck haul routes is also influenced by traffic noise from U.S. 101 and arterial roadways.

In order to characterize the existing operations environment as well as the project site environment, short term noise measurements were conducted July 9, 2013. Measurements were taken at two locations around the project site. Noise measurement results for all study locations are summarized in **Table 12-1**.

TABLE 12-1
SOUND-LEVEL MEASUREMENTS AT EXISTING AND PROJECTED STUDY LOCATIONS[a]

Location	Time Period	Leq(dB)	Noise Sources
ST-1. Back corner of park, across fence from westernmost home to be demolished	Tues. July 9 12:28 – 12:33 p.m.	5-minute result: Leq = 55	• Landscaping equipment in distance • Distant road noise • Tennis players
ST-2. ~30 feet west of tennis courts, across fence from easternmost home to be demolished	Tues. July 9 12:36 – 12:41 p.m.	5-minute result: Leq = 54	• Landscaping equipment in distance • Distant road noise • Tennis players playing/talking • Pedestrians walking/talking • Several cars on Garner Dr

[a] All noise levels measured in A-weighted decibels (dBA). Noise measurement data presented here using a Metrosonics dB-3080 sound level meter, calibrated prior to use.

Construction

Construction activity noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Demolition of the existing buildings and subsequent park construction would be completed in four months.

Construction-related trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. **Table 12-2** shows typical noise levels during different construction stages. **Table 12-3** shows typical noise levels produced by various types of construction equipment.

TABLE 12-2
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Activity	Noise Level (dB, Leq)[a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

[a] Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971.

TABLE 12-3
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dB, Leq at 50 feet)
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Scraper	88
Jack Hammer	88
Dozer	87
Paver	89
Generator	76
Backhoe	85

SOURCE: Cunniff, Environmental Noise Pollution, 1977.

The closest sensitive receptors to the proposed project structure demolition would be the adjacent residences to each of the sites. The nearest residences would be about 5 feet from the potential demolition at the park expansion site and off-site demolition area. Noise impacts from construction generally result when construction activities occur during the noise-sensitive times of the day (early morning, evening, or nighttime hours), in areas immediately adjacent to construction activities, or when construction noise lasts over extended periods of time. Where noise from construction activities would conflict with the City of Sunnyvale municipal code requirements of 16.08.030 (Hours of Construction – Time and Noise Limitations), the impact would be considered significant. Noise from construction activities generally attenuates at a rate of 6.0 to 7.5 dB per doubling of distance (Caltrans, 1998).

Assuming an attenuation rate of 6 dB per doubling of distance, the adjacent residences to structure demolition would experience exterior noise levels of up to 109 dBA and maximum interior noise levels of approximately 89 dBA, which takes into account an approximate 20 dBA of exterior-to-interior noise level reduction provided by the receiving building structure. Construction activities associated with the project would be temporary in nature and the maximum noise levels discussed above would be short-term. To be considerate of the adjacent residents, Mitigation Measure NOISE-1 requires shorten construction hours to reduce any potential impacts to a less than significant level:

Mitigation Measure NOISE-1: The project sponsor shall require construction contractors to implement the following mitigation measures:

- More stringent than Section 16.08.030 of the Municipal Code, all noise generating construction activities shall be limited to the hours of 8:00 a.m. to 4:30 p.m., Monday through Friday and between 9:00 a.m. and 4:00 p.m. on Saturday. There shall be no construction activity on Sunday or national holidays when city offices are closed.

- All construction vehicles and equipment, fixed and mobile, shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

- Construction staging areas shall be located as far as practicable from dwellings and existing recreational uses so as to cause minimal disruption to these activities.

- Route all construction traffic to and from the project site via designated truck routes where possible. Prohibit construction related heavy truck traffic in residential areas where feasible.

- Prohibit unnecessary idling of internal combustion engines.

- Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a day and evening contact number for the City in the event of problems.

Park Operations

An increase in traffic noise of 3 dB or more (a level perceivable to most individuals (Caltrans, 1998)) at a sensitive receptor location would be considered a significant impact. The proposed neighborhood park would generate approximately 16 one-way vehicle trips on a weekday (8 inbound and 8 outbound). However, the existing single-family residents generate approximately 38 one-way vehicle trips on a weekday (19 inbound and 19 outbound), thus negating the increase in traffic on local roadways. Project traffic noise would not be noticeable; therefore, project traffic noise would be at less-than-significant levels.

The only other sources of noise would be from maintenance equipment such as lawnmowers, leaf blowers, and any pumps or compressors used. These sources would be required to comply with the City's Noise Ordinance standards at off-site receptors. Maintenance and other operational activities could result in significant noise impacts.

b) **Less than Significant with Mitigation.** The construction of the project may generate perceptible vibration as heavy equipment is used in the vicinity of the adjacent sensitive receptors. Groundborne vibration levels would be distinctly perceptible when equipment is operated within approximately 25 feet of sensitive land uses. Demolition of the existing buildings and pavement removal as well as grading could at times produce substantial vibration. The nearest existing buildings to the structures to be demolished as part of the project (on-site and off-site) are approximately 5 feet away.

As shown in **Table 12-4**, use of heavy equipment for project construction generates vibration levels up to 0.089 in/sec PPV or 87 VdB RMS at a distance of 25 feet. Pile driving would not be used as part of this project. Assuming a bulldozer would be used approximately 5 feet from the closest residential receptors during demolition and

construction and loaded trucks would pass 50 feet from the nearest receptors along traversed roadways, vibration levels at the nearest sensitive receptors would be about 108 VdB RMS and 1.0 in/sec PPV from a large bulldozer and 77 VdB RMS and 0.03 in/sec PPV from passing trucks. Other sensitive receptors in the project vicinity would be exposed to vibration levels at incrementally lower levels. Construction activities could generate ground-borne vibration and noise levels that would exceed the FTA criteria of 0.2 – 0.5 in/sec PPV for building damage and 80 VdB RMS for human annoyance. This impact would be significant. However, as depicted in Table 12-4 below, smaller equipment (in this case, a small bulldozer) could be operated at 5 feet from nearby residences without resulting in building damage or human annoyance. To ensure this impact would be minimized to less than significant, **Mitigation Measure NOISE-1** would be required, in addition to **Mitigation Measures NOISE-2** and **NOISE-3**, below.

TABLE 12-4
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Equipment/Activity	PPV at 25 ft (in/sec)[a]	PPV (in/sec) at nearest receptor[b]	RMS at 25 ft (VdB)[c]	RMS at nearest receptor (VdB)
Large Bulldozer	0.089	1.0	87	108
Small Bulldozer	0.003	0.03	58	79
Loaded Trucks	0.076	0.03	86	77

[a] Buildings can be exposed to ground-borne vibration levels of 0.2 – 0.5 PPV (in/sec) without experiencing damage.
[b] The nearest receptor for the large bulldozer was assumed to be 5 feet. The loaded trucks were set at 50 feet.
[c] The human annoyance response level is 80 RMS.

SOURCE: ESA, 2013; Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

Mitigation Measure NOISE-2: The City will require the contractor to commit to a mitigation plan, developed and implemented during the final design and construction phases of the project. The objective of the plan will be to minimize construction vibration damage using all reasonable and feasible means available. The plan will provide a procedure for establishing appropriate threshold and limiting vibration values for potentially affected structures (adjacent walls and buildings) based on an assessment of each structure's ability to withstand construction vibrations. The plan will require minimize use of large equipment near adjacent walls and buildings.

Mitigation Measure NOISE-3: The City will require that the construction contractor conduct crack surveys before construction that could cause architectural damage to adjacent walls and residential buildings. The survey will be done by photographs, video, or visual inventory, and will include all outside locations. All existing cracks in the masonry walls, walks, and driveways should be documented with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. A post-construction survey should be conducted to document the condition of the surrounding buildings after the construction is complete.

c) **Less than Significant with Mitigation.** Noise impacts from the project would be primarily during the construction phase of the project. As construction would be a temporary activity, with the implementation of **Mitigation Measure NOISE-1**, the project's construction noise is not expected to contribute significantly to the ambient noise environment. The project would not result in increased vehicle trips made to the site. Therefore, the project's contribution to cumulative roadside noise levels would also be less than significant.

d) **Less than Significant with Mitigation.** As discussed in the "Construction" sub-section of criterion a) above, the resulting impact would be less than significant with implementation of **Mitigation Measure NOISE-1**.

e) **Less than Significant.** The project site is located approximately one mile east of Moffett Federal Airfield, also known as Moffett Field, a joint civil-military airport. Noise from aircrafts taking off and landing at Moffett Field would be a potential source of noise affecting people using the facilities of the proposed project. However, the project site is located outside the 65 dBA contour for the airfield and hence would be normally acceptable for the proposed uses with respect to noise. This impact would be less then significant.

f) **No Impact.** The project site is not located within two miles of any private airstrip.

References

Caltrans, Technical Noise Supplement, 1998.

Cunniff, Environmental Noise Pollution, 1977.

Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment, May 2006.

U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.

Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. POPULATION AND HOUSING — Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed project would not result in any new residential land uses on the site. While the project may include infrastructure connections to proposed on-site structures, the project would not extend any new infrastructure to undeveloped areas located off of the project site that could indirectly induce population growth. The proposed park would not increase employment at the site; however, it is estimated there would be approximately 100 hours of labor expended on park maintenance annually. Therefore, the project would not induce substantial population growth, and would result in no impact.

b,c) **Less than Significant.** The project site contains three single family homes housing approximately 10 people. The homes are owned by the City and the leases to the current tenants would not be renewed past December 31, 2013. Due to the low number of people and housing units that that would be displaced by this project, it does not result in a substantial displacement of existing housing or people, and would therefore not necessitate the construction of replacement housing elsewhere.

Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the 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 following public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

a.i) **Less than Significant.** The City of Sunnyvale Department of Public Safety currently has 6 fire stations and approximately 82 sworn personnel. There are 12 front line fire apparatuses (i.e., engines, major equipment) that are each assigned two firefighters at all times, providing 24 active firefighters on duty at all times. Fire station #5 in District 12 is the closest fire station to the project site. It is located at 1120 Innovation Way, 0.6 miles away. This station has one engine and two firefighters on duty at all times. The next closest fire station is the main fire station #1 located at 171 North Mathilda Avenue, 1.6 miles away. This station has one fire engine, one ladder truck, and one reserve engine with fourfirefighters on duty (Rushmeyer, 2013).

In fiscal year 2011-2012, the fire department responded to 1,667 fire calls and 5,425 EMS (emergency medical service) calls in all of Sunnyvale. There were no calls for service to the project site during this time. The estimated response time from any fire station is 5 minutes, 22 seconds (Rushmeyer, 2013).

The implementation of the proposed project would result in the expansion of a recreation area onto the project site, which is currently served by the Sunnyvale Fire Department. The recreational uses on the project site would not lead to an increase in calls for emergency medical services and fire suppression beyond those already received in association with the existing park. The Fire Department would review all project designs at the time building permits are issued to ensure that adequate fire and life safety measures are incorporated into the project in compliance with all applicable state and city

fire safety requirements and to ensure that Fire Department personnel would have adequate access to the site.

The proposed project would not create a need for new or altered facilities to maintain adequate service ratios, response times and other objective standards, and would not, therefore, result in significant environmental impacts to fire protection and emergency medical response provisions.

a.ii) **Less than Significant.** The Sunnyvale Department of Public Safety operates the Bureau of Police Services. The Bureau is headquartered at 700 All America Way, 2.7 miles from the project site. The Bureau includes patrol services with six patrol squads that cover the City.

The Bureau currently consists of six geographical police beats. The project site is located within Beat 1, which contains blocks bound by Evelyn Avenue to the south, San Francisco Bay to the north, the City limits to the west and Fair Oaks Avenue to the east.

The Bureau's target response time for responding to a crime scene for the highest priority calls is 3 minutes, 32 seconds after a call is dispatched to the on scene arrival of police. Actual response time for 2011-2012 is 3 minutes, 34 seconds (Rushmeyer, 2013)

The proposed project would not create a need for new or altered facilities to maintain adequate service ratios, response times and other objective standards, and would not, therefore, result in significant environmental impacts to police protection and response provisions.

a.iii) **No Impact.** The Sunnyvale School District and the Fremont Union High School District operate public schools within the project area.

As stated in Section 13, *Population and Housing*, no residential units would be constructed as part of the proposed project. The project would not increase the number of residents or school-aged children in the area. In addition, although the project would expand a recreational resource that could attract residents to the park on a temporary basis, this is not the type of development that could indirectly allow for future residential development. Therefore, the project would not increase the student population in the City of Sunnyvale, and it would have no impact on schools.

a.iv, v) **No Impact.** The discussion of project effects on parks is addressed in Section 15, *Recreation*.

References

Rushmeyer, Carl, Captain, Sunnyvale Department of Public Safety. Personal communication, September 27, 2013.

Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. RECREATION — Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☒	☐	☐

Discussion

a) **Less than Significant.** The proposed project would expand an existing neighborhood park, with the addition of new walkways, six new parking spaces, four bike racks, patio space with a game table, two picnic tables, three benches, pathway lights, a turf area with boulders and fitness equipment, as well as trees, plants and groundcover. The creation of a new recreational facility would not result in an adverse affect to the City's current park performance standard.

b) **Less than Significant with Mitigation.** The proposed project would expand an existing neighborhood park. Physical effects that could result from the proposed project are discussed in the other sections of this IS/MND and all impacts have been determined to be less than significant with implementation of measures identified in this IS/MND.

References

Project description and plans.

Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. TRANSPORTATION AND TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
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 a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Discussion

a,b) **Less than Significant with Mitigation.**

Operation

The proposed project would alter the use of the project site by expanding the existing Orchard Gardens Park on to residential land use. Vehicle trip generation for the proposed project was estimated using rates found in San Diego Trip Generators (SANDAG, 2002), for neighborhood parks. The proposed neighborhood park would generate approximately 16 one-way vehicle trips on a weekday (8 inbound and 8 outbound). However, the existing single-family residents generate approximately 38 one-way vehicle trips on a weekday (19 inbound and 19 outbound), thus negating the increase in traffic on local roadways, and may result in a decrease in vehicular traffic to the site.

The expansion of the neighborhood park facilities would not increase the traffic at the project site beyond what has occurred under existing conditions. However, on weekends with ideal weather an increase in persons accessing the site could increase. Traffic generated by the recreational land use would be spread out throughout the day, and the

increased traffic volume in any one hour on any one roadway is not expected to be high. In addition, trips to recreational facilities tend not to occur during peak commute periods when there is more traffic on roadways. Roadways in the project vicinity have sufficient capacity to carry the increase in vehicle trips to the park. Furthermore, as a neighborhood park, it is expected that many users would walk or bicycle to the site, especially as the park would provide only six parking spaces.[10] A neighborhood park, per the City's Mini Park and Neighborhood Park Design Guidelines, is intended for residents within half a mile radius, which is a reasonable walking distance for this type of land use. Therefore, the project would have a less than significant impact on the roadway system in the project vicinity, individually and cumulatively.

Construction

The proposed project would be constructed over a period anticipated to last approximately four months, in Summer 2014 Construction activities would include daily vehicle trips generated by the arrival and departure of construction workers, as well as haul trucks carrying demolition debris, soil, and building materials. Construction of the proposed project would not require any lane closures.

Trucks would haul materials away from and to the site. The proposed project would be completed in two phases- the demolition phase of the project and the construction of the park.

The impact of construction truck traffic would be a temporary lessening of the capacities of local streets due to the slower movement and larger turning radii of trucks, which could affect both traffic and transit operations. However, this level of truck activity would not be sufficient to result in significant impacts to intersection operations or to transit service. Throughout the remainder of the construction period, there would be a reduced flow of construction related trucks into and out of the site, generally limited to trucks making occasional deliveries of material.

As discussed, project construction would result in short-term and intermittent construction traffic impacts associated with the delivery of materials and equipment, removal of debris, hauling of fill material to the site, and parking for construction workers. Any construction traffic occurring on weekdays between 7:00 a.m. and 9:00 a.m., or between 4:00 p.m. and 6:00 p.m., would coincide with peak hour traffic and could impede traffic flow. Construction activities could impede pedestrian access near the site or block traffic. Thus, **Mitigation Measures TRAN-1a and TRAN-1b** are provided to reduce the significance of this potentially significant impact to a less-than-significant level.

> **Mitigation Measure TRAN-1a:** As part of pre-construction submittals, the contractor(s) shall submit a truck route plan to the City of Sunnyvale Public Works

[10] Parking impacts are not considered significant under CEQA topic unless it would cause significant secondary effects. (*San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco* (2002) 102 Cal.App.4th 656.)

Department for review and approval to help minimize impacts to adjacent neighborhoods.

Mitigation Measure TRAN-1b: To the extent possible, heavy truck movements should be limited to the hours between 9:00 a.m. and 3:30 p.m. (or other times, if approved by the Public Works Department).

c) **No Impact.** The proposed project would not change air traffic patterns, increase air traffic levels or result in a change in location that would result in substantial safety risks. Therefore, the project would result in no impact in this area.

d) **Less than Significant.** The proposed project would involve physical changes to the site that would affect the existing pedestrian or bicycle circulation. However, the development of the recreation site would not impede or obstruct bicycles or pedestrians if the circulation within the site maintained clear visibility. The design of the small parking area would be reviewed and approved by the City's traffic engineer and fire department ensuring the project would have a less than significant impact on bicycle facilities. The development at the park would increase demand for bicycle parking and secure bicycle parking would be provided as part of the project.

e) **Less than Significant.** The proposed project would demolish the existing residents and construct a park, thus it would involve physical changes to the site that could affect emergency access. The design of the small parking area would be reviewed and approved by the City's traffic engineer and fire department and therefore, the project would have a less than significant impact on emergency access.

f) **Less than Significant.** Altering the use of the project site from residential to recreational use would not conflict with adopted policies, plans, or programs supporting alternative transportation. Therefore, there would be a less than significant impact related to alternative transportation.

References

City of Sunnyvale, Appendix E.1: Mini Parks and Neighborhood Parks Design Guidelines, 2007.

ESA, Field Reconnaissance Survey, September 30, 2013.

SANDAG (San Diego Regional Planning Agency), San Diego Traffic Generators, April 2002.

Project description and plans.

Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Conflict with 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 that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

a,b,e) **Less than Significant.** The City of Sunnyvale is within the Santa Clara Basin Watershed, which drains rainfall and other water runoff through creeks and rivers to the South San Francisco Bay. The Donald M. Somers Water Pollution Control Plant (WPCP) provides wastewater treatment for residents, businesses and industries in the City of Sunnyvale (City of Sunnyvale, 2013). The Plant has a total capacity of 29.5 million gallons of treated wastewater per day (mgd). The Sunnyvale WPCP currently receives approximately 15 mgd, and has approximately 14.5 mgd of remaining capacity (CH2MHill, 2011).

Wastewater associated with the project would be generated from one drinking fountain. The project's drinking fountain would be connected to sanitary sewer infrastructure, but these facilities would not generate a substantial amount of new wastewater particularly since the overall wastewater use on the site would decrease with the demolition of five structures that until recently were contributing to the wastewater system. Given that the City's current demand is considerably less than capacity, and that the project would not substantially increase demand, the WPCP would continue to meet the wastewater

treatment requirements of the National Pollutant Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board, and the impact would be less than significant.

c) **Less than Significant.** The City storm collection drain system provides for storm water runoff from City streets along gutters and through underground pipes to discharge into waterways that drain to San Francisco Bay. The system is designed for the control of flooding only and does not provide any treatment to the storm water runoff. Storm water entering drains flows directly into local creeks and the San Francisco Bay (City of Sunnyvale, 2013a).

Erosion can be exacerbated by construction activities that disturb land surfaces and expose soil to storm water runoff. Guidelines for erosion and sediment control should be included in the project plan based on the Manual of Standards for Erosion. The park would incorporate sustainable design and water management policies and would follow the City's design and development guidelines.

Also, as part of any future project approval process, BMPs would be required in order to minimize potential erosion and sedimentation during construction. As described further in the *Hydrology and Water Quality* section, the SWPPP would include BMPs to control erosion associated with grading, trenching, and other ground surface-disturbing activities.

Compliance with the BMPs, as already required by the City Sunnyvale (see Section 9, *Hydrology and Water Quality*), would result in less-than-significant impacts to the stormwater drainage system.

d) **Less than Significant.** The City of Sunnyvale receives approximately 45 percent of its water from the San Francisco Public Utilities Commission (SFPUC) and 45 percent from the Santa Clara Valley Water District (SCVWD), with the remaining 10 percent derived from City-owned and operated wells for potable uses and recycled water produced by the Sunnyvale Water Pollution Control Plant (WPCP) for non-potable uses (City of Sunnyvale, 2008).

The proposed project would expand the adjacent recreational uses on to the project site. Site landscaping would be sustained with potable water. A drinking fountain would be located onsite. The demand generated by this feature would not constitute a substantial increase in the City's current water demand. The overall water demand for the existing park is approximately 1.6 million gallons per year. The expansion of the park would incrementally increase water use for irrigation and the drinking fountain, but it would be within the daily fluctuation of water use of the park, as the proposed park expansion has been designed with low-water plants and effective irrigation design. The *2010 Urban Water Management Plan* found that under normal water year conditions, the City of Sunnyvale has adequate water supply to meet demand until 2035 (City of Sunnyvale, 2011).

Because the proposed project's drinking fountain would not substantially affect this demand, the proposed project would result in a less-than-significant impact to water supply and treatment provisions.

f,g) **Less than Significant.** Specialty Solid Waste & Recycling (Specialty) is the contracted service provider for all garbage collection in Sunnyvale. Specialty transports solid waste to the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®), which is located at 301 Carl Road, in Sunnyvale. The SMaRT Station is owned by the City of Sunnyvale and serves the cities of Mountain View, Palo Alto, and Sunnyvale. It is currently operated by Bay Counties Waste Services. Solid waste delivered to the SMaRT Station undergoes a materials recovery process that extracts recyclable materials. Approximately 78% of the City of Sunnyvale's commercial waste is recyclable or compostable/potentially compostable (Cascadia Consulting Group, 2010). The solid waste that remains after the materials recovery process is hauled from the SMaRT Station to the Kirby Canyon Recycling and Disposal Facility (operated by Waste Management, Inc.), 27 miles away in San Jose. Sunnyvale has contracted for disposal capacity (with a maximum of 4,123,310 tons) ending on December 31, 2021 (City of Sunnyvale, 1996). Kirby Canyon's remaining capacity is estimated to be approximately 57.2 million cubic yards, although its current permitted capacity is only 36 million cubic yards (CalRecycle, 2013).

The County of Santa Clara Department of Environmental Health is certified by the California Integrated Waste Management Board as the Local Enforcement Agency (LEA) for solid waste in Santa Clara County including the SMaRT Station. The City of San Jose is the LEA for Kirby Canyon Landfill. LEAs have the primary responsibility for ensuring the correct operation and closure of solid waste facilities in the state. They also have responsibility for guaranteeing the proper storage and transportation of solid wastes (CalRecycle, 2013).

Assembly Bill 939 (AB 939), enacted in 1989, requires each city's and county's Source Reduction and Recycling Element to include an implementation schedule to divert 50 percent of its solid waste from landfill disposal by January 1, 2000, through source reduction, recycling, and composting activities. As of 2013, waste diversion for Sunnyvale was 66 percent (City of Sunnyvale, 2013).

In 2008, the City of Sunnyvale adopted a Zero Waste Policy which requires the designing and managing of products and processes to reduce the volume and toxicity of waste and materials and to conserve and recover all resources. The City's long-term Zero Waste Plan will include an analysis of the materials that are most prevalent in the waste stream and present a range of options for further reducing the amount of waste disposed by the City.

The proposed project would create a public recreational facility, the use of which could incrementally generate solid waste. The Department of Public Works would be responsible for trash pickups with waste collected by Specialty. In addition, construction

waste could be generated during construction activities. Whenever feasible, solid waste would be recycled for reuse to help the City to comply with AB 939 and with the Zero Waste Policy. Complying with AB 939 would result in less-than-significant impacts to landfill capacity and compliance with solid waste regulations.

References

CalRecycle, Solid Waste Information System (SWIS) database, accessed on September 30, 2013.

CH2MHILL, Peer Review of the Water Pollution Control Plant Strategic Infrastructure Plan, City of Sunnyvale, California, June 2011, available online at: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/DPW/Engineering/WPCP%20SIP/Peer%20Review.pdf.

City of Sunnyvale, Department of Public Works, *City of Sunnyvale Solid Waste Sub-element of the General Plan*, June 4, 1996.

City of Sunnyvale, Department of Public Works, *City of Sunnyvale Wastewater Management Sub-element of the General Plan*, 2001 Update.

City of Sunnyvale, Department of Public Works, *2010 Urban Water Management Plan*, June 2011.

Cascadia Consulting Group, City of Sunnyvale Waste Characterization Report, 2010.

City of Sunnyvale, Department of Public Works, *City of Sunnyvale Water Resources Sub-element of the General Plan*, 2008 Update.

City of Sunnyvale Environmental Services Department website, http://sunnyvale.ca.gov/Departments/EnvironmentalServices.aspx, accessed September 27, 2013.

Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18. MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:				
a) 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) 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) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) **Less than Significant with Mitigation.** Based upon background research and site visits, with implementation of mitigation measures identified in this Initial Study, the project does not have the potential to 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. Any potential short-term increases in potential effects to the environment during construction are mitigated to a less-than-significant level, as described throughout the Initial Study.

b) **Less than Significant with Mitigation.** In accordance with CEQA Guidelines Section 15183, the environmental analysis in this Initial Study was conducted to determine if there were any project-specific effects that are peculiar to the project or its site. No project-specific significant effects peculiar to the project or its site were identified that could not be mitigated to a less-than-significant level. The proposed project would contribute to environmental effects in the areas of biological resources, air quality, temporary increases in construction-generated dust and noise, a temporary increase in sedimentation and water quality effects during construction, potential hazardous materials considerations with new development, and short-term traffic impacts during demolition and construction. Mitigation measures incorporated herein mitigate any potential contribution to cumulative impacts associated with these environmental

issues to a less-than-significant level, and would preclude the project from making a substantial contribution to cumulative impacts. Therefore, the proposed project does not have impacts that are individually limited, but cumulatively considerable.

c) **Less than Significant with Mitigation.** The project may have significant adverse effects on human beings in the areas of air quality, noise, and traffic during construction, and with hazardous materials considerations with redevelopment of the site. Mitigation measures identified in this Initial Study would reduce the effects to less-than-significant level.

5. Mitigation Measures Identified in this Initial Study

1. **Mitigation Measure AIR-1:** During active construction, the City shall require construction contractors to implement all the BAAQMD's Basic Construction Mitigation Measures, listed below:

    1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

    2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

    3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

    4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

    5. All 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.

    6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

    7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

    8. 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.

2. **Mitigation Measure BIO-1**: To the extent practicable, construction activities including building demolition, vegetation and tree removal, and new site construction will be performed between September 1 and January 31 in order to avoid breeding and nesting season for birds. If these activities cannot be performed during this period, pre-construction survey for nesting birds shall be conducted by a qualified biologist.

    In coordination with the City, surveys shall be performed no more than 14 days prior to construction activities listed above in order to locate any active passerine nests within 250 feet of the project site and any active raptor nests within 500 feet of the project site. Vegetation removal and construction activities performed between September 1 and

January 31 avoid the general nesting period for birds and therefore would not require pre-construction surveys.

If active nests are found on either the project site or within the 500-foot survey buffer surrounding the project site, no-work buffer zones shall be established around the nests in coordination with CDFW. No demolition, vegetation removal, or ground-disturbing activities shall occur within a buffer zone until young have fledged or the nest is otherwise abandoned as determined by the qualified biologist. If work during the nesting season stops for 14 days or more and then resumes, then nesting bird surveys shall be repeated, to ensure that no new birds have begun nesting in the area.

3. **Mitigation Measure BIO-2**: If any evidence of bats (i.e., visual or acoustic detection, guano, staining, strong odors) are present on site, a qualified bat biologist (i.e., a biologist holding a CDFW collection permit and a Memorandum of Understanding with the CDFW allowing the biologist to handle and collect bats) will survey for bats at the project site. If no evidence of bats (i.e., visual or acoustic detection, guano, staining, strong odors) is present on-site, no further mitigation is required.

   If bats raising pups (also called a maternity colony) are identified at the project site, the project applicant will create a no-disturbance buffer acceptable in size to the CDFW around the bat roosts. The buffer shall remain in-place until after the young are flying (i.e., after July 31, confirmed by a qualified bat biologist) or before maternity colonies form the following year (i.e., prior to March 1). Bat roosts initiated during construction are presumed to be unaffected, and no buffer is necessary. Non-maternity bat roosts shall be removed by a qualified biologist, by either making the roost unsuitable for bats by opening the roost area to allow airflow through the cavity, or excluding the bats using one-way doors, funnels, or flaps. The "take[11]" of individuals (e.g., direct mortality of individuals, or destruction of roosts while bats are present) is prohibited.

   If known bat roosting habitat is destroyed during building demolition and/or tree removal, artificial bat roosts shall be constructed in an undisturbed area in the project site vicinity at least 200 feet from project demolition and construction activities. The design and location of the artificial bat roost(s) shall be determined by a qualified bat biologist.

4. **Mitigation Measure CUL-1:** If prehistoric or historic-period archaeological resources are encountered, all construction activities within 100 feet shall halt and the City of Sunnyvale shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or

[11] "Take," as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act that actually kills or injures wildlife. This may include significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the City of Sunnyvale. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

5. **Mitigation Measure CUL-2**: In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Santa Clara County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the City of Sunnyvale for the appropriate means of treating the human remains and any grave goods.

6. **Mitigation Measure HAZ-1**: Prior to obtaining a grading or building permit, the City shall obtain a qualified environmental professional to prepare a Phase I Environmental Site Assessment in accordance with the standards set forth in ASTM E1527-05. The Phase I shall determine the presence of recognized environmental conditions and provide recommendations for further investigation, if applicable. Prior to receiving a building or grading permit, project applicant shall provide documentation from overseeing agency that any identified contamination has been remediated to levels where no threat to human health or the environment remains.

7. **Mitigation Measure NOISE-1:** The project sponsor shall require construction contractors to implement the following mitigation measures:

- More stringent than Section 16.08.030 of the Municipal Code, all noise generating construction activities shall be limited to the hours of 8:00 a.m. to 4:30 p.m., Monday through Friday and between 9:00 a.m. and 4:00 p.m. on Saturday. There shall be no construction activity on Sunday or national holidays when city offices are closed.

- All construction vehicles and equipment, fixed and mobile, shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

- Construction staging areas shall be located as far as practicable from dwellings and existing recreational uses so as to cause minimal disruption to these activities.

- Route all construction traffic to and from the project site via designated truck routes where possible. Prohibit construction related heavy truck traffic in residential areas where feasible.

- Prohibit unnecessary idling of internal combustion engines.

- Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a day and evening contact number for the City in the event of problems.

8. **Mitigation Measure NOISE-2:** The City will require the contractor to commit to a mitigation plan, developed and implemented during the final design and construction phases of the project. The objective of the plan will be to minimize construction vibration damage using all reasonable and feasible means available. The plan will provide a procedure for establishing appropriate threshold and limiting vibration values for potentially affected structures (adjacent walls and buildings) based on an assessment of each structure's ability to withstand construction vibrations. The plan will require minimize use of large equipment near adjacent walls and buildings.

9. **Mitigation Measure NOI-3:** The City will require that the construction contractor conduct crack surveys before construction that could cause architectural damage to adjacent walls and residential buildings. The survey will be done by photographs, video tape, or visual inventory, and shall include all outside locations. All existing cracks in the masonry walls, walks, and driveways should be documented with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. A post-construction survey should be conducted to document the condition of the surrounding buildings after the construction is complete.

10. **Mitigation Measure TRAN-1a:** As part of pre-construction submittals, the contractor(s) shall submit a truck route plan to the City of Sunnyvale Public Works Department for review and approval to help minimize impacts to adjacent neighborhoods.

11. **Mitigation Measure TRAN-1b:** To the extent possible, truck movements should be limited to the hours between 9:00 a.m. and 3:30 p.m. (or other times, if approved by the Public Works Department).

APPENDIX A
Air Quality Appendix

Average Annual Daily Criteria Pollutant Emissions

Unmitigated Construction			tpy	
Year	ROG	Nox	PM10 exh	PM2.5 exh
2014	0.0718	0.6747	0.0446	0.0416

Unmitigated Construction			average lbs/day	
Year	ROG	Nox	PM10 exh	PM2.5 exh
2014	1.631818	15.33409	1.013636	0.945455

Construction Duration: 88 days 2014

Orchard Gardens Park

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.30	Acre	0.30	13,068.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Adjusted construction schedule for the park project

Grading - Added import/export to account for potential soil remediation

Demolition - 4,800 SF total building demo

Vehicle Trips - 16 trips per day assumed

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	1.00	3.00
tblGrading	AcresOfGrading	0.00	0.30
tblGrading	AcresOfGrading	1.50	0.30
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblVehicleTrips	ST_TR	1.59	53.00
tblVehicleTrips	SU_TR	1.59	53.00
tblVehicleTrips	WD_TR	1.59	53.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0718	0.6747	0.4399	6.6000e-004	0.0157	0.0446	0.0603	6.0200e-003	0.0416	0.0476	0.0000	61.1416	61.1416	0.0127	0.0000	61.4088
Total	**0.0718**	**0.6747**	**0.4399**	**6.6000e-004**	**0.0157**	**0.0446**	**0.0603**	**6.0200e-003**	**0.0416**	**0.0476**	**0.0000**	**61.1416**	**61.1416**	**0.0127**	**0.0000**	**61.4088**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0718	0.6747	0.4399	6.6000e-004	0.0101	0.0446	0.0546	3.5100e-003	0.0416	0.0451	0.0000	61.1415	61.1415	0.0127	0.0000	61.4088
Total	**0.0718**	**0.6747**	**0.4399**	**6.6000e-004**	**0.0101**	**0.0446**	**0.0546**	**3.5100e-003**	**0.0416**	**0.0451**	**0.0000**	**61.1415**	**61.1415**	**0.0127**	**0.0000**	**61.4088**

	ROG	NOx	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**	**36.09**	**0.00**	**9.42**	**41.69**	**0.00**	**5.25**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0579	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0115	0.0245	0.1123	1.7000e-004	0.0126	3.5000e-004	0.0129	3.3700e-003	3.2000e-004	3.6900e-003	0.0000	14.5624	14.5624	7.3000e-004	0.0000	14.5777
Waste						0.0000	0.0000		0.0000	0.0000	6.0900e-003	0.0000	6.0900e-003	3.6000e-004	0.0000	0.0137
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.3640	0.3640	2.0000e-005	0.0000	0.3654
Total	**0.0694**	**0.0245**	**0.1123**	**1.7000e-004**	**0.0126**	**3.5000e-004**	**0.0129**	**3.3700e-003**	**3.2000e-004**	**3.6900e-003**	**6.0900e-003**	**14.9263**	**14.9324**	**1.1100e-003**	**0.0000**	**14.9567**

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	0.0579	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0115	0.0245	0.1123	1.7000e-004	0.0126	3.5000e-004	0.0129	3.3700e-003	3.2000e-004	3.6900e-003	0.0000	14.5624	14.5624	7.3000e-004	0.0000	14.5777
Waste						0.0000	0.0000		0.0000	0.0000	6.0900e-003	0.0000	6.0900e-003	3.6000e-004	0.0000	0.0137
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.3640	0.3640	2.0000e-005	0.0000	0.3654
Total	**0.0694**	**0.0245**	**0.1123**	**1.7000e-004**	**0.0126**	**3.5000e-004**	**0.0129**	**3.3700e-003**	**3.2000e-004**	**3.6900e-003**	**6.0900e-003**	**14.9263**	**14.9324**	**1.1100e-003**	**0.0000**	**14.9567**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2014	5/21/2014	5	15	
2	Site Preparation	Site Preparation	5/22/2014	5/26/2014	5	3	
3	Grading	Grading	5/27/2014	6/23/2014	5	20	
4	Building Construction	Building Construction	6/24/2014	9/1/2014	5	50	

Acres of Grading (Site Preparation Phase): 0.3

Acres of Grading (Grading Phase): 0.3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 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
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	22.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	250.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	5.00	2.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3600e-003	0.0000	2.3600e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.0937	0.0664	9.0000e-005		6.9800e-003	6.9800e-003		6.6800e-003	6.6800e-003	0.0000	8.2140	8.2140	1.7100e-003	0.0000	8.2499
Total	**0.0112**	**0.0937**	**0.0664**	**9.0000e-005**	**2.3600e-003**	**6.9800e-003**	**9.3400e-003**	**3.6000e-004**	**6.6800e-003**	**7.0400e-003**	**0.0000**	**8.2140**	**8.2140**	**1.7100e-003**	**0.0000**	**8.2499**

3.2 Demolition - 2014

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	3.2000e-004	4.4400e-003	3.0600e-003	1.0000e-005	1.9000e-004	8.0000e-005	2.6000e-004	5.0000e-005	7.0000e-005	1.2000e-004	0.0000	0.7730	0.7730	1.0000e-005	0.0000	0.7731
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	4.9000e-004	4.7800e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6444	0.6444	4.0000e-005	0.0000	0.6452
Total	**6.7000e-004**	**4.9300e-003**	**7.8400e-003**	**2.0000e-005**	**8.7000e-004**	**9.0000e-005**	**9.5000e-004**	**2.3000e-004**	**8.0000e-005**	**3.1000e-004**	**0.0000**	**1.4174**	**1.4174**	**5.0000e-005**	**0.0000**	**1.4183**

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					1.0600e-003	0.0000	1.0600e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.0937	0.0664	9.0000e-005		6.9800e-003	6.9800e-003		6.6800e-003	6.6800e-003	0.0000	8.2140	8.2140	1.7100e-003	0.0000	8.2499
Total	**0.0112**	**0.0937**	**0.0664**	**9.0000e-005**	**1.0600e-003**	**6.9800e-003**	**8.0400e-003**	**1.6000e-004**	**6.6800e-003**	**6.8400e-003**	**0.0000**	**8.2140**	**8.2140**	**1.7100e-003**	**0.0000**	**8.2499**

3.2 Demolition - 2014

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	3.2000e-004	4.4400e-003	3.0600e-003	1.0000e-005	1.9000e-004	8.0000e-005	2.6000e-004	5.0000e-005	7.0000e-005	1.2000e-004	0.0000	0.7730	0.7730	1.0000e-005	0.0000	0.7731
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	4.9000e-004	4.7800e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6444	0.6444	4.0000e-005	0.0000	0.6452
Total	**6.7000e-004**	**4.9300e-003**	**7.8400e-003**	**2.0000e-005**	**8.7000e-004**	**9.0000e-005**	**9.5000e-004**	**2.3000e-004**	**8.0000e-005**	**3.1000e-004**	**0.0000**	**1.4174**	**1.4174**	**5.0000e-005**	**0.0000**	**1.4183**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6000e-004	0.0000	1.6000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1500e-003	0.0217	0.0111	1.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	1.3542	1.3542	4.0000e-004	0.0000	1.3627
Total	**2.1500e-003**	**0.0217**	**0.0111**	**1.0000e-005**	**1.6000e-004**	**1.3400e-003**	**1.5000e-003**	**2.0000e-005**	**1.2300e-003**	**1.2500e-003**	**0.0000**	**1.3542**	**1.3542**	**4.0000e-004**	**0.0000**	**1.3627**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0644	0.0644	0.0000	0.0000	0.0645
Total	**3.0000e-005**	**5.0000e-005**	**4.8000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0644**	**0.0644**	**0.0000**	**0.0000**	**0.0645**

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					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1500e-003	0.0217	0.0111	1.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	1.3542	1.3542	4.0000e-004	0.0000	1.3626
Total	**2.1500e-003**	**0.0217**	**0.0111**	**1.0000e-005**	**7.0000e-005**	**1.3400e-003**	**1.4100e-003**	**1.0000e-005**	**1.2300e-003**	**1.2400e-003**	**0.0000**	**1.3542**	**1.3542**	**4.0000e-004**	**0.0000**	**1.3626**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0644	0.0644	0.0000	0.0000	0.0645
Total	**3.0000e-005**	**5.0000e-005**	**4.8000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0644**	**0.0644**	**0.0000**	**0.0000**	**0.0645**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.8000e-003	0.0000	7.8000e-003	4.1700e-003	0.0000	4.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0149	0.1249	0.0885	1.2000e-004		9.3000e-003	9.3000e-003		8.9000e-003	8.9000e-003	0.0000	10.9520	10.9520	2.2800e-003	0.0000	10.9999
Total	**0.0149**	**0.1249**	**0.0885**	**1.2000e-004**	**7.8000e-003**	**9.3000e-003**	**0.0171**	**4.1700e-003**	**8.9000e-003**	**0.0131**	**0.0000**	**10.9520**	**10.9520**	**2.2800e-003**	**0.0000**	**10.9999**

3.4 Grading - 2014

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	3.6400e-003	0.0504	0.0347	9.0000e-005	2.1100e-003	8.9000e-004	3.0000e-003	5.8000e-004	8.2000e-004	1.4000e-003	0.0000	8.7836	8.7836	8.0000e-005	0.0000	8.7854
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	6.6000e-004	6.3700e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8592	0.8592	5.0000e-005	0.0000	0.8603
Total	**4.1000e-003**	**0.0511**	**0.0411**	**1.0000e-004**	**3.0200e-003**	**9.0000e-004**	**3.9200e-003**	**8.2000e-004**	**8.3000e-004**	**1.6500e-003**	**0.0000**	**9.6428**	**9.6428**	**1.3000e-004**	**0.0000**	**9.6457**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.5100e-003	0.0000	3.5100e-003	1.8800e-003	0.0000	1.8800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0149	0.1249	0.0885	1.2000e-004		9.3000e-003	9.3000e-003		8.9000e-003	8.9000e-003	0.0000	10.9520	10.9520	2.2800e-003	0.0000	10.9999
Total	**0.0149**	**0.1249**	**0.0885**	**1.2000e-004**	**3.5100e-003**	**9.3000e-003**	**0.0128**	**1.8800e-003**	**8.9000e-003**	**0.0108**	**0.0000**	**10.9520**	**10.9520**	**2.2800e-003**	**0.0000**	**10.9999**

3.4 Grading - 2014

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	3.6400e-003	0.0504	0.0347	9.0000e-005	2.1100e-003	8.9000e-004	3.0000e-003	5.8000e-004	8.2000e-004	1.4000e-003	0.0000	8.7836	8.7836	8.0000e-005	0.0000	8.7854
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	6.6000e-004	6.3700e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8592	0.8592	5.0000e-005	0.0000	0.8603
Total	**4.1000e-003**	**0.0511**	**0.0411**	**1.0000e-004**	**3.0200e-003**	**9.0000e-004**	**3.9200e-003**	**8.2000e-004**	**8.3000e-004**	**1.6500e-003**	**0.0000**	**9.6428**	**9.6428**	**1.3000e-004**	**0.0000**	**9.6457**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0373	0.3708	0.2086	2.8000e-004		0.0258	0.0258		0.0238	0.0238	0.0000	27.3142	27.3142	8.0700e-003	0.0000	27.4837
Total	**0.0373**	**0.3708**	**0.2086**	**2.8000e-004**		**0.0258**	**0.0258**		**0.0238**	**0.0238**	**0.0000**	**27.3142**	**27.3142**	**8.0700e-003**	**0.0000**	**27.4837**

3.5 Building Construction - 2014

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	7.9000e-004	6.7000e-003	7.9900e-003	1.0000e-005	3.2000e-004	1.3000e-004	4.5000e-004	9.0000e-005	1.2000e-004	2.1000e-004	0.0000	1.1086	1.1086	1.0000e-005	0.0000	1.1088
Worker	5.8000e-004	8.2000e-004	7.9700e-003	1.0000e-005	1.1400e-003	1.0000e-005	1.1500e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0740	1.0740	6.0000e-005	0.0000	1.0754
Total	**1.3700e-003**	**7.5200e-003**	**0.0160**	**2.0000e-005**	**1.4600e-003**	**1.4000e-004**	**1.6000e-003**	**3.9000e-004**	**1.3000e-004**	**5.2000e-004**	**0.0000**	**2.1826**	**2.1826**	**7.0000e-005**	**0.0000**	**2.1842**

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	0.0373	0.3708	0.2086	2.8000e-004		0.0258	0.0258		0.0238	0.0238	0.0000	27.3142	27.3142	8.0700e-003	0.0000	27.4837
Total	**0.0373**	**0.3708**	**0.2086**	**2.8000e-004**		**0.0258**	**0.0258**		**0.0238**	**0.0238**	**0.0000**	**27.3142**	**27.3142**	**8.0700e-003**	**0.0000**	**27.4837**

3.5 Building Construction - 2014

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	7.9000e-004	6.7000e-003	7.9900e-003	1.0000e-005	3.2000e-004	1.3000e-004	4.5000e-004	9.0000e-005	1.2000e-004	2.1000e-004	0.0000	1.1086	1.1086	1.0000e-005	0.0000	1.1088
Worker	5.8000e-004	8.2000e-004	7.9700e-003	1.0000e-005	1.1400e-003	1.0000e-005	1.1500e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0740	1.0740	6.0000e-005	0.0000	1.0754
Total	**1.3700e-003**	**7.5200e-003**	**0.0160**	**2.0000e-005**	**1.4600e-003**	**1.4000e-004**	**1.6000e-003**	**3.9000e-004**	**1.3000e-004**	**5.2000e-004**	**0.0000**	**2.1826**	**2.1826**	**7.0000e-005**	**0.0000**	**2.1842**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0115	0.0245	0.1123	1.7000e-004	0.0126	3.5000e-004	0.0129	3.3700e-003	3.2000e-004	3.6900e-003	0.0000	14.5624	14.5624	7.3000e-004	0.0000	14.5777
Unmitigated	0.0115	0.0245	0.1123	1.7000e-004	0.0126	3.5000e-004	0.0129	3.3700e-003	3.2000e-004	3.6900e-003	0.0000	14.5624	14.5624	7.3000e-004	0.0000	14.5777

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	15.90	15.90	15.90	33,944	33,944
Total	15.90	15.90	15.90	33,944	33,944

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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552333	0.058138	0.185246	0.125281	0.029961	0.004506	0.012317	0.020953	0.001764	0.001280	0.005920	0.000536	0.001765

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0579	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	0.0579	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

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	6.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0510					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**0.0579**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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	6.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0510					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**0.0579**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3640	2.0000e-005	0.0000	0.3654
Unmitigated	0.3640	2.0000e-005	0.0000	0.3654

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.357444	0.3640	2.0000e-005	0.0000	0.3654
Total		**0.3640**	**2.0000e-005**	**0.0000**	**0.3654**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.357444	0.3640	2.0000e-005	0.0000	0.3654
Total		**0.3640**	**2.0000e-005**	**0.0000**	**0.3654**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.0900e-003	3.6000e-004	0.0000	0.0137
Unmitigated	6.0900e-003	3.6000e-004	0.0000	0.0137

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.03	6.0900e-003	3.6000e-004	0.0000	0.0137
Total		**6.0900e-003**	**3.6000e-004**	**0.0000**	**0.0137**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.03	6.0900e-003	3.6000e-004	0.0000	0.0137
Total		**6.0900e-003**	**3.6000e-004**	**0.0000**	**0.0137**

9.0 Operational Offroad

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

10.0 Vegetation

Orchard Gardens Park

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.30	Acre	0.30	13,068.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Adjusted construction schedule for the park project

Grading - Added import/export to account for potential soil remediation

Demolition - 4,800 SF total building demo

Vehicle Trips - 16 trips per day assumed

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	1.00	3.00
tblGrading	AcresOfGrading	0.00	0.30
tblGrading	AcresOfGrading	1.50	0.30
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblVehicleTrips	ST_TR	1.59	53.00
tblVehicleTrips	SU_TR	1.59	53.00
tblVehicleTrips	WD_TR	1.59	53.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	1.8810	17.4122	12.6066	0.0226	1.0920	1.0390	2.1120	0.5018	0.9727	1.4745	0.0000	2,278.1486	2,278.1486	0.3593	0.0000	2,285.6933
Total	**1.8810**	**17.4122**	**12.6066**	**0.0226**	**1.0920**	**1.0390**	**2.1120**	**0.5018**	**0.9727**	**1.4745**	**0.0000**	**2,278.1486**	**2,278.1486**	**0.3593**	**0.0000**	**2,285.6933**

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					
2014	1.8810	17.4122	12.6066	0.0226	0.6630	1.0390	1.6830	0.2724	0.9727	1.2451	0.0000	2,278.1486	2,278.1486	0.3593	0.0000	2,285.6933
Total	**1.8810**	**17.4122**	**12.6066**	**0.0226**	**0.6630**	**1.0390**	**1.6830**	**0.2724**	**0.9727**	**1.2451**	**0.0000**	**2,278.1486**	**2,278.1486**	**0.3593**	**0.0000**	**2,285.6933**

	ROG	NOx	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**	**39.28**	**0.00**	**20.31**	**45.72**	**0.00**	**15.56**	**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	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0653	0.1265	0.6061	1.0200e-003	0.0716	1.9200e-003	0.0736	0.0191	1.7600e-003	0.0209		93.4663	93.4663	4.4200e-003		93.5592
Total	**0.3823**	**0.1265**	**0.6061**	**1.0200e-003**	**0.0716**	**1.9200e-003**	**0.0736**	**0.0191**	**1.7600e-003**	**0.0209**		**93.4664**	**93.4664**	**4.4200e-003**	**0.0000**	**93.5593**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0653	0.1265	0.6061	1.0200e-003	0.0716	1.9200e-003	0.0736	0.0191	1.7600e-003	0.0209		93.4663	93.4663	4.4200e-003		93.5592
Total	**0.3823**	**0.1265**	**0.6061**	**1.0200e-003**	**0.0716**	**1.9200e-003**	**0.0736**	**0.0191**	**1.7600e-003**	**0.0209**		**93.4664**	**93.4664**	**4.4200e-003**	**0.0000**	**93.5593**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2014	5/21/2014	5	15	
2	Site Preparation	Site Preparation	5/22/2014	5/26/2014	5	3	
3	Grading	Grading	5/27/2014	6/23/2014	5	20	
4	Building Construction	Building Construction	6/24/2014	9/1/2014	5	50	

Acres of Grading (Site Preparation Phase): 0.3

Acres of Grading (Grading Phase): 0.3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 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
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	22.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	250.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	5.00	2.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3150	0.0000	0.3150	0.0477	0.0000	0.0477			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904		1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.3150**	**0.9304**	**1.2454**	**0.0477**	**0.8904**	**0.9380**		**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.0397	0.5704	0.3606	1.1100e-003	0.0256	0.0104	0.0360	6.9900e-003	9.5700e-003	0.0166		113.7160	113.7160	1.0700e-003		113.7386
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	0.0495	0.0584	0.6807	1.1300e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		101.7312	101.7312	5.7300e-003		101.8515
Total	**0.0892**	**0.6288**	**1.0413**	**2.2400e-003**	**0.1199**	**0.0112**	**0.1311**	**0.0320**	**0.0103**	**0.0423**		**215.4472**	**215.4472**	**6.8000e-003**		**215.5901**

3.2 Demolition - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1418	0.0000	0.1418	0.0215	0.0000	0.0215			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904	0.0000	1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.1418**	**0.9304**	**1.0722**	**0.0215**	**0.8904**	**0.9118**	**0.0000**	**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.0397	0.5704	0.3606	1.1100e-003	0.0256	0.0104	0.0360	6.9900e-003	9.5700e-003	0.0166		113.7160	113.7160	1.0700e-003		113.7386
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	0.0495	0.0584	0.6807	1.1300e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		101.7312	101.7312	5.7300e-003		101.8515
Total	**0.0892**	**0.6288**	**1.0413**	**2.2400e-003**	**0.1199**	**0.0112**	**0.1311**	**0.0320**	**0.0103**	**0.0423**		**215.4472**	**215.4472**	**6.8000e-003**		**215.5901**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1061	0.0000	0.1061	0.0115	0.0000	0.0115			0.0000			0.0000
Off-Road	1.4341	14.4817	7.3936	9.3700e-003		0.8920	0.8920		0.8206	0.8206		995.1971	995.1971	0.2941		1,001.3730
Total	**1.4341**	**14.4817**	**7.3936**	**9.3700e-003**	**0.1061**	**0.8920**	**0.9981**	**0.0115**	**0.8206**	**0.8321**		**995.1971**	**995.1971**	**0.2941**		**1,001.3730**

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	0.0247	0.0292	0.3404	5.7000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		50.8656	50.8656	2.8600e-003		50.9258
Total	**0.0247**	**0.0292**	**0.3404**	**5.7000e-004**	**0.0472**	**4.2000e-004**	**0.0476**	**0.0125**	**3.8000e-004**	**0.0129**		**50.8656**	**50.8656**	**2.8600e-003**		**50.9258**

3.3 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0477	0.0000	0.0477	5.1500e-003	0.0000	5.1500e-003			0.0000			0.0000
Off-Road	1.4341	14.4817	7.3936	9.3700e-003		0.8920	0.8920		0.8206	0.8206	0.0000	995.1971	995.1971	0.2941		1,001.3730
Total	**1.4341**	**14.4817**	**7.3936**	**9.3700e-003**	**0.0477**	**0.8920**	**0.9397**	**5.1500e-003**	**0.8206**	**0.8258**	**0.0000**	**995.1971**	**995.1971**	**0.2941**		**1,001.3730**

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	0.0247	0.0292	0.3404	5.7000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		50.8656	50.8656	2.8600e-003		50.9258
Total	**0.0247**	**0.0292**	**0.3404**	**5.7000e-004**	**0.0472**	**4.2000e-004**	**0.0476**	**0.0125**	**3.8000e-004**	**0.0129**		**50.8656**	**50.8656**	**2.8600e-003**		**50.9258**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7800	0.0000	0.7800	0.4172	0.0000	0.4172			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904		1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.7800**	**0.9304**	**1.7104**	**0.4172**	**0.8904**	**1.3076**		**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.3386	4.8616	3.0731	9.4300e-003	0.2177	0.0887	0.3065	0.0596	0.0816	0.1412		969.1706	969.1706	9.1500e-003		969.3627
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	0.0495	0.0584	0.6807	1.1300e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		101.7312	101.7312	5.7300e-003		101.8515
Total	**0.3881**	**4.9200**	**3.7538**	**0.0106**	**0.3120**	**0.0896**	**0.4016**	**0.0846**	**0.0824**	**0.1670**		**1,070.9017**	**1,070.9017**	**0.0149**		**1,071.2142**

3.4 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3510	0.0000	0.3510	0.1877	0.0000	0.1877			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904	0.0000	1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.3510**	**0.9304**	**1.2814**	**0.1877**	**0.8904**	**1.0781**	**0.0000**	**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.3386	4.8616	3.0731	9.4300e-003	0.2177	0.0887	0.3065	0.0596	0.0816	0.1412		969.1706	969.1706	9.1500e-003		969.3627
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	0.0495	0.0584	0.6807	1.1300e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		101.7312	101.7312	5.7300e-003		101.8515
Total	**0.3881**	**4.9200**	**3.7538**	**0.0106**	**0.3120**	**0.0896**	**0.4016**	**0.0846**	**0.0824**	**0.1670**		**1,070.9017**	**1,070.9017**	**0.0149**		**1,071.2142**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4930	14.8331	8.3419	0.0113		1.0334	1.0334		0.9507	0.9507		1,204.3497	1,204.3497	0.3559		1,211.8235
Total	**1.4930**	**14.8331**	**8.3419**	**0.0113**		**1.0334**	**1.0334**		**0.9507**	**0.9507**		**1,204.3497**	**1,204.3497**	**0.3559**		**1,211.8235**

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	0.0286	0.2593	0.2697	4.8000e-004	0.0133	5.1300e-003	0.0184	3.8000e-003	4.7100e-003	8.5100e-003		49.0339	49.0339	5.1000e-004		49.0446
Worker	0.0247	0.0292	0.3404	5.7000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		50.8656	50.8656	2.8600e-003		50.9258
Total	**0.0533**	**0.2885**	**0.6101**	**1.0500e-003**	**0.0605**	**5.5500e-003**	**0.0660**	**0.0163**	**5.0900e-003**	**0.0214**		**99.8995**	**99.8995**	**3.3700e-003**		**99.9703**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4930	14.8331	8.3419	0.0113		1.0334	1.0334		0.9507	0.9507	0.0000	1,204.3497	1,204.3497	0.3559		1,211.8235
Total	**1.4930**	**14.8331**	**8.3419**	**0.0113**		**1.0334**	**1.0334**		**0.9507**	**0.9507**	**0.0000**	**1,204.3497**	**1,204.3497**	**0.3559**		**1,211.8235**

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	0.0286	0.2593	0.2697	4.8000e-004	0.0133	5.1300e-003	0.0184	3.8000e-003	4.7100e-003	8.5100e-003		49.0339	49.0339	5.1000e-004		49.0446
Worker	0.0247	0.0292	0.3404	5.7000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		50.8656	50.8656	2.8600e-003		50.9258
Total	**0.0533**	**0.2885**	**0.6101**	**1.0500e-003**	**0.0605**	**5.5500e-003**	**0.0660**	**0.0163**	**5.0900e-003**	**0.0214**		**99.8995**	**99.8995**	**3.3700e-003**		**99.9703**

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	0.0653	0.1265	0.6061	1.0200e-003	0.0716	1.9200e-003	0.0736	0.0191	1.7600e-003	0.0209		93.4663	93.4663	4.4200e-003		93.5592
Unmitigated	0.0653	0.1265	0.6061	1.0200e-003	0.0716	1.9200e-003	0.0736	0.0191	1.7600e-003	0.0209		93.4663	93.4663	4.4200e-003		93.5592

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	15.90	15.90	15.90	33,944	33,944
Total	15.90	15.90	15.90	33,944	33,944

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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552333	0.058138	0.185246	0.125281	0.029961	0.004506	0.012317	0.020953	0.001764	0.001280	0.005920	0.000536	0.001765

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Unmitigated	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005

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	0.0373					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Total	**0.3170**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-005**	**7.0000e-005**	**0.0000**		**7.0000e-005**

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	0.0373					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Total	**0.3170**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-005**	**7.0000e-005**	**0.0000**		**7.0000e-005**

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 Vegetation

Orchard Gardens Park

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.30	Acre	0.30	13,068.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2014
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Adjusted construction schedule for the park project

Grading - Added import/export to account for potential soil remediation

Demolition - 4,800 SF total building demo

Vehicle Trips - 16 trips per day assumed

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	1.00	3.00
tblGrading	AcresOfGrading	0.00	0.30
tblGrading	AcresOfGrading	1.50	0.30
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblVehicleTrips	ST_TR	1.59	53.00
tblVehicleTrips	SU_TR	1.59	53.00
tblVehicleTrips	WD_TR	1.59	53.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	1.9388	17.6814	13.4270	0.0225	1.0920	1.0390	2.1123	0.5018	0.9730	1.4749	0.0000	2,267.7267	2,267.7267	0.3593	0.0000	2,275.2717
Total	**1.9388**	**17.6814**	**13.4270**	**0.0225**	**1.0920**	**1.0390**	**2.1123**	**0.5018**	**0.9730**	**1.4749**	**0.0000**	**2,267.7267**	**2,267.7267**	**0.3593**	**0.0000**	**2,275.2717**

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					
2014	1.9388	17.6814	13.4270	0.0225	0.6630	1.0390	1.6833	0.2724	0.9730	1.2454	0.0000	2,267.7267	2,267.7267	0.3593	0.0000	2,275.2717
Total	**1.9388**	**17.6814**	**13.4270**	**0.0225**	**0.6630**	**1.0390**	**1.6833**	**0.2724**	**0.9730**	**1.2454**	**0.0000**	**2,267.7267**	**2,267.7267**	**0.3593**	**0.0000**	**2,275.2717**

	ROG	NOx	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**	**39.28**	**0.00**	**20.31**	**45.72**	**0.00**	**15.56**	**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	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0689	0.1406	0.6687	9.5000e-004	0.0716	1.9400e-003	0.0736	0.0191	1.7800e-003	0.0209		87.4009	87.4009	4.4200e-003		87.4938
Total	**0.3859**	**0.1406**	**0.6687**	**9.5000e-004**	**0.0716**	**1.9400e-003**	**0.0736**	**0.0191**	**1.7800e-003**	**0.0209**		**87.4009**	**87.4009**	**4.4200e-003**	**0.0000**	**87.4938**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0689	0.1406	0.6687	9.5000e-004	0.0716	1.9400e-003	0.0736	0.0191	1.7800e-003	0.0209		87.4009	87.4009	4.4200e-003		87.4938
Total	**0.3859**	**0.1406**	**0.6687**	**9.5000e-004**	**0.0716**	**1.9400e-003**	**0.0736**	**0.0191**	**1.7800e-003**	**0.0209**		**87.4009**	**87.4009**	**4.4200e-003**	**0.0000**	**87.4938**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2014	5/21/2014	5	15	
2	Site Preparation	Site Preparation	5/22/2014	5/26/2014	5	3	
3	Grading	Grading	5/27/2014	6/23/2014	5	20	
4	Building Construction	Building Construction	6/24/2014	9/1/2014	5	50	

Acres of Grading (Site Preparation Phase): 0.3

Acres of Grading (Grading Phase): 0.3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 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
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	22.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	250.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	5.00	2.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3150	0.0000	0.3150	0.0477	0.0000	0.0477			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904		1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.3150**	**0.9304**	**1.2454**	**0.0477**	**0.8904**	**0.9380**		**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.0465	0.6005	0.4591	1.1100e-003	0.0256	0.0105	0.0360	6.9900e-003	9.6100e-003	0.0166		113.4524	113.4524	1.0800e-003		113.4751
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	0.0500	0.0714	0.6617	1.0400e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		93.5564	93.5564	5.7300e-003		93.6767
Total	**0.0964**	**0.6719**	**1.1207**	**2.1500e-003**	**0.1199**	**0.0113**	**0.1311**	**0.0320**	**0.0104**	**0.0424**		**207.0087**	**207.0087**	**6.8100e-003**		**207.1518**

3.2 Demolition - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1418	0.0000	0.1418	0.0215	0.0000	0.0215			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904	0.0000	1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.1418**	**0.9304**	**1.0722**	**0.0215**	**0.8904**	**0.9118**	**0.0000**	**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.0465	0.6005	0.4591	1.1100e-003	0.0256	0.0105	0.0360	6.9900e-003	9.6100e-003	0.0166		113.4524	113.4524	1.0800e-003		113.4751
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	0.0500	0.0714	0.6617	1.0400e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		93.5564	93.5564	5.7300e-003		93.6767
Total	**0.0964**	**0.6719**	**1.1207**	**2.1500e-003**	**0.1199**	**0.0113**	**0.1311**	**0.0320**	**0.0104**	**0.0424**		**207.0087**	**207.0087**	**6.8100e-003**		**207.1518**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1061	0.0000	0.1061	0.0115	0.0000	0.0115			0.0000			0.0000
Off-Road	1.4341	14.4817	7.3936	9.3700e-003		0.8920	0.8920		0.8206	0.8206		995.1971	995.1971	0.2941		1,001.3730
Total	**1.4341**	**14.4817**	**7.3936**	**9.3700e-003**	**0.1061**	**0.8920**	**0.9981**	**0.0115**	**0.8206**	**0.8321**		**995.1971**	**995.1971**	**0.2941**		**1,001.3730**

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	0.0250	0.0357	0.3308	5.2000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		46.7782	46.7782	2.8600e-003		46.8383
Total	**0.0250**	**0.0357**	**0.3308**	**5.2000e-004**	**0.0472**	**4.2000e-004**	**0.0476**	**0.0125**	**3.8000e-004**	**0.0129**		**46.7782**	**46.7782**	**2.8600e-003**		**46.8383**

3.3 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0477	0.0000	0.0477	5.1500e-003	0.0000	5.1500e-003			0.0000			0.0000
Off-Road	1.4341	14.4817	7.3936	9.3700e-003		0.8920	0.8920		0.8206	0.8206	0.0000	995.1971	995.1971	0.2941		1,001.3730
Total	**1.4341**	**14.4817**	**7.3936**	**9.3700e-003**	**0.0477**	**0.8920**	**0.9397**	**5.1500e-003**	**0.8206**	**0.8258**	**0.0000**	**995.1971**	**995.1971**	**0.2941**		**1,001.3730**

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	0.0250	0.0357	0.3308	5.2000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		46.7782	46.7782	2.8600e-003		46.8383
Total	**0.0250**	**0.0357**	**0.3308**	**5.2000e-004**	**0.0472**	**4.2000e-004**	**0.0476**	**0.0125**	**3.8000e-004**	**0.0129**		**46.7782**	**46.7782**	**2.8600e-003**		**46.8383**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7800	0.0000	0.7800	0.4172	0.0000	0.4172			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904		1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.7800**	**0.9304**	**1.7104**	**0.4172**	**0.8904**	**1.3076**		**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.3959	5.1178	3.9126	9.4200e-003	0.2177	0.0891	0.3068	0.0596	0.0819	0.1415		966.9235	966.9235	9.2400e-003		967.1176
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	0.0500	0.0714	0.6617	1.0400e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		93.5564	93.5564	5.7300e-003		93.6767
Total	**0.4459**	**5.1892**	**4.5742**	**0.0105**	**0.3120**	**0.0899**	**0.4019**	**0.0846**	**0.0827**	**0.1673**		**1,060.4799**	**1,060.4799**	**0.0150**		**1,060.7943**

3.4 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3510	0.0000	0.3510	0.1877	0.0000	0.1877			0.0000			0.0000
Off-Road	1.4929	12.4922	8.8528	0.0121		0.9304	0.9304		0.8904	0.8904	0.0000	1,207.2469	1,207.2469	0.2515		1,212.5281
Total	**1.4929**	**12.4922**	**8.8528**	**0.0121**	**0.3510**	**0.9304**	**1.2814**	**0.1877**	**0.8904**	**1.0781**	**0.0000**	**1,207.2469**	**1,207.2469**	**0.2515**		**1,212.5281**

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	0.3959	5.1178	3.9126	9.4200e-003	0.2177	0.0891	0.3068	0.0596	0.0819	0.1415		966.9235	966.9235	9.2400e-003		967.1176
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	0.0500	0.0714	0.6617	1.0400e-003	0.0943	8.3000e-004	0.0951	0.0250	7.6000e-004	0.0258		93.5564	93.5564	5.7300e-003		93.6767
Total	**0.4459**	**5.1892**	**4.5742**	**0.0105**	**0.3120**	**0.0899**	**0.4019**	**0.0846**	**0.0827**	**0.1673**		**1,060.4799**	**1,060.4799**	**0.0150**		**1,060.7943**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4930	14.8331	8.3419	0.0113		1.0334	1.0334		0.9507	0.9507		1,204.3497	1,204.3497	0.3559		1,211.8235
Total	**1.4930**	**14.8331**	**8.3419**	**0.0113**		**1.0334**	**1.0334**		**0.9507**	**0.9507**		**1,204.3497**	**1,204.3497**	**0.3559**		**1,211.8235**

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	0.0354	0.2714	0.3732	4.8000e-004	0.0133	5.1900e-003	0.0185	3.8000e-003	4.7700e-003	8.5700e-003		48.6651	48.6651	5.2000e-004		48.6760
Worker	0.0250	0.0357	0.3308	5.2000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		46.7782	46.7782	2.8600e-003		46.8383
Total	**0.0604**	**0.3071**	**0.7040**	**1.0000e-003**	**0.0605**	**5.6100e-003**	**0.0661**	**0.0163**	**5.1500e-003**	**0.0215**		**95.4433**	**95.4433**	**3.3800e-003**		**95.5144**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4930	14.8331	8.3419	0.0113		1.0334	1.0334		0.9507	0.9507	0.0000	1,204.3497	1,204.3497	0.3559		1,211.8235
Total	**1.4930**	**14.8331**	**8.3419**	**0.0113**		**1.0334**	**1.0334**		**0.9507**	**0.9507**	**0.0000**	**1,204.3497**	**1,204.3497**	**0.3559**		**1,211.8235**

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	0.0354	0.2714	0.3732	4.8000e-004	0.0133	5.1900e-003	0.0185	3.8000e-003	4.7700e-003	8.5700e-003		48.6651	48.6651	5.2000e-004		48.6760
Worker	0.0250	0.0357	0.3308	5.2000e-004	0.0472	4.2000e-004	0.0476	0.0125	3.8000e-004	0.0129		46.7782	46.7782	2.8600e-003		46.8383
Total	**0.0604**	**0.3071**	**0.7040**	**1.0000e-003**	**0.0605**	**5.6100e-003**	**0.0661**	**0.0163**	**5.1500e-003**	**0.0215**		**95.4433**	**95.4433**	**3.3800e-003**		**95.5144**

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	0.0689	0.1406	0.6687	9.5000e-004	0.0716	1.9400e-003	0.0736	0.0191	1.7800e-003	0.0209		87.4009	87.4009	4.4200e-003		87.4938
Unmitigated	0.0689	0.1406	0.6687	9.5000e-004	0.0716	1.9400e-003	0.0736	0.0191	1.7800e-003	0.0209		87.4009	87.4009	4.4200e-003		87.4938

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	15.90	15.90	15.90	33,944	33,944
Total	15.90	15.90	15.90	33,944	33,944

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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552333	0.058138	0.185246	0.125281	0.029961	0.004506	0.012317	0.020953	0.001764	0.001280	0.005920	0.000536	0.001765

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Unmitigated	0.3170	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005

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	0.0373					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Total	**0.3170**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-005**	**7.0000e-005**	**0.0000**		**7.0000e-005**

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	0.0373					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.0000e-005	7.0000e-005	0.0000		7.0000e-005
Total	**0.3170**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.0000e-005**	**7.0000e-005**	**0.0000**		**7.0000e-005**

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 Vegetation