



INITIAL STUDY ♦ MITIGATED NEGATIVE DECLARATION



575 Los Trancos Road Residential Project

PREPARED BY

City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301
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**PREPARED WITH
THE ASSISTANCE OF**

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REPORT DATE

August 2022

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INITIAL STUDY

1. PROJECT TITLE

575 Los Trancos Road Residential Project

2. LEAD AGENCY NAME AND ADDRESS

City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

3. CONTACT PERSON AND PHONE NUMBER

Emily Foley, AICP, Associate Planner
(650) 617-3125

4. PROJECT SPONSOR'S NAME AND ADDRESS

Innovative Homes LLC
c/o John Suppes
412 Olive Avenue
Palo Alto, California 94306

5. PROJECT LOCATION

The project site is located at 575 Los Trancos Road in the City of Palo Alto and consists of a single 5.38-acre (234,352 square-foot) parcel. The assessor's parcel number is 182-46-012. The project site is located on the western side of Los Trancos Road approximately 0.8 miles south of its intersection with Alpine Road. Regional access to the site is available via Interstate 280 (I-280) and State Route (SR) 84. Figure 1 shows the site location in a regional context. Figure 2 shows the location of the site relative to the surrounding area.

6. GENERAL PLAN DESIGNATION

The site is designated as Open Space/Controlled Development. The City's Comprehensive Plan Land Use and Community Design Element (2017) defines this category as "land having all the characteristics of open space but where some development may be allowed on private properties. Open space amenities must be retained in these areas. Residential densities range from 0.1 to 1 dwelling unit per acre but may rise to a maximum of 2 units per acre where second units are allowed, and population densities range from 1 to 4 persons per acre."

Figure 1 Regional Location

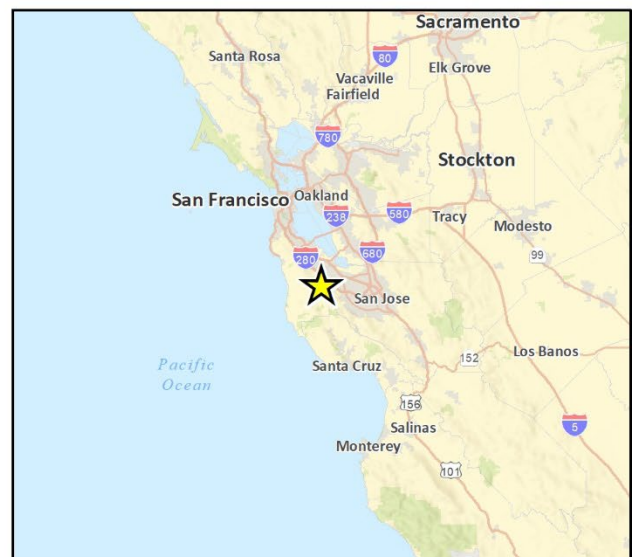
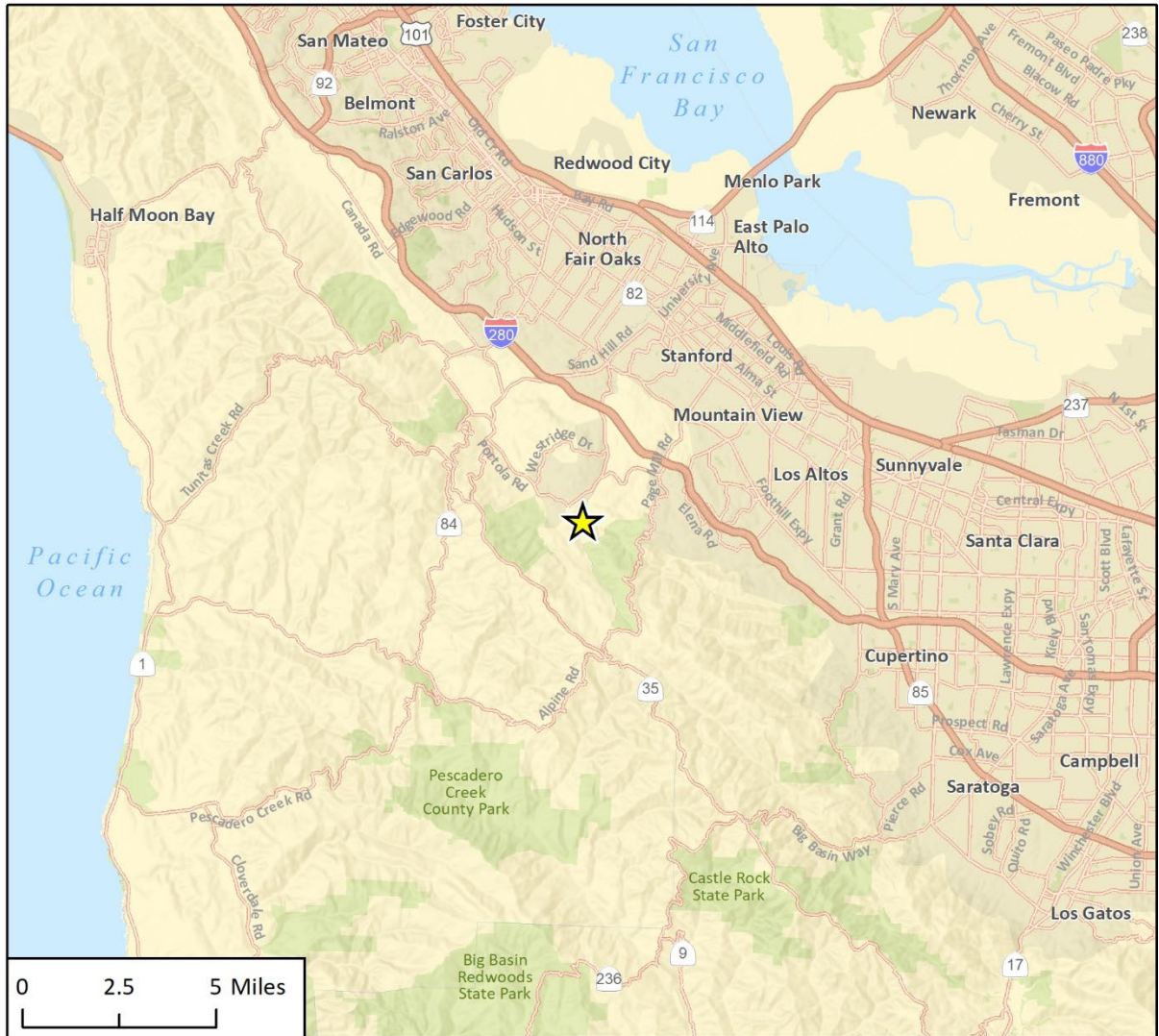
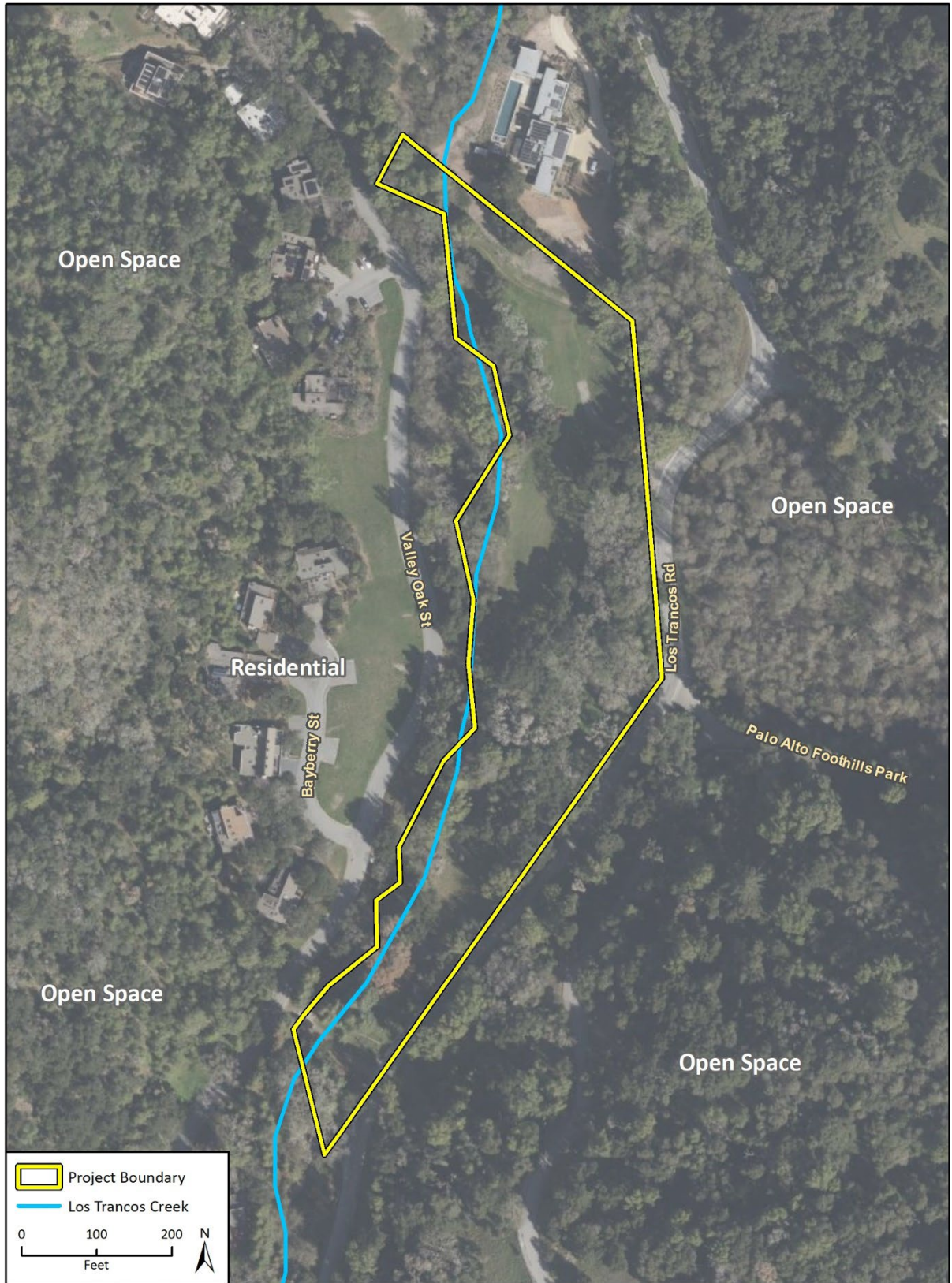


Fig 1 Regional Location

Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2022.
Additional data provided by National Hydrography Dataset, 2022.

Fig 2 Project Site location

7. ZONING

The site is zoned Open Space (OS). Palo Alto Municipal Code (PAMC) Section 18.28.010(b) defines the OS district as “intended to protect the public health, safety and welfare, protect and preserve open space land as a limited and valuable resource, and to permit the reasonable use of open space land, while at the same time preserving and protecting its inherent open space characteristics to assure its continued availability for the following: as agricultural land, scenic land, recreation land, conservation or natural resource land; for the containment of urban sprawl and the structuring of urban development; and for the retention of land in its natural or near-natural state, and to protect life and property in the community from the hazards of fire, flood, and seismic activity; and coordinate with and carry out federal, state, regional, county, and city open space plans.”

8. LOCATION AND EXISTING SETTING

The project site is located in the southern extension of the City of Palo Alto where the predominant land use designations and land uses are Open Space/Controlled Development and Public Conservation Land. The site is surrounded by undeveloped areas and low-density residential. To the north of the site is a residence, Los Trancos Creek is located along the western boundary of the site, and undeveloped lands are located to the south and east of the site and further east beyond Los Trancos Road. Los Trancos Road abuts the project site to the east. The project site is an undeveloped and vacant lot, dominated by oak woodland, riparian woodland, and non-native grasses. Figure 3 and Figure 4 show photographs of the project site.

PROJECT DESCRIPTION

The proposed project would involve the construction of a 7,245 square-foot single-family residence and 734 square-foot attached garage, an 895 square-foot accessory dwelling unit (ADU), and associated amenities including a 4.5-foot-deep swimming pool in the flat, western portion of the site. The main residence would have a maximum height of 25 feet and would consist of two stories, a 6,030 square-foot first floor and 1,215 square foot second floor. The proposed lot coverage would be 9,374 square feet of the total lot area of 234,352 square feet (5.38 acres) which would result in a total lot coverage of four percent of the total site.

The project would include 30-foot setbacks on the front, sides, and rear of the property. Design materials would include natural dark-stained vertical grain wood/wood-clad sliding and slats, smooth-finish cement plaster in an earth-tone gray color, a smooth dark painted finish along trim, and large windows. Figure 5 shows the proposed site plan.

Figure 3 Project Site Photographs 1 and 2



Photograph 1. View from near the center of the project site looking north



Photograph 2. View from near the center of the project site looking south

Figure 4 Project Site Photographs 3 and 4

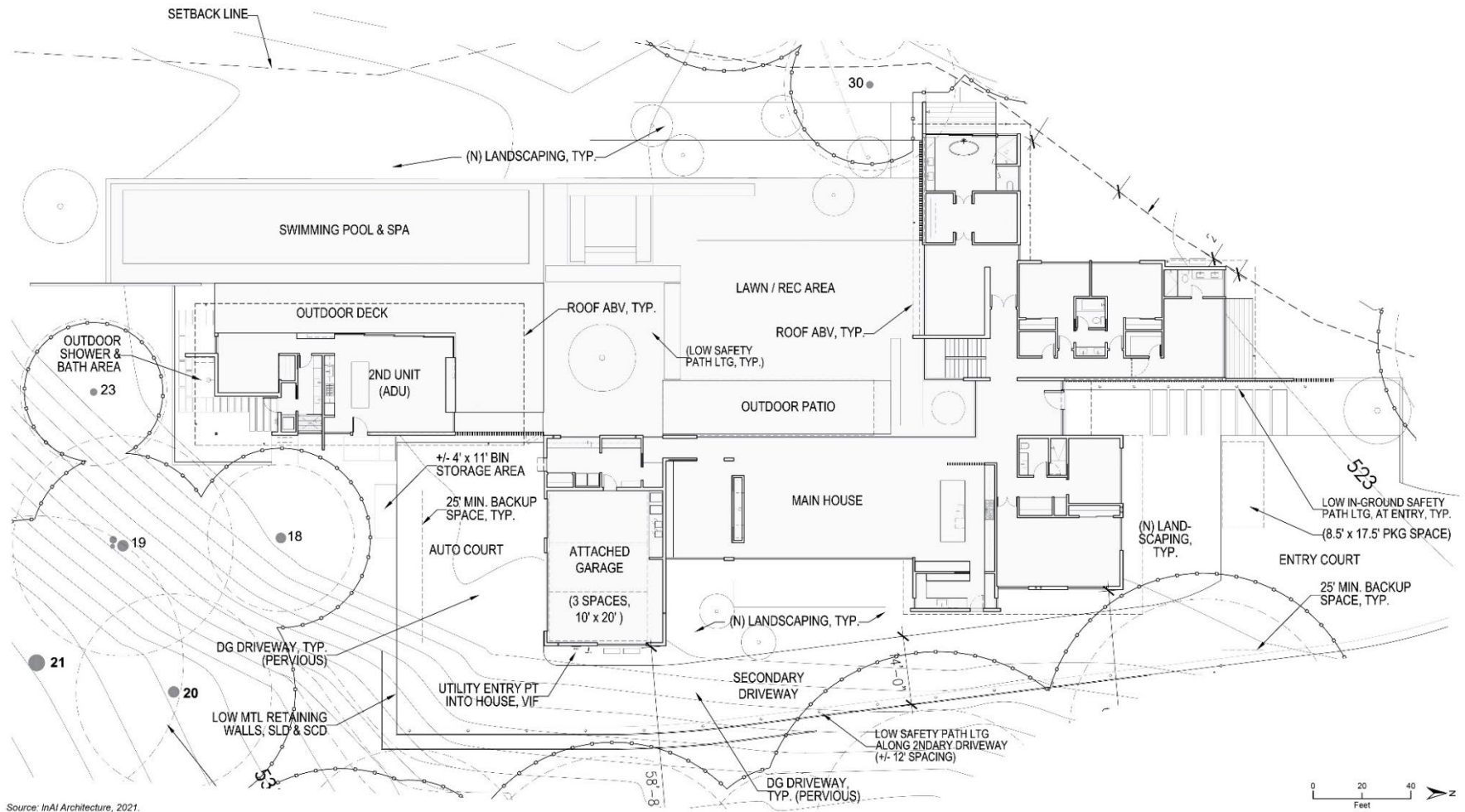


Photograph 3. View of the project site from southeast Los Trancos Road



Photograph 4. View of the project site from eastern Los Trancos Road

Figure 5 Proposed Site Plan



Access to the project site would be via a new curved driveway that would extend from Los Trancos Road toward the northern portion of the site and curve back toward the residence and attached three-car garage. The driveway would have a 14-foot width to accommodate fire trucks and at its termination at the residence would allow for fire truck turnaround. The project would include a 20 feet creek setback pursuant to Palo Alto's Stream Corridor Ordinance (Section 18.40.140 of the PAMC).

LANDSCAPING AND OPEN SPACE

Landscaping on the project site would be limited to the immediate perimeter of the proposed project. Along the perimeter of the residence, landscaping would consist of California native grasses and trees including but not limited to Bigleaf maple (*Acer macrophyllum*), Coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), Chokecherry (*Prunus virginiana*), Interior live oak (*Quercus wislizeni*), Blue elderberry (*Sambucus Mexicana*), Arroyo Willow (*Salix lasiolepis*), Concha California lilac (*Ceanothus Concha*), California Coffeeberry (*Frangula californica*), Toyon (*Heteromeles arbutifolia*), White pitcher sage (*Lepechinia calycina*), California honeysuckle (*Lonicera hispidula*), Pacific wax myrtle (*Myrica californica*), Golden currant (*Ribes aureum* var. *Gracillimum*), California Wild Rose (*Rosa Californica*), Common Yarrow (*Achillea millefolium*), Mugwort (*Artemisia douglasiana*), Crevice alumroot (*Heuchera micrantha*), Bee's bliss purple sage (*Salvia leucophylla* 'Bee's Bliss'), Yerba Buena (*Clinopodium douglasii*), Woodland strawberry (*Fragaria vesca*). Landscaping would be used primarily for screening and creek side planting.

CONSTRUCTION

Construction of the project would include site preparation, grading, building construction, paving, and architectural coating phases. Construction would occur over an estimated 14 months. The project would require approximately 280 cubic yards of soil (80 cubic yards for the house and 200 cubic yards for the pool) which would be dispersed evenly throughout the site and would not be exported. Construction activities would occur Monday through Friday between the hours of 8:00 a.m. and 6:00 p.m. and Saturday between the hours of 9:00 a.m. and 6:00 p.m.

PALO ALTO GREEN BUILDING CHECKLIST

In addition to California Building Code (CBC) requirements, the City of Palo Alto has adopted more stringent green building regulations. The Palo Alto Green Building Ordinance (Ord. 5393, 2020) requires applicants to incorporate sustainable design, construction, and operational requirements into most single-family residential, multi-family residential, and non-residential projects. For residential development, the City has adopted California Green Building Standards Code (CALGreen) Tier 1 for additions and renovations over 1,000 square feet and CALGreen for Tier 2 for new construction pursuant to Palo Alto Municipal Code (PAMC) Section 16.14. To achieve Tier 2 status, a project must comply with the requirements identified in CALGreen Appendix A4, Division A4.601.5 and be 10 percent more energy efficient than the base CALGreen code

requirements. In accordance with the City's Green Building Ordinance, the proposed project would satisfy requirements for CALGreen Tier 2. The project would be all electric and would utilize a 10-kilowatt renewable energy system. Additionally, heat pump technology would be used for water heating, including for the proposed pool, and space heating.

9. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The City of Palo Alto is the lead agency with jurisdiction over adoption of the proposed project and certification of the CEQA document. No other public agency's discretionary approval is required.

10. HAVE CALIFORNIA NATIVE AMERICAN TRIBES TRADITIONALLY AND CULTURALLY AFFILIATED WITH THE PROJECT AREA REQUESTED CONSULTATION PURSUANT TO PUBLIC RESOURCES CODE SECTION 21080.3.1? IF SO, IS THERE A PLAN FOR CONSULTATION THAT INCLUDES, FOR EXAMPLE, THE DETERMINATION OF SIGNIFICANCE OF IMPACTS TO TRIBAL CULTURAL RESOURCES, PROCEDURES REGARDING CONFIDENTIALITY, ETC?

No California Native American Tribes have requested consultation pursuant to Public Resources Code Section 21080.3.1.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

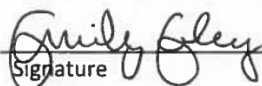
This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input checked="" type="checkbox"/>	Geology/Soils	<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards & Hazardous Materials
<input checked="" type="checkbox"/>	Hydrology/Water Quality	<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Noise	<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Recreation	<input type="checkbox"/>	Transportation	<input type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Utilities/Service Systems	<input type="checkbox"/>	Wildfire	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

DETERMINATION

Based on this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to 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 potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

Emily Foley
Printed Name

8/1/22
Date

Planner
Title

DETERMINATION

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ENVIRONMENTAL CHECKLIST

1	Aesthetics			
	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Except as provided in Public Resources Code Section 21099, would the project:</i>				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

The project site is located within an area that consists primarily of open space, but limited development is allowed on private properties. North of the site is a single-family residence, to the west are single-family residences, to the east is open space, and to the northeast is a single-family residence. Residences are surrounded by dense tree cover and are set back from roadways. From the project site, there are views of nearby hillsides.

Skyline Boulevard, identified in the City's Comprehensive Plan as a scenic route, is located approximately 2.5 miles west of the project site.

IMPACT ANALYSIS

a. *Would the project have a substantial adverse effect on a scenic vista?*

Views from and through the project site from public viewpoints such as the surrounding streets of Los Trancos Road and Valley Oak and from the Sweet Springs Trail are of trees, open space, and glimpses of surrounding single-family development through vegetation.

There are no vistas classified as significant or scenic in the vicinity of the project site (City of Palo Alto 2017a). Views from public viewpoints through the site would not substantially change, as trees and topography would generally screen the proposed buildings from view. The proposed project would not have a substantial adverse effect on a scenic vista. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

State Scenic Highways designated by the California Department of Transportation (Caltrans) near the project site include State Route (SR) 35 to the west and SR 280 to the east (Caltrans 2019). The project site is not visible from either SR 35 or SR 280. The project site is not located near listed scenic routes in the City's comprehensive plan including Sand Hill Road, University Avenue between Middlefield Road and San Francisquito Creek, Embarcadero Road, Page Mill Road, Oregon Expressway, Interstate 280, Arastradero Road (west of Foothill Expressway), Junipero Serra Boulevard/Foothill Expressway and Skyline Boulevard (City of Palo Alto 2017a). Therefore, the proposed project would have no impact on scenic resources within a state scenic highway or within a scenic corridor identified in the comprehensive plan.

NO IMPACT

- c. Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Although the City of Palo Alto as a whole is an urbanized area, for the purposes of this analysis, the site is considered to be in a non-urbanized area due to its semi-rural character and open-space surroundings. Construction activities would temporarily alter the visual quality of the site. Construction of the project would require hauling of building materials and construction of below-grade foundations, the building itself, and landscaping. Construction activities would include the storage of equipment and materials onsite for several months. Due to the temporary nature of construction, these activities would not permanently degrade or modify the existing aesthetic image of the neighborhood, nor generate substantial long-term contrast with the visual character of the surrounding area. Therefore, visual quality impacts associated with construction would be less than significant.

The project site is undeveloped, and the introduction of a single-family residence would change the visual character of the project site from existing conditions. However, the proposed project would introduce a structure that would be generally consistent with the height and massing of the other nearby single-family residences. Consistent with the City of Palo Alto Comprehensive Plan controlled development designation, the project would result in one dwelling unit and an attached accessory dwelling unit. Proposed external materials

for the new buildings would adequately reflect and be compatible with the natural environment surrounding the project site. The project would also be required to comply with the single-family individual review guidelines for which a checklist is provided (City of Palo Alto 2005; 2022a). The purpose of the checklist is to ensure a project's compliance with the City of Palo Alto's Single-Family Individual Review Guidelines. Although grading would be required to prepare the site, the new development would generally be on the flatter portions of the site and no major grading or recontouring that would substantially alter the topography is proposed.

The project would include the removal of five trees for which there would be three replacement trees introduced to the site, consistent with the City of Palo Alto's Tree Technical Manual pursuant to Palo Alto Municipal Code (PAMC) Section 8.10.30. The majority of trees on the project site would remain and would be required to be preserved pursuant to PAMC Chapter 8.10 which provides standards for removal, maintenance, and planting of trees to, ultimately, preserve trees on the site. Because the majority of existing trees would remain on the project site, the proposed residence would be screened from travelers on nearby roadways and views through the project site of the new residence would be brief.

The proposed project would not significantly degrade the existing visual character or quality of the site and its surroundings. The proposed project's height, massing, and design would be consistent with nearby single-family development. Therefore, impacts related to visual character and quality would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Implementation of the proposed project would introduce new sources of light and glare to a site where there are currently no existing sources of light and glare. Potential new sources of lighting from the proposed project would include light visible through windows, car headlights, outdoor lighting, and exterior security lighting. The surrounding area consists of generally low levels of existing lighting. Primary sources of light adjacent to the project site are lighting associated with existing residences nearby. Lighting on the project site would be generally similar to existing lighting at residences nearby. Compliance with Single-Family individual Review Guidelines and PAMC Section 18.28.070(n) require that exterior lighting should be low-intensity and shielded from view and require utilization of treatments such as translucent glass, shading systems, and interior light placement. Adherence to these requirements would reduce night glare potential impacts from lighting. Impacts related to lighting would be less than significant.

Potential sources of glare from the proposed project would consist of windows, parked cars, and the pool. However, these sources of glare would be similar to nearby residences and would not result in a substantial new source of glare. The proposed residence would also be screened from the roadway and nearby residences by existing tree cover. Compliance with PAMC Section 18.28.070(n) would reduce potential impacts from glare to the night sky and off-site. Therefore, the proposed project would not create a substantial source of glare that

AESTHETICS

would adversely affect day or nighttime views. Impacts related to glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. <i>Conflict with existing zoning for agricultural use or a Williamson Act contract?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. <i>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))?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. <i>Result in the loss of forest land or conversion of forest land to non-forest use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- Would the project convert Prime Farmland, Unique Farmland, 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?*
- Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

- c. *Would the project 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. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*
- e. *Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The project is located on Other Land, pursuant to the Department of Conservation's (DOC) Important Farmland Finder (DOC 2014). The project site is not identified as prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, or grazing land. The project site is not enrolled in a Williamson Act contract, nor does it support forest land or resources; the site does not meet the definition of forest land, timberland, or timberland zoned Timberland Production in Public Resources Code (PRC) 12220(g), 4526, and 51104(g). The project site is not located on or adjacent to agricultural land or forest land and the proposed project would not involve development that could result in the conversion of farmland to non-agricultural uses. Therefore, the project would have no impact with respect to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use; conflict with existing agricultural zoning or Williamson Act contracts; result in the loss of forest land or conversion of forest land to non-forest use; or other conversion of farmland to non-agricultural use.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Conflict with or obstruct implementation of the applicable air quality plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <i>Expose sensitive receptors to substantial pollutant concentrations?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. <i>Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

AIR QUALITY STANDARDS AND ATTAINMENT

The project site is located within the San Francisco Bay Area Air Basin (the Basin), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). As the local air quality management agency, the BAAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether the standards are met or exceeded, the Basin is classified as being in “attainment” or “nonattainment.” Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The BAAQMD is in non-attainment for the state and federal ozone standards, the state and federal PM2.5 (particulate matter up to 2.5 microns in size) standards and the state PM10 (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement (BAAQMD2017a)

The health effects associated with criteria pollutants for which the Basin is in non-attainment are described in Table 1.

Table 1 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM ₁₀)	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). ^a
Suspended particulate matter (PM _{2.5})	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma. ^a

^a More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: United States Environmental Protection Agency (USEPA), Air Quality Criteria for Particulate Matter, 2004.
Source: USEPA 2018

AIR QUALITY MANAGEMENT

The Bay Area 2017 Clean Air Plan provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the Plan is to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with state air quality planning requirements as codified in the California Health & Safety Code. Although steady progress has been made toward reducing ozone levels in the Bay Area, the region continues to be designated as non-attainment for both the one-hour and eight-hour state ozone standards as noted previously. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, state law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins (BAAQMD 2017b).

In 2006, the United States Environmental Protection Agency (USEPA) tightened the national 24-hour PM_{2.5} standard regarding short-term exposure to fine particulate matter from 65 µg/m³ (micro-grams per cubic meter) to 35 µg/m³. Based on air quality monitoring data for years 2006-2008 showing that the region was slightly above the standard, the USEPA designated the Bay Area as non-attainment for the 24-hour national standard in December 2008. This triggered the requirement for the Bay Area to prepare a State Implementation Plan (SIP) submittal to demonstrate how the region would attain the standard. However, data for both the 2008-2010 and the 2009-2011 cycles showed that Bay Area PM_{2.5} levels currently meet the standard. On October 29, 2012, the USEPA issued a proposed rule to determine that the Bay Area has attained the 24-hour PM_{2.5} national standard. Based on this, the Bay Area is required to prepare an abbreviated SIP submittal that includes an

emission inventory for primary (directly emitted) PM_{2.5}, as well as precursor pollutants that contribute to formation of secondary PM in the atmosphere and amendments to the BAAQMD New Source Review to address PM_{2.5} (adopted December 2012).¹ However, key SIP requirements to demonstrate how a region will achieve the standard (i.e., the requirement to develop a plan to attain the standard) will be suspended as long as monitoring data continues to show that the Bay Area attains the standard.

In addition to preparing the “abbreviated” SIP submittal, the BAAQMD has prepared a report entitled Understanding Particulate Matter: Protecting Public Health in the San Francisco Bay Area (BAAQMD 2012). The report will help guide the BAAQMD’s ongoing efforts to analyze and reduce PM in the Bay Area to protect public health better. The Bay Area will continue to be designated as “non-attainment” for the national 24-hour PM_{2.5} standard until the district elects to submit a “redesignation request” and a “maintenance plan” to the USEPA, and the agency approves the proposed redesignation.

AIR EMISSION THRESHOLDS

This analysis uses the BAAQMD’s May 2017 CEQA Air Quality Guidelines to evaluate air quality. The May 2017 Guidelines include revisions made to the 2010 Guidelines, addressing the California Supreme Court’s 2015 opinion in the *Cal. Bldg. Indus. Ass’n vs. Bay Area Air Quality Mgmt. Dist.*, 62 Cal. 4th 369 (BAAQMD 2017c). Therefore, the numeric thresholds in the May 2017 BAAQMD CEQA Air Quality Thresholds were used for this analysis to determine whether the impacts of the project exceed the thresholds identified in Appendix G of the CEQA Guidelines.

The BAAQMD has developed screening criteria to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant air quality impacts. If all the screening criteria are met by a project, the lead agency or applicant would not need to perform a detailed air quality assessment of their project’s air pollutant emissions and air quality impacts would be considered less than significant. These screening levels are generally representative of new development on greenfield sites without any form of mitigation measures taken into consideration. For infill projects, such as this one, emissions would be less than the greenfield-type project on which the screening criteria are based (BAAQMD 2017c). The BAAQMD’s screening level sizes for single-family land uses is 325 dwelling units for operational criteria pollutant emissions and 114 dwelling units for construction-related emissions (BAAQMD 2017c).

For construction-related emissions to be considered less than significant, projects must meet the following criteria in addition to being below the applicable screening level:

1. All *Basic Construction Mitigation Measures* would be included in the project design and implemented during construction; and

¹ PM is made up of particles emitted directly, such as soot and fugitive dust, as well as secondary particles formed in the atmosphere from chemical reactions involving precursor pollutants such as oxides of nitrogen (NO_x), sulfur oxides (SO_x), volatile organic compounds (VOC), and ammonia (NH₃).

2. Construction-related activities would not include any of the following:
 - a. Demolition
 - b. Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would not occur simultaneously)
 - c. Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development)
 - d. Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement)
 - e. Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity

IMPACT ANALYSIS

- a. *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The California Clean Air Act requires that air districts create a Clean Air Plan that describes how the jurisdiction will meet air quality standards. The most recently adopted air quality plan is the BAAQMD 2017 Plan. The 2017 Plan updates the most recent Bay Area plan, the 2010 Clean Air Plan, pursuant to air quality planning requirements defined in the California Health and Safety Code. To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors—ROG and NO_x—and reduce transport of ozone and its precursors to neighboring air basins. The CAP builds upon and enhances the BAAQMD's efforts to reduce emissions of fine particulate matter and TACs. The 2017 Plan does not include control measures that apply directly to individual development projects. Instead, the control strategy includes control measures related to stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

The 2017 CAP focuses on two paramount goals:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

Under BAAQMD's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan
- Includes applicable control measures from the air quality plan
- Does not disrupt or hinder implementation of any air quality plan control measures

A project that would not support the 2017 Plan's goals would not be considered consistent with the 2017 Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support for the clean air plan's goals. As discussed under criterion (b) below, the project would not exceed BAAQMD significance thresholds related to air quality emissions, the project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Plan's goal to attain air quality standards. The 2017 Clean Air Plan includes goals and measures to increase the use of electric vehicles, promote the use of on-site renewable energy, and encourage energy efficiency. The project would include features that are consistent with these goals and measures, including meeting California Green Building Standards for residences and inclusion of efficient household fixtures, as well as being an all-electric development. Therefore, the project would not conflict with or obstruct the implementation of an applicable air quality plan and the project would have a less than significant impact.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

CONSTRUCTION

The proposed project would involve construction of one single-family residence and an associated accessory structure. The proposed project would not involve simultaneous construction phases, simultaneous construction of more than one land use type, extensive site preparation, or extensive material transport. Therefore, the project would meet all of the screening criteria for construction emissions.

FUGITIVE DUST

Site preparation and grading may cause wind-blown dust that could contribute particulate matter into the local atmosphere. The BAAQMD has not established a quantitative threshold for fugitive dust emissions but rather states that projects that incorporate BMPs for fugitive dust control during construction, such as watering exposed surfaces and limiting vehicle speeds to 15 miles per hour, would have a less than significant impact related to fugitive dust emissions. The project does not expressly include implementation of these BMPs; therefore, construction-related fugitive dust emissions would be potentially significant and Mitigation Measure AQ-1 would be required.

OPERATION

For single-family residential uses such as the proposed project, BAAQMD's operational screening size is 325 dwelling units. Therefore, the project would meet the screening criteria for operational emissions. Operational emissions impacts would be less than significant.

MITIGATION MEASURE

AQ-1 BAAQMD Basic Construction Mitigation. The property owner or their designee shall implement the following measures during project construction to reduce dust fall-out emissions:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered or maintain at least 2 feet of freeboard.
- 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.
- Enclose, cover, water daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.)
- 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.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- 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 CCR Title 13, Section 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the City of Palo Alto or construction contractor 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.

SIGNIFICANCE AFTER MITIGATION

Mitigation Measure AQ-1 would ensure that the project comply with all BAAQMD basic mitigation, reducing construction emission impacts to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receivers nearest to the project site include single-family residences to the west and the single-family residence to the north. The California Air Resources Board (CARB) has identified diesel particulate matter (PM_{2.5}) as the primary airborne carcinogen in the state (CARB 2021). In addition, Toxic Air Contaminants (TAC) comprise a defined set of air pollutants that may pose a present or potential hazard to human health. Common sources of TACs and PM_{2.5} include gasoline stations, dry cleaners, diesel backup generators, truck distribution centers, freeways, and other major roadways (BAAQMD 2017c). The proposed project does not include construction of new gas stations, dry cleaners, highways, roadways, or other sources that could be considered a new permitted or non-permitted source of TAC or PM_{2.5} in proximity to receivers. In addition, the proposed project would not introduce a stationary source of emissions, nor would it result in particulate matter emissions greater than the BAAQMD threshold. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Table 3-3 in the BAAQMD's 2017 CEQA Guidelines provides odor screening distances for land uses that have the potential to generate substantial odor complaints. The odor-generating uses in the table include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants (BAAQMD 2017c). The proposed project involves residential uses and does not include any of the uses identified by the BAAQMD as odor-generating uses. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <i>Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <i>Have a substantial adverse effect on state or 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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <i>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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <i>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or as defined by the City of Palo Alto's Tree Preservation Ordinance (Municipal Code Section 8.10)?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

Rincon Consultants prepared a Biological Resources Constraints Analysis (BRCA) in November 2021 (Rincon Consultants 2021; Appendix A). The analysis in this Initial Study is based on the 2021 BRCA. As part of the report, Rincon conducted a field reconnaissance survey on October 5, 2021. During that field survey, three terrestrial vegetation communities or other land cover types were observed within the project site: Coast live oak woodland, non-native annual grassland, and riparian. Coast live oak woodland (*Quercus agrifolia* Forest and Woodland Alliance) is typically found on canyon bottoms, slopes, and flats with deep sandy or loamy soils throughout the inner and outer Coast Ranges, Transverse Ranges, and southern coast, usually below 1,200 meters. Coast live oak woodlands are widely distributed throughout the state from northern Mendocino County to San Diego County. This community is dominated by coast live oak (*Q. agrifolia*), often including California bay (*Umbellularia californica*) and Pacific madrone (*Arbutus menziesii*). Stands vary from open or continuous to savanna-like. Dense conditions support sparse understory vegetation including California blackberry (*Rubus ursinus*), poison oak, and snowberry (*Symphoricarpos spp.*), while more open stands have a grassy understory. Coast live oak woodland is found throughout the project site. Canopy cover is continuous to scattered, with a moderately dense understory of herbs and shrubs. Other observed tree species commonly associated with coast live oak woodland include California bay and California buckeye (*Aesculus californica*). The shrub layer of the coast live oak woodland is typically poorly developed and the herbaceous layer is mostly continuous with adjacent grasslands. Shrubs in the project site include poison oak, coyote brush, and California blackberry.

On the project site, non-native annual grassland primarily occurs in the interior of the site and is surrounded by coast live oak woodland. The majority of the non-native annual grassland within the project site has been previously mowed. Characteristic non-native annual grasses observed include wild oat (*Avena fatua*), Italian rye (*Festuca perennis*), and foxtail barley (*Hordeum murinum*). Many ruderal herbs were also present, including plantain (*Plantago spp.*).

Riparian habitat is found along Los Trancos Creek within the project site. This habitat type is similar to coast live oak woodland described above, with the distinction that it occurs along the banks of the creek and is considered riparian habitat.

IMPACT ANALYSIS

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Based on a review of agency databases and literature review, as well as the results of the reconnaissance survey of the project site, Rincon evaluated 85 special-status species (40 special-status plant species and 45 special-status animal species) documented within the

Mindego Hill, California USGS 7.5-minute topographic quadrangle and the surrounding eight quadrangles (*Woodside, Palo Alto, Mountain View, La Honda, Cupertino, Franklin Point, Big Basin, and Castle Rock Ridge*). Each of these 85 species was evaluated for its potential to occur in the project site. The majority of special-status species are not expected to occur based on the absence of suitable habitat and/or the project site being outside of the geographic range of the species. However, Mitigation Measure BIO-1 would require implementation of a Worker Environmental Awareness Program (WEAP) in order to aid workers in recognizing special-status species, which would reduce impacts to a less than significant level.

Of the 40 special-status plant species, one has a moderate potential to occur on the project site. Woodland woollythreads (*Monolopia gracilis*), CRPR 1B.2, can be found in a variety of habitat types, including some that occur on the project site, such as woodlands and grassy sites in openings. Blooming period for this species is March through July. Multiple occurrences of woodland woollythreads have been recorded within five miles of the project area, including the most recent occurrence from 2018 approximately one mile southwest of the project site. Therefore, the project has the potential to impact woodland woollythreads through removal of habitat and this impact is potentially significant. Mitigation Measure BIO-2 would be required to reduce impacts on woodland woollythreads and other special-status plant species to a less than significant level.

Of the 45 special-status animal species, nine have moderate to high potential to occur in habitat on the site: steelhead - central California coast (CCC) distinct population segment (steelhead) (*Oncorhynchus mykiss irideus*), Santa Cruz black salamander (*Aneides niger*), California giant salamander (*Dicamptodon ensatus*), California red-legged frog (*Rana draytonii*), western pond turtle (*Emys marmorata*), San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*) pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). Additionally, there is suitable nesting habitat throughout the project site for nesting birds, which are protected under the Migratory Bird Treaty Act and CDFW Fish and Game Code. Mitigation measures BIO-3 through BIO-7 would be required to reduce impacts on the above-mentioned special-status animal species to a less than significant level.

The project would include a 20-foot creek setback pursuant to Palo Alto's Stream Corridor Ordinance (Section 18.40.140 of the PAMC) and no direct impacts to aquatic habitat would occur. However, construction of the project would result in removal of vegetation and loss of terrestrial habitat on limited portions of the site, and runoff and erosion from the project site could indirectly impact aquatic species habitat. Critical habitat for steelhead is present in Los Trancos Creek, both within and immediately adjacent to the project site. Designated critical habitat is also located in several of the rivers surrounding the project site within five miles for coho Salmon, though the project site does not overlap with these rivers and no drainages onsite are connected to the other rivers where critical habitat is designated. The project would include a 20-foot creek setback pursuant to Palo Alto's Stream Corridor Ordinance and no direct impacts to steelhead critical habitat would occur. However, indirect impacts from runoff or erosion could impact water quality; therefore, the project has the potential to impact steelhead designated critical habitat and the impact is

potentially significant. Mitigation Measure BIO-3 would be required to address potential erosion and provided BMPs for protection of steelhead and aquatic habitats.

Additionally, although designated critical habitat for California red-legged frog and Bay checkerspot butterfly is located within five miles of the project area, the project does not overlap with either of these designated critical habitats.

MITIGATION MEASURES

The following mitigation measures are required:

- BIO-1 Worker Environmental Awareness Program (WEAP).** Prior to initiation of construction activities (including staging and mobilization) all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special-status resources that may occur in the construction area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and measures required to reduce impacts to biological resources within the work area. A qualified biologist shall prepare a fact sheet conveying this information for distribution to all contractors, their employers, and other personnel involved with construction. All employees shall sign a form provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The forms from all trainings shall be available to the City upon request to document compliance.
- BIO-2 Special-Status Plant Species Botanical Surveys.** A qualified biologist shall conduct a protocol level botanical survey, including a site visit during the blooming period of the target species in March through July. If the CRPR 1 rank plant is found, the plants shall be avoided by installing protective fencing and warning construction personnel of their presence through the WEAP training. If special-status plants species cannot be avoided, impacts shall be mitigated at a minimum ratio of 1:1 (number of acres or individuals restored to number of acres or individuals impacted). A restoration plan shall be prepared and submitted to the City for review and approval and to CDFW for review. The restoration plan shall include, at a minimum, the type and area of habitat to be established, restored, enhanced, and/or preserved; goals and objectives of the mitigation project; a monitoring plan including performance standards and success criteria; and maintenance activities to occur during monitoring. The applicant shall implement the measures prior to commencement of ground disturbance, tree removal or construction.
- BIO-3 Best Management Practices for Protection of Steelhead and Aquatic Habitat.** No vegetation removal, ground disturbance or construction shall occur within the creek or the 20-foot creek setback zone, which shall be demarcated with high visibility orange construction fencing to ensure avoidance of impacts to the aquatic habitat. Best management practices (BMPs) shall be developed and implemented during all grading and construction activities to prevent erosion and sedimentation into the

creek and to prevent the spill of contaminants in or around the creek. The following BMPs shall be included and implemented on-site during construction to prevent any indirect impacts to aquatic habitat, as well as jurisdictional waters and wetlands:

- Vehicles and equipment shall be checked at least daily for leaks and maintained in good working order. Spill kits shall be available on-site at all times and a spill response plan shall be developed and implemented.
- Sediment and erosion control measures (e.g., sand or gravel bags, hay bales, check dams) shall be implemented and maintained throughout the project site to prevent the entry of sediment and/or pollutants into any waterways or jurisdictional areas. No monofilament plastic may be used for erosion control materials.

BIO-4 Preconstruction Surveys for California Giant Salamander, Santa Cruz Black Salamander, Western Pond Turtle, California Red-Legged Frog, and San Francisco Garter Snake. A qualified biologist shall conduct a pre-construction survey within 24 hours of the initiation of project activities. If California Giant Salamander, Santa Cruz Black Salamander, and/or Western Pond Turtle are observed the animal shall be allowed to leave the site on its own. If California Red-Legged Frog, and/or San Francisco garter snake is found, USFWS shall be notified immediately to determine the correct course of action and the proposed project shall not begin until approved by USFWS.

Prior to ground disturbance, a temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to barrier installation. The barrier shall be designed to prevent the target species from entering the project area and will remain in place until all development activities have been completed. This barrier shall be inspected daily by a qualified biologist and maintained and repaired as necessary to ensure that it is functional and is not a hazard to the target species on the outer side of the barrier.

A qualified biologist shall be present during all grading and initial ground disturbing activities. Vegetation disturbance shall be the minimum necessary to achieve the goals of the project. Immediately prior to initial ground disturbance and vegetation removal, a qualified biologist shall conduct a visual clearance survey. Vegetation shall be cut to 6 inches in height using hand tools (including string trimmers or chainsaw for brush). Once the ground is visible, a second visual survey for target species shall be conducted by the biologist prior to additional ground disturbance.

Should California Giant Salamander, Santa Cruz Black Salamander, or Western Pond Turtle be observed within the project site, construction shall be halted in the vicinity until either the animal exits the site on its own or until a qualified biologist relocates the animal to suitable habitat in the immediate vicinity. Should California Red-Legged Frog, and/or San Francisco garter snake be observed within the project site, the USFWS shall be notified immediately and construction shall be halted until either the animal exits the site on its own or until a qualified biologist with the appropriate USFWS Recovery Permit relocates the animal.

No work shall occur during a rain event over 0.25.” If a rain event occurs, a qualified biologist shall inspect the site again prior to resuming work. All holes and trenches shall be covered at the end of the day or ramped to avoid entrapment.

BIO-5 Focused Surveys for Special-Status Bat Species and Roosting Bat Protection Plan.

Prior to tree removal, a qualified biologist shall conduct a focused survey of all trees to be removed or impacted by construction activities to determine whether active roosts of special-status bats are present on site. If tree removal is planned for the fall, it is recommended the survey be conducted in September to ensure tree removal would have adequate time to occur during seasonal periods of bat activity, as described below. If tree removal is planned for the spring, it is recommended the survey be conducted during the earliest possible time in March, to allow for suitable conditions for both the detection of bats and subsequent tree removal. Trees containing suitable potential bat roost habitat features shall be clearly marked or identified.

If day roosts are found to be potentially present, the biologist shall prepare a site-specific roosting bat protection plan to be implemented by the contractor following the City of Palo Alto’s approval. The plan shall incorporate the following guidance as appropriate:

- To the extent possible, trees identified as suitable roosting habitat shall be removed during seasonal periods of bat activity, including the following, but not during maternity season:
 - Between September 1 and about October 15, or before evening temperatures fall below 45 degrees Fahrenheit and/or more than 0.5 inch of rainfall within 24 hours occurs.
 - Between March 1 and April 15, or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than 0.5 inch of rainfall within 24 hours occurs.
- If a tree must be removed during the maternity/breeding season and is identified as potentially containing a colonial maternity roost, then a qualified biologist shall conduct acoustic emergence surveys or implement other appropriate methods to further evaluate if the roost is an active maternity roost. Under the biologist’s guidance, the contractor shall implement measures similar to or better than the following:
 - If it is determined that the roost is not an active maternity roost, then the roost may be removed in accordance with the other requirements of this recommendation.
 - If it is found that an active maternity roost of a colonial roosting species is present, the roost shall not be disturbed during the breeding season (April 15 to August 31).
- Potential colonial hibernation roosts may only be removed during seasonal periods of bat activity. Potential non-colonial roosts that cannot be avoided shall

be removed on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly. Appropriate methods shall be used to minimize the potential harm to bats during tree removal. Such methods may include using a two-step tree removal process. This method is conducted over two consecutive days and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on day one. The noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed to not return to the roost that night. The remainder of the tree is removed on day two.

BIO-6 Preconstruction Surveys for San Francisco Dusky-Footed Woodrat. A qualified biologist shall conduct a pre-construction survey for woodrats no more than 14 days prior to construction. Nests within 50 feet of project activity that would not be directly impacted by project activity shall be demarcated with a 10-foot avoidance buffer and left intact. If a nest(s) that cannot be avoided are found during the pre-construction survey, an approved biologist shall dismantle the nest and relocate it to suitable habitat outside the work area no more than 50 feet away with the goal of ensuring the individuals are allowed to leave the work area(s) unharmed before on site activities begin. Nest relocation shall occur within 48 hours of construction activities to ensure that nests are not reestablished.

BIO-7 Preconstruction Surveys for Nesting Birds. A general pre-construction nesting bird survey shall be conducted by a qualified biologist within 14 days prior to the initiation of construction activities. If construction is stopped for more than 14 days during the nesting season, a pre-construction survey shall be conducted prior to the re-start of construction activities. Surveys shall include the disturbance area plus a 50-foot buffer for passerine species, and a 500-foot buffer for raptors.

If active nests are located, an appropriate avoidance buffer shall be established within which no work activity would be allowed that would impact these nests. The avoidance buffer shall be established by the qualified biologist on a case-by-case basis based on the species and site conditions. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and/or the nest is inactive. A qualified biologist shall confirm that breeding/nesting is complete, and the nest is no longer active prior to removal of the buffer. If work within a buffer area cannot be avoided, then a qualified biologist shall be present to monitor all project activities that occur within the buffer. The biological monitor shall evaluate the nesting avian species for signs of disturbance and shall have the ability to stop work.

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure BIO-1 would require all personnel associated with project construction to attend a WEAP, which would aid them in recognizing special-status resources and reduce impacts to a less than significant level. Implementation of Mitigation BIO-2 would reduce impacts on special-status plant species to a less than significant level through conduction of botanical surveys and avoidance of CRPR 1 rank plant.

Implementation of Mitigation BIO-3 would require implementation of BMPs for the protection of steelhead and aquatic habitats, as well as measures for sediment and erosion control which would reduce impacts on aquatic habitats and jurisdictional waters and wetlands to a less than significant level. Implementation of Mitigation Measures BIO-4 through BIO-7 would require surveys for and avoidance if possible for special-status animal species such as the California Giant Salamander, Santa Cruz Black Salamander, Western Pond Turtle, California Red-Legged Frog, San Francisco garter snake, special-status bat species, San Francisco Dusky-Footed Woodrat, and nesting birds, which would reduce impacts on those species to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c. Would the project have a substantial adverse effect on state or 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. Would the project 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?*

Three sensitive natural communities (Northern Coastal Salt Marsh, Serpentine Bunch Grass, and Valley Oak Woodland) are known to occur within the nine-quadrangle search radius; however, none are present within the project site. Los Trancos Creek is an intermittent stream that crosses the western border of the site, as shown in Figure 2. It is a tributary to San Francisquito Creek, which flows into San Francisco Bay, a Traditional Navigable Water, and therefore is potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB). The proposed project would not alter the course of this creek or other stream or river and would implement a 20 foot creek setback pursuant to Palo Alto's Stream Corridor Ordinance as noted in Section 18.40.140 of the PAMC. Riparian habitat (coast live oak woodland) occurs adjacent to the creek. Coast live oak woodland is not a CDFW sensitive natural community, but riparian habitat is considered to be jurisdictional by CDFW. Project plans avoid direct impacts to Los Trancos Creek by precluding work or disturbance within 20 feet of the top of bank; however, the proposed project may result in indirect impacts to the creek and riparian habitat from erosion or runoff from the project site. Mitigation Measure BIO-3

requires development of BMPs to protect water quality and aquatic habitat and would also serve to protect wetlands and waters of the U.S. and State. Mitigation Measure BIO-3 would be required to reduce potential water quality impacts to a less than significant level.

Project activities within the dripline of the riparian canopy and removal of riparian canopy shall be avoided to the extent possible. Mitigation Measure BIO-3 requires high visibility orange construction fencing established for the creek setback zone. Where the riparian canopy extends beyond the 20-foot setback, the fencing must be extended to encompass the dripline of the riparian canopy. If project activities requiring pruning or soil disturbance, or that have the potential to impact soils within the dripline of the riparian canopy cannot be avoided, a CDFW Section 1600 Lake and Streambed Alteration Agreement is required. Mitigation at a minimum ratio of 1:1 shall be required. A compensatory mitigation plan for impacts to riparian habitat must be prepared and submitted to CDFW for approval. The mitigation plan must include, at a minimum, the type and area of habitat to be established, restored, enhanced, and/or preserved; goals and objectives of the mitigation project; a monitoring plan including performance standards and success criteria; and maintenance activities to occur during monitoring. The applicant must implement the measures prior to commencement of ground disturbance, tree removal or construction.

SIGNIFICANCE AFTER MITIGATION

Mitigation Measure BIO-3 would require implementation of BMPs to reduce impacts on Los Trancos Creek and riparian habitat. With mitigation, impacts would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or as defined by the City of Palo Alto's Tree Preservation Ordinance (Municipal Code Section 8.10)?*

The purpose of the City of Palo Alto Tree Preservation Ordinance is to promote the health, safety, welfare, and quality property within the city, and the establishment of standards for removal, maintenance, and planting of trees. In establishing these procedures and standards, it is the City's intent to encourage the preservation of trees. Chapter 8.10, Tree Preservation and Management Regulations, establishes regulations for the preservation of protected trees, defined as:

- Coast live oak, 11.5 inches in diameter or greater when measured 4.5 ft above natural grade
- Valley oak, 11.5 inches in diameter or greater when measured 4.5 ft above natural grade
- Coast redwood, 18 inches in diameter or greater when measured 4.5 ft above natural grade
- A heritage tree designated by the City Council

Under the tree protection ordinance, discretionary development approvals for property containing protected trees will include appropriate conditions providing for the protection of such trees during construction and for maintenance of the trees thereafter.

According to the arborist report prepared by Kielty Arborist Services on June 7, 2021 and revised on August 24, 2021 (Kielty Arborist Services 2021; Appendix B), there are currently 82 trees within or adjacent to the area of development. Four non-protected trees (one red willow tree, two olive trees, and one black walnut tree) would be removed as part of the project since they either pose a fire hazard or are located within the proposed driveway area. Coast live oak trees and valley oak trees with a diameter at breast height of greater than 11.5 inches occur within project site. Pursuant to PAMC Section 8.10, these on-site oak trees would qualify as protected trees. There are currently 55 protected trees on site. Except for one coast live oak tree, the rest of the protected trees are located away from the proposed work on site. However, Mitigation Measure BIO-8 would be required in order to reduce impacts on trees to be retained on site. The one Coast live oak tree that is located on the northwestern portion of the site and is dead would need to be removed. The City's tree protection ordinance requires compliance with the Tree Technical Manual, which outlines the requirements for removal and replacement of protected trees consistent with the tree canopy requirements. A written Tree Removal Permit is required prior to removal of any street tree and would further ensure that the requirements of the Ordinance are met. The project would be required to comply with the tree ordinance and apply for the required permit as needed; therefore, there is no conflict with local policies or ordinances.

MITIGATION MEASURE

BIO-8 Protection of Retained Trees. The project applicant shall adhere to recommendations as described in the arborist report prepared by Kielty Arborist Services (Kielty Arborist Services 2021) regarding protection of retained trees. Recommendations include landscape buffers, tree pruning, root cutting, trenching and excavation, irrigation, grading, and inspections.

SIGNIFICANCE AFTER MITIGATION

Mitigation Measure BIO-8 would require protection measures for retained trees on site, which would reduce impacts to the trees to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project site is not within an approved Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.

LESS THAN SIGNIFICANT IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 or recognized by City Council resolution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred out of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 or recognized by City Council resolution?*

Rincon Consultants prepared a Cultural Resources Assessment Report for the project in February 2022 (Foster and Blind 2022). This assessment included a cultural resources records search of the California Historical Resources Information System (CHRIS), a Sacred Lands File (SLF) search, historic-period aerial and topographic map review, a pedestrian survey of the project site on January 14, 2022. The CHRIS records search was conducted to identify previous cultural resources studies and previously recorded cultural resources within 0.5 mile of the project site. Rincon also reviewed the NRHP, the CRHR, the California Historical Landmarks list, and the Built Environment Resources Directory (BERD), as well as its predecessor the California State Historic Property Data (HPD) File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility (ADOE) list. No structures or previously recorded historic structures were identified on the project site. The field survey and background research did not identify any built-environment historical resources on or adjacent to the project site. Therefore, no impacts would occur.

NO IMPACT

- b. *Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?*

Rincon identified two archaeological resources within the vicinity of the project site. Rincon evaluated one historical archaeological resource within the project site for listing in the CRHR and recommended it ineligible as its data potential was exhausted at initial recording. One Native American resource is located outside of the project site and will not be affected by project activities. This resource was not evaluated for listing in the CRHR. While the SLF results were negative, the project site still maintains moderate sensitivity to containing historic-period or Native American archaeological resources due to the proximity of the

project to previously recorded archaeological resources. Therefore, impacts are potentially significant.

MITIGATION MEASURES

- CR-1 Worker's Environmental Awareness Program (WEAP).** Prior to project ground disturbance, all construction personnel and contractors responsible for overseeing and operating ground-disturbing activities shall be required to receive cultural awareness and sensitivity training. The purpose of this training is to educate construction personnel regarding the legal obligations of the project, the types of archaeological deposits that may be encountered during construction, and the appropriate procedures required in the event of a discovery of archaeological resources, paleontological resources, or human remains. The WEAP shall also provide cultural sensitivity training to ensure respectful and appropriate behaviors in the vicinity of archaeological deposits and human remains. The WEAP shall be implemented by a qualified archaeologist that meets or exceeds the Secretary of the Interior's Professional Qualifications Standards in archaeology.
- CR-2 Archaeological and Native American Monitoring.** A qualified archaeologist shall conduct archaeological monitoring for all project-related ground disturbing activities. Archaeological monitoring should be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983). Locally affiliated Native American tribes shall be given the opportunity to conduct Native American monitoring. In the event that Native American monitoring occurs, a locally affiliated tribal member shall monitor all project-related ground disturbing activities. The monitor(s) will have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate area must halt and the find evaluated for listing in the CRHR. Archaeological monitoring may be reduced to spot-checking or eliminated at the discretion of the monitors, in consultation with the lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project area and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).
- CR-3 Unanticipated Discovery of Cultural or Tribal Cultural Resources.** In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the find is Native American in origin, then a Native American representative should also be contacted to participate in the evaluation of the find. The qualified archaeologist, and, if applicable, the Native American representative,

shall examine the find and make appropriate recommendations regarding additional work necessary to evaluate the significance of the find and the appropriate treatment of the resource. All cultural resources identified shall be evaluated for CRHR eligibility and local listing. Additional work may be necessary to evaluate the resource for inclusion in the CRHR or local listing. Recommendations could include, but are not limited to, invasive or non-invasive testing, sampling, laboratory analysis, preservation in place, or data recovery. A report of findings documenting any data recovered during monitoring shall be prepared by a qualified archaeologist and submitted to the Director of Planning. If the discovery is determined to be Native American in nature, the on-site Native American monitor, if applicable, shall be consulted to determine the appropriate treatment of the resource. In the event that no Native American monitor is contracted, locally affiliated Native American tribes shall be invited to consult regarding the appropriate treatment of any Native American resources identified during project construction.

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measures CR-1, CR-2, and CR-3 would ensure that cultural resources are properly identified and preserved in the event they are uncovered during construction and would reduce impacts regarding disrupting intact archaeological resources to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. Would the project disturb any human remains, including those interred out of formal cemeteries?*

No human remains are known to be present within the project site. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify the Most Likely Descendent (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project:</i>				
a. <i>Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*
- b. *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The proposed project would involve the use of energy during construction and operation. Energy use during the construction phase would be primarily in the form of fuel consumption. Long-term operation of the proposed project would require permanent grid connections for electricity to power internal and exterior building lighting and heating and cooling systems. In addition, the increase in vehicle trips associated with the project would increase fuel consumption within Palo Alto. However, the proposed project would be subject to the energy conservation requirements of the California Energy Code (Title 24 of the California Code of Regulations, Part 6) and the California Green Building Standards Code (24 CCR part 11) as well as the City's green building ordinance (PAMC Section 16.14.). Additionally, the proposed project would be fully electric and would utilize renewable energy in the form of solar roof panels with a system of more than 10 kilowatts (kW). Heat pump technology would be used for water heating and space heating. The project would also utilize energy-efficient appliances and lighting, as well as water-efficient appliances and fixtures, which would be consistent with the following policies within the City of Palo Alto 2030 Comprehensive Plan:

- **Policy T-4.7** Require new residential development projects to implement best practices for street design, stormwater management and green infrastructure.
- **Policy N-7.4** Maximize the conservation and efficient use of energy in new and existing residences and other buildings in Palo Alto.

- **Policy N-7.5** Encourage energy efficient lighting that protects dark skies and promotes energy conservation by minimizing light and glare from development while ensuring public health and safety.

Moreover, since the proposed project would involve the construction of one single-family residence and associated accessory structure, the increase in vehicle trips would be minimal and would not substantially increase fuel consumption within the City. Therefore, impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Directly or indirectly cause potential Expose substantial adverse effects, including the risk of loss, injury, or death involving:</i>				
1. <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.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. <i>Strong seismic ground shaking?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. <i>Seismic-related ground failure, including liquefaction?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. <i>Landslides?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. <i>Result in substantial soil erosion or loss of topsoil?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <i>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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <i>Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?</i>				
e. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. <i>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING

FAULT ZONES

Similar to much of California, Palo Alto is located in a seismically active region. The USGS defines Holocene-active faults as those that are likely to have moved one or more times (surface displacement) in the last 10,000 years (USGS, n.d.), while inactive faults have not had surface displacement within that period. The major fault zones located near Palo Alto include the San Andreas Fault (5.5 miles southwest from the City), the Hayward Fault (13 miles northeast from the City), and the Calaveras Fault (23 miles northeast from the City).

In addition to primary hazards like surface fault ruptures, earthquakes also result in secondary hazards and impacts such as ground shaking, landslides, and liquefaction, which could cause widespread damage. The project site is not located within an identified earthquake fault zone as delineated on the Alquist-Priolo Earthquake Fault Zoning Map (DOC 2021a).

GROUND SHAKING

Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. The most intense ground-shaking scenario mapped by the USGS and Associated Bay Area Governments (ABAG) in the vicinity assumes a 7.0 magnitude earthquake on the Hayward Fault system (northern and southern segments). The predicted ground-shaking level from such an earthquake would be “strong shaking” to “very strong shaking” throughout the City (ABAG 2019).

LIQUEFACTION AND SEISMICALLY INDUCED SETTLEMENT

Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture. According to the DOC, the project site is located in a liquefaction zone (DOC 2021a).

Seismically induced settlement occurs in loose to medium dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

LANDSLIDES

Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards. The project site is not located in a landslide hazard zone or an earthquake fault zone (DOC 2021a).

EXPANSIVE SOILS

Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moistures that can trigger this shrink-swell phenomenon include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can develop wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils. Expansive soils are typically very fine-grained with a high to very high percentage of clay. The clay minerals present typically include montmorillonite, smectite, and/or bentonite. Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent.

EROSION

Erosion is the wearing away of the soil mantle by running water, wind or geologic forces. Excessive erosion can contribute to landslides, siltation of streams, undermining of foundations, and ultimately the loss of structures. Removal of vegetation tends to heighten erosion hazards. The City enforces grading and erosion control ordinances to reduce these hazards and the 2030 Comprehensive Plan also contains policies to prevent erosion-related issues.

PALEONTOLOGICAL SETTING

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the *CEQA Guidelines*, may require mitigation. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

IMPACT ANALYSIS

a1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?

The project site is not located within an identified earthquake fault zone as delineated on the Alquist-Priolo Earthquake Fault Zoning Map (DOC 2021a). No known fault lines are located on the site. The closest active fault is the San Andreas Fault which is located approximately 0.4 miles southwest of the site. According to the Geotechnical Engineering Study completed by Earth Systems on April 9, 2021 (Earth Systems 2021; Appendix C), the danger from active faulting on the site is low. Therefore, no impact would occur.

NO IMPACT

a2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

As with any site in the Bay Area region, the project site is susceptible to strong seismic ground shaking in the event of a major earthquake. Nearby faults include the San Andreas Fault, the Hayward Fault and the Calaveras Fault. These faults are capable of producing strong seismic ground shaking at the site. According to the project's Geotechnical Engineering Study, strong shaking of the site is likely to occur, but the project would be feasible from a geotechnical standpoint if the recommendations in the report are implemented. This impact is potentially significant.

MITIGATION MEASURE

GEO-1 Geotechnical Design Considerations. The project plans submitted for building permit approval shall incorporate the design recommendations outlined in the Geotechnical Study prepared by Earth Systems on April 9, 2021, or any other design feature or measure shown to equivalently reduce impacts associated with geology and soils to the satisfaction of the Director of Public Works. These include recommendations under the categories of:

- General site preparation

- Compaction
- Fill
- Mat slab foundations
- Post-tensioned slab foundations
- Interior slab-on-grade construction
- Exterior flatwork
- Swimming pool
- Utility trench backfills
- Management of site drainage and finish improvements
- Geotechnical observation and testing

Refer to the Geotechnical Study for full detail recommendations for each of the abovementioned categories.

SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure GEO-1, the potentially significant impact associated with ground shaking would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

c. Would the project 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?

As mentioned above under *Liquefaction*, the project site is located in a liquefaction zone (DOC 2021a). The Geotechnical Engineering Study found that potentially liquefiable soils across the site are discontinuous, and therefore the potential for lateral displacement is considered low. However, there are concerns regarding loose soils in the upper 5 feet of the project site and the potential for settlement due to seismic shaking. Implementation of Mitigation Measure GEO-1 would reduce impacts on liquefaction to a less than significant level. Additionally, with modern construction and required adherence to the geology and soil provisions of the CBC, which sets forth seismic design standards (Chapters 16, 18) and geohazard study requirements (Chapter 18), impacts would be less than significant.

SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure GEO-1, the potentially significant impact associated with liquefaction would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- a4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*

Earthquakes can trigger landslides that may cause injuries and damage to people and structures. Landslides are typically hazards on or near slopes or hillside areas, rather than generally level areas like the project site and vicinity. According to the DOC, the project site is not located in a landslide zone, and therefore there would be no impact.

NO IMPACT

- b. Would the project result in substantial soil erosion or the loss of topsoil?*

Ground disturbing activities that would occur during the grading and excavation phase of construction would have the highest potential for erosion, and as a result temporary erosion could occur. However, the project would be required to comply with PAMC Chapters 16.28.070 and 16.28.120, which require measures to minimize surface runoff, erosion, and sedimentation. In addition, the project would be required to comply with erosion control standards administered by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) through the National Pollutant Discharge Elimination System (NPDES) permit process, which requires implementation of nonpoint source control of stormwater runoff. Furthermore, as mentioned under Section 3, *Air Quality*, the project would be required to comply with BAAQMD best management practices (BMPs) in Section 8.1.2 of the BAAQMD CEQA Guidelines, which address the minimization or avoidance of erosion and loss of topsoil. Additional information related to the prevention of stormwater-induced erosion is provided in Section 10, *Hydrology and Water Quality*. Compliance with these requirements as well as implementation of Mitigation Measure GEO-1 and Mitigation Measure BIO-3 would ensure that impacts of the proposed development associated with soil erosion and the loss of topsoil would be less than significant.

SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure GEO-1, which requires incorporation of design measures such as stabilization of surface soils while managing site drainage, and Mitigation Measure BIO-3, which requires implementation of sediment and erosion control measures (e.g., sand or gravel bags, hay bales, check dams) throughout the project site to prevent the entry of sediment and/or pollutants into any waterways or jurisdictional areas, the potentially significant impact associated with erosion or the loss of topsoil would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;*

Section 21.12.070 of the PAMC requires the preparation of a preliminary soil report in order to determine the presence of expansive soils and recommend corrective action to prevent structural damage. Building on unsuitable soils would have the potential to create future

subsidence or collapse issues that could result in the settlement of infrastructure, and/or the disruption of utility lines and other services.

As analyzed in the Geotechnical Engineering Study, the near surface soils on the project site are sandy in nature and therefore are not expansive. Compliance with existing State and local laws and regulations would ensure that impacts associated with expansive soil are minimized by requiring the submittal and review of detailed soils and/or geologic reports prior to construction. Such evaluations must contain recommendations for ground preparation and earthwork specific to the site, which then become an integral part of the construction design. Palo Alto building codes and other City requirements would ensure that potential impacts are minimized or avoided. With implementation of Mitigation Measure GEO-1, impacts associated with expansive soils would be less than significant.

SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure GEO-1, the potentially significant impact associated with expansive soils would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- e. Would the project 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?*

The proposed project would be connected to the local wastewater treatment system. Septic systems would not be used. There would be no impacts.

NO IMPACT

- f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

There are no unique geological features on the project site. Since the project would include a pool and spa area on the southern portion of the site, maximum depth of excavation could potentially reach no more than 8 feet on the southern portion of the site where the pool is proposed. The project has the potential to uncover unanticipated paleontological resources. This impact is potentially significant.

MITIGATION MEASURES

GEO-2 Discovery of Previously Unidentified Paleontological Resources. In the event a fossil is uncovered during Project construction, all work shall cease until a certified paleontologist can investigate the finds and make appropriate recommendations. Any artifacts uncovered shall be recorded and removed for storage at a location to be determined by the monitor.

SIGNIFICANCE AFTER MITIGATION

Mitigation Measure GEO-2 would provide for the recovery, identification, and curation of previously unrecovered fossils, and Mitigation Measure CR-1 would require implementation of a WEAP prior to ground-breaking activities, which would ensure that potential impacts to paleontological resources be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CLIMATE CHANGE AND GREENHOUSE GAS (GHG) EMISSIONS

Climate change is the observed increase in the average temperature of the earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gases (GHG), gases that trap heat in the atmosphere, analogous to the way in which a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases, and ozone (O₃). GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases, such as hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆) (California Environmental Protection Agency [Cal EPA] 2015).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (Cal EPA 2015). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

IMPACT ANALYSIS

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*
- Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The project's proposed construction activities, energy use, daily operational activities, and mobile sources (traffic) would generate GHG emissions. However, since the proposed

project would involve construction of one single-family residence and an associated accessory structure, and would not involve demolition, simultaneous construction phases, simultaneous construction of more than one land use type, extensive site preparation, or extensive material transport, it would not generate substantial amounts of GHG emissions. For single-family residential uses such as the proposed project, BAAQMD's operational GHG screening size is 56 dwelling units. Therefore, the project would meet the screening criteria for operational GHG emissions.

The project would be consistent with the following goal policies within the 2030 Comprehensive Plan aimed at reducing greenhouse gases through the use of clean and efficient energy (City of Palo Alto 2017a):

- **Goal N-7** A clean, efficient energy supply that makes use of cost-effective renewable resources.
- **Policy N-7.4** Maximize the conservation and efficient use of energy in new and existing residences and other buildings in Palo Alto.
- **Policy N-7.6** Support the maximum economic use of solar electric (photovoltaic) and solar thermal energy, both as renewable supply resources for the Electric Utility Portfolio and as alternative forms of local power generation.
- **Policy N-7.7** Explore a variety of cost-effective ways to reduce natural gas usage in existing and new buildings in Palo Alto in order to reduce associated greenhouse gas emissions.

The proposed project would be fully electric and would utilize energy-efficient appliances and lighting as well as water-efficient appliances and fixtures. The project would also include renewable energy in the form of solar roof panels as well as fully insulated slab construction foundation and exterior insulation on the roof. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. <i>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 or excessive noise for people residing or working in the project area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. <i>Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. <i>Expose people or structures to a significant risk of loss, injury, or death involving wildland fires?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b. *Would the project 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. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

Residential uses, such as those proposed by the project, typically do not use or store large quantities of hazardous materials other than minor amounts needed for cleaning or landscaping maintenance. During grading and construction activities, limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, may be transported to the site, used on site, and disposed over after use. However, the project would be required to comply with applicable Federal, State, and local regulations that address the handling, storage, use, and disposal of hazardous substances, including the Occupational Safety and Health Act and the Toxic Substances Control Act. This would eliminate potential significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials. Construction contractors would be required to comply with applicable Federal and State environmental and workplace safety laws. The project site is not located within 0.25 mile of an existing or proposed school. Adherence to these regulatory requirements would ensure that impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project create a significant hazard to the public or the environment from existing hazardous materials contamination by exposing future occupants or users of the site or from location on listed hazardous material sites compiled pursuant to Government Code Section 65962.5?*

A search of the following databases was conducted on April 27, 2022, for known hazardous materials contamination in the project area:

- EnviroStor Database (Department of Toxic Substances Control [DTSC] 2022a)
- Cortese list of Hazardous Waste and Substances Sites (DTSC 2022b)
- Geotracker search for leaking underground fuel tanks, Spills-Leaks-Investigations-Cleanups (SLIC) and Landfill sites (California State Water Resources Control Board 2022)

According to EnviroStor and GeoTracker, there are no hazardous wastes or cleanup sites located on the project site or within 1,000 feet of the site. The nearest hazardous site to the project is located on Portola Road, approximately 0.6 miles northwest of the project site. Therefore, the project would not create a significant hazard to the public or environment and no impact would occur.

No IMPACT

- e. For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

There are no private airstrips in the vicinity of the site. The Palo Alto Airport of Santa Clara County (PAO) is the closest airport to the project site and is located over 7 miles away. PAO is a 103-acre facility with a single runway, parallel taxiway, and a building area. The airport primarily serves small general aviation aircraft. The area is located entirely outside of the airport safety and traffic pattern zones (Santa Clara County Airport Land Use Commission 2016). Therefore, no impact would occur.

No IMPACT

- f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The project would involve construction of a single-family residence on a vacant site. The residence would not obstruct existing roadways or require the construction of new roadways or access points. The proposed buildings would not block emergency response or evacuation routes or interfere with adopted emergency response and emergency evacuation plans. No impact would occur.

No IMPACT

- g. Would the project 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?*

This impact is further discussed under Section 20, *Wildfire*. The project would not expose people or structures to a significant risk of loss, injury, or death involving wildfires. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Violate any water quality standards or waste discharge requirements or otherwise degrade surface or groundwater quality?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <i>Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would:</i>				
1. <i>Result in substantial erosion or siltation on- or off-site?</i>				
2. <i>Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</i>				
3. <i>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</i>				
4. <i>Impede or redirect flows</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. <i>In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. <i>Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise degrade surface or groundwater quality?*

Development of the proposed project would introduce heavy equipment during construction and increase traffic to and from the site during operation. This increase in

heavy construction equipment and operational traffic could result in an increase in fuel, oil, and lubricants in the stormwater runoff due to leaks or accidental releases.

Since the project would involve development of an individual detached single-family residence not part of a larger common plan of development, it would not constitute a development project under PAMC Section 16.11.020 and therefore would not be required to obtain a NPDES Construction General Permit or develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities.

In terms of impacts related to operational activities, impervious surfaces can carry a variety of pollutants, including oil and grease, metals, and sediment and pesticide residues from roadways, parking lots, rooftops, and landscaped areas depositing them into adjacent waterways via the storm drain system. The project would be required to comply with the stormwater pollution prevention measures in PAMC Section 16.11.036 as well as the Santa Clara Valley Urban Runoff Pollution Prevention Program's C.3 requirements. Under Section 16.11.036 of the PAMC and C.3, since the project would create 2,500 square feet or more of impervious surfaces, it would be required to implement one of six site design measures but not treatment or hydromodification control measures (County of Santa Clara 2016).

The proposed project, in accordance with PAMC and C.3 requirements, would be designed to direct runoff from roofs and sidewalks into vegetated areas to treat surface runoff before entering the stormwater system, which would also ensure the protection of the Los Trancos Creek from harmful effluent. The project would also implement rainwater catchment systems as well as utilize recycled water for landscape irrigation. Compliance with the PAMC and C.3 requirements would not result in adverse effects on water quality or violate water quality standards or waste discharge requirements during construction or operation. Therefore, excessive stormwater runoff, substantial erosion or siltation on- or off-site would not occur and the potential for the project to violate water quality standards and substantially degrade water quality would be reduced.

As discussed in Section 7, *Geology and Soils*, the proposed project could involve excavation up to 8 feet for the pool and spa structure. According to the Geotechnical Study (Appendix C), groundwater was encountered at 17 to 18 feet below the site. Therefore, it is unlikely that groundwater would be encountered during excavation activities. However, if groundwater were to be encountered, the project would be required to comply with local regulations. According to the City's *Construction Dewatering System Policy and Plan Preparation Guidelines* (City of Palo Alto 2020a), excavation activities that would require excavation within two feet of known groundwater are required to submit a Construction Dewatering Plan to the City's Public Works Department. The Public Works Department would review and permit the dewatering plan prior to commencement of dewatering as part of the Grading and Excavation Permit process. The Construction Dewatering Plan must comply with the City's Guidelines, which require that water is tested for contaminants prior to initial discharge and at intervals during dewatering. In the dewatering plan, the applicant must include provisions for keeping sediment and contaminated groundwater out of the storm drain system. With adherence to the City's policies regarding dewatering, contaminated groundwater would not enter the stormwater system.

Although Los Trancos Creek is located within the western border of the site, the proposed project would implement a 20 feet creek setback pursuant to Palo Alto's Stream Corridor Ordinance (PAMC Section 18.40.140), and implementation of Mitigation Measure BIO-3 would further minimize soil erosion and reduce potential runoff of pollutants into the creek. Overall, the proposed project would have a less than significant impact on water quality with implementation of Mitigation Measure BIO-3.

SIGNIFICANCE AFTER MITIGATION

Mitigation Measure BIO-3 would require implementation of avoidance and minimization measures to reduce impacts on and pollutants entering Los Trancos Creek. With mitigation, impacts would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

As discussed in Section 19, *Utilities and Service Systems*, the proposed project would receive its water from the California Water Service (Cal Water) Bear Gulch District. Cal Water uses a combination of local surface water and surface water purchased from the City and County of San Francisco (SFPUC). Local surface water, approximately 11 percent of Cal Water's total supply, is derived from their 1,200-acre watershed in the Woodside hills, collected and treated at Cal Water's reservoir and treatment plant in Atherton. The remaining 89 percent of Cal Water's total supply is purchased from the SFPUC (Cal Water 2022). Therefore, water supply to the project site would not rely on groundwater supplies. Development under the proposed project would not include installation of new groundwater wells or use of groundwater from existing wells. Temporary dewatering during construction would not substantially affect groundwater levels, and because the maximum depth of excavation would not be near existing groundwater levels, the project would not result in a significant depletion of groundwater supply. Therefore, the proposed project would not result in a net deficit in aquifer volume or a lowering of the groundwater table. Impacts related to groundwater would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c1. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on- or off-site?*
- c2. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

- c3. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would 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?*
- c4. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would impede or redirect flows?*

Los Trancos Creek runs along the western border of the project site. The proposed project would not alter the course of this creek or other stream or river (no other surface water features are identified in the project site) and would implement a 20 feet creek setback pursuant to Palo Alto's Stream Corridor Ordinance as noted in Section 18.40.140 of the PAMC. Although the proposed project would increase runoff on the site, it would be consistent with PAMC and C.3 stormwater treatment requirements and would include low sloping roofs with built-in perimeter gutters to direct runoff to vegetated areas, as well as pervious driveways throughout the site in order to reduce pollutants and runoff volume. Therefore, the project would not substantially increase runoff volumes, result in substantial erosion or siltation, result in flooding on- or off-site, or alter the existing drainage pattern of the site or area. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

According to the State of California Tsunami Inundation Map (DOC 2021b), the site is not located within a tsunami inundation zone. According to the City of Palo Alto's Natural Environment Element and Safety Element of the 2030 Comprehensive Plan, mudflows and seiches are not identified as issues for the city. In addition, the nearest body of water that could experience a seiche event is the San Francisco Bay, and it is not anticipated that a seiche in the Bay would have potential to affect the project site. Therefore, the project site is located in a low hazard area for tsunami, seiche, and mudflow. No impact would occur.

NO IMPACT

- e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

As discussed under Impact (a) above, the project would not violate water quality standards or degrade water quality during construction or operation.

The City of Palo Alto is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The San Francisco Bay RWQCB provides permits for projects that may affect surface waters and groundwater locally and is responsible for preparing the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The Basin Plan serves as the basis for the San Francisco

Bay RWQCB's regulatory programs and incorporates an implementation plan for achieving water quality objectives (California Water Board 2017). The proposed project would not interfere with the objectives and goals in the Basin Plan. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Physically divide an established community?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

a. *Would the project physically divide an established community?*

The proposed project would involve construction of a single-family residence on a vacant parcel and would not cut off connected neighborhoods or land uses from each other. No new roads, linear infrastructure or other development features are proposed that would divide an established community or limit movement, travel or social interaction between established land uses. No impact would occur.

NO IMPACT

b. *Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental*

The proposed project's consistency with the City of Palo Alto 2030 Comprehensive Plan and Zoning Ordinance are discussed below.

CITY OF PALO ALTO 2030 COMPREHENSIVE PLAN

The project site has a Comprehensive Plan land use designation of Open Space/Controlled Development. The Comprehensive Plan defines this category as "Land having all the characteristics of open space but where some development may be allowed on private properties... Residential densities range from 0.1 to 1 dwelling unit per acre but may rise to a maximum of 2 units per acre where second units are allowed, and population densities range from 1 to 4 persons per acre" (City of Palo Alto 2017a). The proposed project involves single-family residential use consistent with the land use designation for this site. Additionally, the project would have a residential density of approximately 0.2 dwelling units per acre, which would be consistent with the allowed density range for the Open Space/Controlled Development land use designation.

CITY OF PALO ALTO ZONING ORDINANCE

The project site is zoned Open Space (OS). The PAMC Section 18.28.010(b) defines the OS district as “intended to protect the public health, safety and welfare, protect and preserve open space land as a limited and valuable resource, and to permit the reasonable use of open space land, while at the same time preserving and protecting its inherent open space characteristics to assure its continued availability for the following: as agricultural land, scenic land, recreation land, conservation or natural resource land; for the containment of urban sprawl and the structuring of urban development; and for the retention of land in its natural or near-natural state, and to protect life and property in the community from the hazards of fire, flood, and seismic activity; and coordinate with and carry out federal, state, regional, county, and city open space plans.”

Pursuant to Section 18.28.040 of the PAMC, single-family dwelling units as well as accessory facilities and uses are permitted in the Open Space district. The project proposes a Floor Area Ratio (FAR) of 4 percent, consistent with PAMC requirements under Section 18.28.050(b)(1). Additionally, the proposed project would incorporate 30 feet setbacks in the front, sides, and rear, as well as a maximum height of 25 feet with a maximum number of two stories, consistent with PAMC Section 18.28.050(a).

Therefore, the proposed project would not conflict with the 2030 Comprehensive Plan or the City of Palo Alto Zoning Ordinance and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project:</i>				
<i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

A small portion of Palo Alto is classified as Mineral Resource Zone-2 (MRZ-2), defined as “adequate information indicated that significant mineral deposits are present or a likelihood of their presence and development should be controlled”. The MRZ-2 is located in the southern portion of the city, adjacent to the San Mateo County/Santa Clara County border north of Foothills Park (0.5 mile east of the project site) (City of Palo Alto 2017b). Pursuant to USGS records, there are no known mineral resources or mines present on the project site and work area (USGS 2022).

IMPACT ANALYSIS

- a. Would the project 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. Would the project 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?*

The project site and work area are not located in an area with known mineral resources or a mineral resource recovery site. Therefore, the project would not result in the loss of a known mineral resource or mineral resource recovery site. No mineral resource activities would be altered or displaced by the proposed project. There would be no impact.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project result in:</i>				
a. <i>Generation of a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Generation of excessive groundborne vibration or groundborne noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Because of the logarithmic scale of the decibel unit, sound levels cannot be added or subtracted arithmetically. If the physical intensity of a sound is doubled, the sound level increases by 3 dBA, regardless of the initial sound level. For example, 60 dBA plus 60 dBA equals 63 dBA. Where ambient noise levels are high in comparison to a new noise source, the change in noise level would be less than 3 dBA. For example, when 70 dBA ambient noise levels are combined with a 60 dBA noise source the resulting noise level equals 70.4 dBA.

Noise that is experienced at any receptor can be attenuated by distance or the presence of noise barriers or intervening terrain. Sound from a single source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The

sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. For acoustically absorptive, or soft, sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), ground attenuation of about 1.5 dBA per doubling of distance normally occurs. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dBA of noise reduction.

Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise; e.g., the rattling of windows from passing trucks. This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, groundborne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the U.S.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel wheeled trains, and traffic on rough roads.

CITY OF PALO ALTO NOISE STANDARDS

The City's Comprehensive Plan Natural Environment Element includes goals and policies related to noise. This element establishes land use compatibility categories for community noise exposure (see Table 2). For residential uses, noise levels up to 60 dBA Ldn are identified as normally acceptable and noise levels between 60 and 75 dBA Ldn are identified as conditionally acceptable.

Table 2 Palo Alto Land Use Compatibility for Community Noise Environments

Land Use Category	Exterior Noise Exposure Ldn or CNEL or dB		
	Normally Acceptable	Conditionally Acceptable	Unacceptable
Residential, Hotel and Motels	50-60	60-75	75+
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	50-65	65-80	80+
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	50-60	60-75	75+
Office Buildings, Business Commercial, and Professional	50-70	70-80	80+
Auditoriums, Concert Halls, and Amphitheaters	N/A	50-75	75+
Industrial, Manufacturing, Utilities, and Agriculture	50-70	75+	N/A

Source: City of Palo Alto 2017a

The PAMC regulates noise primarily through the Noise Ordinance, which comprises Chapter 9.10 of the Code, under Title 9, Public Peace, Morals and Safety. The Municipal Code contains additional specific and general provisions relating to noise.

The Noise Ordinance also regulates noise associated with construction activities. Section 9.10.060 of the PAMC restricts construction activities to the hours of 8 AM to 6 PM Monday through Friday and 9 AM to 6 PM on Saturday. Construction is prohibited on Sundays and holidays. Construction, demolition or repair activities during construction hours must meet the following standards:

- No individual piece of equipment shall produce a noise level exceeding 110 dBA at a distance of 25 feet. If the device is housed within a structure on the property, the measurement shall be made out-side the structure at a distance as close to 25 feet from the equipment as possible.
- The noise level at any point outside of the property plane of the project shall not exceed 110 dBA.
- The holder of a valid construction permit for a construction project in a non-residential zone shall post a sign at all entrances to the construction site upon commencement of construction, for the purpose of informing all contractors and subcontractors, their employees, agents, materialmen and all other persons at the construction site, of the basic requirements of this chapter.

PROJECT SITE NOISE ENVIRONMENT

Palo Alto's noise environment is dominated by transportation-related noise, including car and truck traffic and trains. The project site is located in a non-urbanized area and away from noise generating sources such as highways and major roadways. The closest highway to the site is Interstate 280 (I-280), approximately 2.3 miles northeast of the project site.

Residential, educational, and medical uses are more sensitive to noise than are commercial and industrial activities. Noise sensitive uses ("sensitive receptors") are defined as those facilities including, but not limited to, areas containing residences, schools, hospitals, rest

homes, long-term medical or mental care facilities, or any other land use areas deemed noise sensitive by the local jurisdiction. The nearest sensitive receptors to the geometrical center of the proposed structure are a single-family residence located immediately adjacent to the north (approximately 230 feet), as well as a single-family residence approximately 250 feet west of the site.

IMPACT ANALYSIS

- c. *Would the project generate a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

CONSTRUCTION NOISE

As discussed above, PAMC Section 9.10.060 regulates temporary construction noise. Construction of the project would generate temporary noise that would be audible at the single-family residence adjacent to the north of project site. Noise associated with construction is a function of the type of construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the construction activities. Based on construction details provided by the applicant, it is estimated that the construction period would involve approximately 30 days for site preparation, 30 days for grading, 270 days for building construction, 30 days for paving, and 30 days for architectural coating. While all phases of construction would generate noise, the building construction phase would represent the longest period of noise-generating activity. According to applicant provided information, pile drivers would not be used in building construction.

Construction noise was estimated using the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (Appendix D). Noise was modeled based on the list of anticipated equipment list for each phase of construction and the distances to nearby receptors. For a conservative approach, it was assumed that all construction equipment per phase would be operating simultaneously and would combine as a collective noise source. Table 3 shows the results of construction noise modeling from the center of activities for the project at distances of 230 feet and 250 feet from the closest property lines at the single-family residences north and west of the site.

Table 3 Calculated Construction Noise Levels for Each Phase of Construction

Construction Phase	Equipment	Estimated Noise at 230 feet (dBA L _{eq} /dBA L _{max})	Estimated Noise at 250 feet (dBA L _{eq} /dBA L _{max})
Site preparation	Backhoe, compactor, crawler tractor, dozer, dumper/tender, excavator, grader, front-end loader, skid steer loader, sweeper/scrubber	74.6/71.7	73.8/71.0
Grading	Backhoe, compactor, dozer, excavator, grader, front-end loader, skid steer loader, sweeper/scrubber	73.6/71.7	72.9/71.0
Building construction	Aerial lift, cement and mortar mixer, concrete/industrial saw, compactor, compressor, crane, dumper/tender, forklift, generator, pressure washer, pump, rough terrain forklift, skid steer loader, sweeper/scrubber, welder	74.5/76.3	73.8/75.6
Paving	Backhoe, concrete/industrial saw, compactor, crawler tractor, grader, front-end loader, paver, paving equipment, roller, sweeper/scrubber	75.6/76.3	74.5/75.6
Architectural coating	Air compressor	60.4/64.4	59.7/63.7
See Appendix D for calculations.			

As shown in Table 3, at the center of the project buildings nearest the property line of the single-family residence north of the site, maximum noise levels generated by project construction equipment are calculated to range from 64.4 to 76.3 dBA L_{max} and 60.4 to 75.6 dBA L_{eq}, while the maximum noise levels from the center of project buildings nearest the property line of the single-family residence west of the site are calculated to range from 63.7 to 75.6 dBA L_{max} and 59.7 to 74.5 dBA L_{eq}. Construction noise levels would therefore be below the City's adopted standard of 110 dBA at any point outside the property line during allowable construction hours (PAMC Section 9.10.060). Impacts related to construction noise would be less than significant.

OPERATIONAL NOISE

Operation of the proposed residence would not substantially increase existing ambient noise levels. The primary sources of noise that would be associated with the project are vehicle trips to and from the residence, stationary noise sources, periodic landscaping (e.g., lawn mower), talking and music. Development of the proposed project would increase the number of vehicle trips to and from the site, which would incrementally increase traffic noise on area roadways. However, the proposed project would be a single-family residence and would not generate substantial trips. In addition, other operational noise sources such as ground level HVAC equipment, landscaping equipment, talking, and music would be comparable to noise from surrounding residences and consistent with existing ambient noise levels. The proposed project would include a vehicle turnaround area in between the project site and the adjacent single-family residence north of the site. This would place vehicles adjacent to the existing residence. However, noise from vehicles using the

turnaround area would be intermittent and would be anticipated to be below 60 dBA. Therefore, the project would not substantially increase ambient noise levels and noise generated during operation would be comparable to nearby single-family residential uses. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction of the project over an anticipated 14-month period would intermittently generate vibration on and adjacent to the project site. Vibration-generating equipment would include excavators, front-end loaders, and dozers for site preparation and grading, and vibratory rollers for paving. It is assumed that pile drivers, which generate strong groundborne vibration, would not be used during construction. The closest noise sensitive receptors from property line to property line are a single-family residence adjacent to the north (35 feet) and single-family residence approximately 50 feet to the west. Table 4 identifies vibration velocity levels at distances of 35 and 50 feet from the source.

Table 4 Vibration Levels for Construction Equipment at Noise-Sensitive Receptors

Equipment	Estimated VdB at Nearest Sensitive Receptors	
	35 feet	50 feet
Vibratory roller	94	87
Large bulldozer	84	80
Loaded trucks	80	76
Small bulldozer	55	51

Source: Caltrans 2013; See calculations in Appendix D

Based on Table 4, noise-sensitive receptors would experience the strongest vibration of up to 94 VdB during paving with vibratory rollers and up to 84 VdB during the use of large bulldozers during site preparation and grading. Compliance with Section 9.10.060 of the PAMC would restrict vibration-generating construction activity to daytime hours that are outside of normal sleeping hours, i.e., 8 AM to 6 PM Monday through Friday and 9 AM to 6 PM on Saturday. While vibration from construction activity could be perceptible at adjacent residences during daytime hours, this timing restriction would ensure that vibration does not exceed the FTA's criterion of 72 VdB during normal sleeping hours at residential uses. Vibration levels also would not exceed 95 VdB at any fragile historic buildings and therefore would not damage such buildings. The project would have a less than significant impact from groundborne vibration.

LESS THAN SIGNIFICANT IMPACT

- e. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The Palo Alto Airport (PAO)'s land use plan does not include the project site and is located over 7 miles away. Furthermore, there is no private airstrip in the vicinity of the project site. Thus, future residents would not be exposed to excessive noise levels associated with air traffic.

LESS THAN SIGNIFICANT IMPACT

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project:</i>				
a. <i>Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project 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)?*

The current population of Palo Alto is estimated at 67,657 with a per-person household rate of 2.45 (Department of Finance [DOF] 2021). ABAG estimates that the population will increase to 86,510 by 2040 while the per-person household rate will increase to 2.48 (ABAG 2017). The City also currently has 29,406 housing units (DOF 2021). ABAG projections estimate that the number of housing units will increase to 32,940 by 2040.

The project would include development of one single-family residence and an associated accessory structure and would therefore directly generate population growth. The estimated average persons per household in Palo Alto is 2.45 (DOF 2021). Based on that rate, assuming an estimated 2 to 3 people in the main residence and 1 to 2 people in the ADU, the proposed project would add an estimated 3 to 5 new residents. This incremental increase would be within the population forecast for the City. The proposed project would therefore not substantially induce population growth through the provision of new housing units and would result in less than significant impacts.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere?*

There are no existing housing units at the project site or people residing on the project site in a form of temporary housing. Therefore, the project would not displace existing housing units or people. No impacts would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project result in any of the following impacts:</i>				
a. <i>Result in an adverse physical impact from the construction of additional school facilities in order to maintain acceptable performance standards?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Result in an adverse physical impact from the construction of additional fire protection facilities in order to maintain acceptable performance standards?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>Result in an adverse physical impact from the construction of additional police protection facilities in order to maintain acceptable performance standards?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. <i>Result in an adverse physical impact from the construction of additional parks and recreation facilities in order to maintain acceptable performance standards?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. <i>Result in an adverse physical impact from the construction of additional library facilities in order to maintain acceptable performance standards?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project result in an adverse physical impact from the construction of additional school facilities in order to maintain acceptable performance standards?*

Historically, the demand for school facilities has increased nearly proportionally to the amount of new housing that is built in the Palo Alto Unified School District (PAUSD) service area (City of Palo Alto 2017d). The proposed project would involve the construction one single family residence. Assuming the proposed residence would involve 1 or 2 school-aged children, this would not substantially increase enrollment at area schools. In addition, consistent with state law (Section 65995(h) of the California Government Code, Senate Bill 50, chaptered August 27, 1998), new development would be required to pay school impact fees. Payment of developer impact fees pursuant to state law would ensure that adequate school facilities are provided to accommodate future growth. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project result in an adverse physical impact from the construction of additional fire protection facilities in order to maintain acceptable performance standards?*

The City of Palo Alto Fire Department (PAFD) provides fire protection, fire suppression, paramedic ambulance service, search and rescue, fire prevention inspections/permits, public fire education programs, emergency preparedness planning, and other services based on community needs. The closest fire department is Station 2 (Mayfield) at 2675 Hanover Street, located approximately 4.5 miles northeast of the project site. The site is within the existing service area of the PAFD and on-site construction would be required to comply with applicable Fire Code requirements. The project involves one single-family residence and would not create excessive demand for emergency services or introduce development to areas outside of normal service range that would necessitate new fire protection facilities. With the continued implementation of existing practices of the City, including compliance with the California Fire Code, the proposed project would not significantly affect community fire protection services and would not result in the need for construction of fire protection facilities.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project result in an adverse physical impact from the construction of additional police protection facilities in order to maintain acceptable performance standards?*

The Palo Alto Police Department (PAPD) provides police protection for the project vicinity. The closest police station is located at 275 Forest Avenue, approximately 5.8 miles northeast of the project site. The project site is within the PAPD's service area and is currently serviced by the PAPD. The project involves one single-family residence which would not create excessive demand for police services or introduce development to areas outside of normal service range that would necessitate new police protection facilities. The proposed project would not create the need for new or expanded police protection facilities and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project result in an adverse physical impact from the construction of additional parks and recreation facilities in order to maintain acceptable performance standards?*

Refer to Section 15, *Recreation*.

LESS THAN SIGNIFICANT IMPACT

- e. *Would the project result in an adverse physical impact from the construction of additional library facilities in order to maintain acceptable performance standards?*

The Palo Alto City Library (PACL) provides library services. The proposed project involves one single-family residence which would incrementally increase population growth in the

City. Overall, the project would not substantially impact the capacity of existing library facilities such that the construction of new facilities would be required.

LESS THAN SIGNIFICANT IMPACT

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16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. <i>Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The City of Palo Alto maintains 174 acres of urban parks distributed throughout the City as well as 43.2 miles of trail and over 4,000 acres in natural open space preserves. The four natural open space preserves are: Baylands Nature Preserve (which includes Byxbee Park), Esther Clark Preserve, Foothills Park, and Pearson-Arastradero Preserve (City of Palo Alto 2017c). The project site is within a mile radius of the Pearson-Arastradero Preserve, and approximately 1.6 miles west of Foothills Park. The proposed project would not involve the construction or expansion of recreational or park facilities. Further, the proposed single-family residence would not generate substantial population growth such that the construction of new park or recreational facilities would be required. No impact would occur.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project:</i>				
a. <i>Conflict with an applicable plan, ordinance or policy addressing the circulation system, taking into account all modes of transportation, including transit, bicycle, and pedestrian facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. <i>Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. <i>Result in inadequate emergency access?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. *Conflict with an applicable plan, ordinance or policy addressing the circulation system, taking into account all modes of transportation, including transit, bicycle, and pedestrian facilities?*

The project involves construction of a single-family residence served by an existing road. The proposed project would not affect adopted policies, plans and programs in support of alternative transportation. The project would have no impact on adopted policies, plans, and ordinances addressing the circulation system.

NO IMPACT

- b. *Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?*

Pursuant to the Office of Planning and Research's (OPR) vehicles miles traveled (VMT) Technical Advisory document, small projects that generate or attract fewer than 110 trips per day or residential projects of 20 units or less would be presumed to have a less than significant impact on VMT (City of Palo Alto 2020b). Since the proposed project would involve construction of one single-family residence with an associated accessory structure, the project would not significantly increase VMT.

LESS THAN SIGNIFICANT IMPACT

- c. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Construction of the proposed project would occur in a low-density area in Palo Alto where it would take access via an appropriately-sized driveway from an existing road, and would not include hazardous design features or incompatible uses. The proposed project would not require temporary lane detours or closures that would affect traffic patterns or capacity. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Result in inadequate emergency access?*

As discussed in Section 9, *Hazards and Hazardous Materials*, the proposed project would not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No streets would be closed, rerouted or substantially altered. The project would involve the construction of new entryways to the project site, which would be required to be reviewed and approved by the Palo Alto Fire Department to ensure safety emergency access is provided.

LESS THAN SIGNIFICANT IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</i>				
a. <i>Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <i>A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

In May 2016, the City of Palo received a single request from a tribe to be contacted in accordance AB 52. However, through subsequent correspondence with the tribe, it was concluded that the tribe had contacted the City of Palo Alto in error and did not wish to be contacted regarding future projects within the City’s jurisdiction. The tribe, the Torres Martinez Desert Cahuilla Indians, is not traditionally or culturally affiliated with the geographic area within the City of Palo Alto. Because no other tribes have requested to be contacted, no notices in accordance with AB 52 were sent and no further action is required. As discussed in the Cultural Resources Section, a SLF search of the project area was also negative.

IMPACT ANALYSIS

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1?*

Although no tribal cultural resources are expected to be present within the project site, there is the possibility of encountering undisturbed subsurface tribal cultural resources during construction activities which could potentially result in significant impacts on unanticipated tribal cultural resources. Therefore, Mitigation Measures CR-1 through CR-3 would be required to reduce impacts on unidentified tribal cultural resources to a less than significant level.

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure CR-1 would require a WEAP for all construction personnel to inform them of the appropriate procedures required in the event of a discovery. Implementation of Mitigation Measure CR-2 would ensure that locally affiliated Native American tribes be given the opportunity to conduct Native American Monitoring. Implementation of Mitigation Measure CR-3 would require that tribal cultural resources are identified properly and appropriately treated in the unanticipated event they are uncovered during construction. Implementation of these mitigation measures would reduce impacts related to disruption of tribal cultural resources to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. <i>Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. <i>Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>Result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. <i>Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. <i>Comply with federal, state, and local statutes and regulations related to solid waste?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. *Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*
- c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

WATER

Water to the project site would be supplied by Cal Water's Bear Gulch District pursuant to Cal Water's will serve letter dated August 19, 2021 (Appendix E). This is discussed in further detail under Impact (b) below.

WASTEWATER

Wastewater services would be provided by the West Bay Sanitary District pursuant to the District's will serve letter dated August 17, 2021 (Appendix E). The West Bay Sanitary District conveys wastewater via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and eventually discharge to the San Francisco Bay (West Bay Sanitary District 2022). The SVCW regional wastewater treatment plant has an average dry weather flow permitted capacity of 29 million gallons per day (SVCW 2020).

Assuming the proposed project would generate approximately 280 gallons of wastewater per day (City of Los Angeles 2006), the proposed project would generate an estimated 280 gallons of wastewater per day. The increase in wastewater generation associated with the project would be less than 0.000001^2 percent of the permitted capacity of the SVCW regional wastewater treatment plant. Therefore, there would be sufficient wastewater capacity to serve the project site. The proposed project would not exceed wastewater treatment requirements or require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. The proposed project would not result in a substantial physical deterioration of public wastewater facilities. Impacts would be less than significant.

STORMWATER

As discussed under Impact (a) in Section 10, *Hydrology and Water Quality*, pursuant to and in accordance with PAMC and C.3 requirements, the proposed project would be designed to direct runoff from roofs into vegetated areas to treat surface runoff before entering the stormwater system. In addition, the project would also implement rainwater catchment systems as well as utilize recycled water for landscape irrigation. The project would not require or result in the construction of new stormwater facilities or the expansion of existing facilities. Impacts would be less than significant.

ELECTRICITY

The City of Palo Alto Utilities (CPAU) receives electricity at a single connection point with Pacific Gas and Electric's (PG&E's) transmission system. From there the electricity is delivered to customers through nearly 470 miles of distribution lines, of which 223 miles (48 percent) are overhead lines and 245 miles (52 percent) are underground. The City also maintains six substations, roughly 2,000 overhead line transformers, 1,075 underground and substation transformers, and the associated electric services (which connect the distribution lines to the customers' homes and businesses) (City of Palo Alto 2017a). The

² 280 gallons per day divided by 29 million gallons per day (permitted capacity) = less than 0.000001 percent

proposed project would continue to be served by CPAU and would not require or result in the construction of new utilities or the expansion of existing facilities. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

Development of the residential project would increase demand for potable water. Assuming that water use is approximately 120 percent of wastewater generation (280 gallons per day), the proposed project would demand approximately 336 gallons of water per day, or 0.001 acre-feet per day. According to the Cal Water Bear Gulch District 2020 Urban Water Management Plan (UWMP), sufficient water supplies would be available to serve the project from existing entitlements and resources. No new or expanded entitlements would be needed to serve the proposed project. The project would not result in a substantial physical deterioration of public water facilities or result in adverse physical impacts from new or expanded utility facilities due to increased use as a result of the project. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

The City is currently contracted with GreenWaste of Palo Alto for collection of garbage, recycling and composting services and partners with the cities of Mountain View and Sunnyvale on the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station). The SMaRT Station processes mixed garbage from Palo Alto and recovers recyclable and compostable materials that would have otherwise gone to landfill. The City is also contracted with Waste Management Inc. to use the Kirby Canyon Landfill for waste disposal (City of Palo Alto 2018). The Kirby Canyon Landfill has a remaining capacity of 16,191,600 tons (CalRecycle 2019) and the daily permitted capacity is 2,600 tons per day (Waste Management 2022).

Using the CalRecycle waste generation rate of 12.23 per pound per household per day (CalRecycle 2018), the project would generate approximately 12.23 pounds, or 0.006 tons, of solid waste per day. The incremental increase in solid waste associated with the project would be within the permitted capacities of Kirby Canyon Landfill. Therefore, the project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. The proposed project would not result in a substantial physical deterioration of public solid waste facilities. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>If located in or near a state responsibility area or land classified as very high fire hazard severity zones, would the project result in any of the following impacts:</i>				
<i>a. Substantially impact an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project substantially impact an adopted emergency response plan or emergency evacuation plan?*

According to the Cal Fire Hazard Severity Zone map (Cal Fire 2022), the project site is not located in a Local Responsibility Area (LRA) or State Responsibility Area (SRA) Very High Fire Hazard Severity Zone (VHFHSZ). The project would not obstruct existing roadways or require the construction of new roadways or access points, and project plans include a detailed fire truck turning exhibit showing fire truck access to and within the site and reflecting radius requirements from the PAFD. Therefore, the proposed building would not block emergency response or evacuation routes or interfere with adopted emergency response and emergency evacuation plans. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

As mentioned in Impact (a) above, the project site is not located in a LRA or SRA VHFHSZ. The nearest Very High Fire Hazard Severity Zone (VHFHSZ) is located approximately 1 mile northwest of the project site near Portola Valley (Cal Fire 2022). The project would be required to comply with the following 2030 Comprehensive Plan policy listed below which would require fire protection design in new development and ensure adequate emergency access for the PAFD (City of Palo Alto 2017a).

- **Policy S-2.14** Require that the planning and design of development in areas exposed to wildland fire hazards minimize the risks of wildfire and include adequate provisions for vegetation management, emergency access and firefighting.

The project would comply with Policy S-2.14 by requiring fire sprinkler protection in all structures and installing a National Fire Protection Association (NFPA) 13-D fire sprinkler system³ throughout the house, including closets and bathrooms. The project would also comply with wildland urban interface (WUI) requirements pursuant to the 2019 California Residential Code and Chapter 15 of the PAMC which include requirements for vegetation management; roofing; vents; exterior walls; eaves; exterior porch ceilings, floor projections, underfloor protection, underside of appendages; windows, skylights and doors; garages; decking; and accessory structures (City of Palo Alto 2019). The project site is also in proximity to three fire hydrants, one approximately 750 feet north of the proposed driveway, one approximately 420 feet east of the driveway, and one approximately 990 feet south of the driveway. Therefore, the project would not exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project site is not located in a LRA or SRA VHFHSZ. Although the project would involve the construction of a driveway that would extend from Los Trancos Road (entry) to the proposed single-family residence, the driveway would provide emergency access in the case of a fire, and would not exacerbate wildfire risk. Additionally, the project would not involve the construction of new utility infrastructure or power lines that would worsen wildfire risk. Roads, maintained landscaping, and fire-resistant building materials would help prevent the

³ The NFPA 13-D sprinkler system is a residential sprinkler design standard focused on low-rise residential occupancies to ensure life safety and property protection (NFPA 2022).

spread of uncontrolled wildfire. Therefore, wildfire impacts from associated project infrastructure would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site is not located in a landslide hazard zone. Therefore, the project would not substantially expose people or structures to flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes, and would not exacerbate existing hazards. Furthermore, as mentioned in Section 10, *Hydrology and Water Quality*, the project would include low sloping roofs with built-in perimeter gutters to direct runoff to vegetated areas, as well as pervious driveways throughout the site which would ensure that runoff does not exceed the existing capacity of stormwater drainage systems which would reduce the potential of flooding. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project:</i>				
a. <i>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, 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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <i>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)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. <i>Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project have the potential to substantially 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?*

As noted under Section 4, *Biological Resources*, implementation of the proposed project may have potentially significant impacts on biological resources since special-status species have the potential to be present on the project site. Mitigation Measures BIO-1 through BIO-7 would reduce impacts to special-status plant and animal species and riparian habitats to a less than significant level. Protected trees under PAMC Chapter 8.10 were also surveyed on or adjacent to the project site. However, only one dead coastal live oak tree would be removed as part of the project. Mitigation Measure BIO-8 would still be required to reduce impacts on retained trees to a less than significant level. As discussed under Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural Resources*, the project would

not eliminate important examples of the major periods of California history or prehistory with adherence to Mitigation Measures CR-1, CR-2, and CR-3, which would reduce potential impact to unknown resources to less than significant. Overall, impacts would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. *Would the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

There are currently no pending and approved developmental projects in the immediate vicinity of the project that would contribute to the cumulative impact setting (City of Palo Alto 2022b).

Cumulative impacts are addressed in the individual topical sections above: Air Quality, Greenhouse Gas Emissions, Transportation, and Utilities and Service Systems (see CEQA Guidelines Section 15064(h)(3)). Some of the other resource areas were determined to have no impact in comparison to existing conditions and therefore would not contribute to cumulative impacts, such as those related to mineral resources and agricultural resources. As such, cumulative impacts in these issue areas would also be less than significant (not cumulatively considerable). With mitigation, the proposed project would not result in a significant cumulative impact with respect to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, and Tribal Cultural Resources. Therefore, overall cumulative impacts would be less than significant with required mitigation.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, geology and soils, hazards and hazardous materials, noise, and wildfire impacts. As detailed in the preceding responses, the project would not result, either directly or indirectly, in substantial adverse impacts related to these issue areas. The project’s effects on air quality would be less than significant with implementation of Mitigation Measure AQ-1; and the project’s effects on geology and soils would be less than significant with Mitigation Measures GEO-1 and GEO-2. Therefore, impacts would be less than significant with mitigation incorporated.

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