660 University Avenue Mixed Use Project

Environmental Impact Report SCH #2022110095

prepared by

City of Palo Alto

Planning and Development Services Department

Development Center

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Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the potential environmental effects of the proposed 660 University Mixed Use Project (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

Project Synopsis

The following is a summary of the information contained in Section 2, *Project Description*.

Project Applicant

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Mountain View, California 94041

Lead Agency Contact Person

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Palo Alto, California 94301
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Project Site Location and Setting

The project site is comprised of approximately 0.5 acres across three parcels located at the addresses of 511 Byron Street, 660 University Avenue, and 680 University Avenue/500 Middlefield Road in the City of Palo Alto in Santa Clara County, California. The project site is generally flat, slightly elevated and is developed with two dental office buildings and a surface parking lot.

The project site is designated as Multiple Family Residential (MF) in the 2030 Comprehensive Plan and falls within the Low Density Multiple-Family Residence District (RM-20) according to the Palo Alto Municipal Code. This zoning district is intended to maintain a mix of single-family and multiple-family housing, serving as a transitional zone between lower-density residential areas and more intense districts. The neighborhood is characterized by residential development and commercial offices, and surrounding uses include medical offices, assisted living facilities, an independent living community, a church, preschool, and a single-family residence. One oak tree that is considered a “protected tree” under the city's Tree Protection Ordinance and whose canopy and root zone extend onto the project site is located on an adjacent parcel.

Project Description

The proposed project aims to balance residential and office space, providing a mix of housing options, including affordable units, while seeking zoning allowances to achieve its objectives.

The proposed project would involve consolidating three parcels and constructing a four-story mixed-use building, demolishing existing office buildings and a surface parking lot. The development includes 9,115 square feet of office space, 63 residential units, and parking. The project would

provide 20 percent affordable housing units (13 units) and the project applicant is therefore seeking allowances through the discretionary Planned Community (PC) rezoning process pursuant to Palo Alto Municipal Code (PAMC) Section 18.38. Requested allowances include floor area ratio, setback, height, density, lot coverage, and open space features that deviate from the RM-20 Zone District requirements. The proposed project would require discretionary entitlements to amend the Zoning Code text and Zoning Map to rezone the site to a Planned Community Zone District, and to amend and modify the multi-family land use designation in the Comprehensive Plan.

Project Objectives

1. Develop a mixed-use project that adds diversity to the City of Palo Alto's housing supply and will meet a variety of residents' needs by providing a mix of one- and two-bedroom units, including affordable units.
2. Develop residential uses on a site specifically designated for housing in the City of Palo Alto's Housing Element but that does not currently contain any housing, and that will help meet the City's Regional Housing Needs Assessment (RHNA) obligations.
3. Provide sufficient parking but do not overpark the site, consistent with regional transportation and climate policy goals.
4. Protect and preserve the existing heritage protected oak tree located on the adjacent parcel at 519 Byron Street.
5. Contribute to achieving Goal 7 in the 2030 Comprehensive Plan regarding energy and GHG reduction by using environmentally sustainable siting, development, and construction practices, including LEED Gold or equivalent certification and an all-electric building system.
6. Redevelop the site with housing and include replacement of approximately 9,000 square feet of existing office space.
7. Provide new housing in proximity to jobs and services.

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines alternatives to the proposed project. Studied alternatives include the following three alternatives. Based on the alternatives analysis, Alternative 3 was determined to be the environmentally superior alternative.

- Alternative 1: No Project Alternative
- Alternative 2: Additional Setback from Oak Tree Alternative
- Alternative 3: Reduced Underground Parking Alternative

Alternative 1 (No Project Alternative) assumes that the proposed four-story mixed-use building with 63 residential units, 9,115 square feet of office space, and two levels of below grade parking would not be constructed. The project site is currently developed with two office buildings located on the parcels at 511 Byron Street and 680 University Avenue/500 Middlefield Road, respectively, that are currently used by dental offices, and a surface parking lot. The two existing office buildings and surface parking would remain under this alternative. Since no demolition or construction activities would occur with this alternative, the biological and noise impact would no longer be significant and there would no longer be impacts related to hydrology and water quality, the unanticipated discovery of archeological resources, paleontological resources, and tribal cultural

resources. Thus, the associated mitigation measures would not be required. The No Project Alternative would not meet most of the project objectives.

Alternative 2 (Additional Setback from Oak Tree Alternative) would involve the mixed-use building and garage being located approximately 41 feet away from the off-site protected oak tree, which is outside the tree protection zone, as defined by the City's tree technical manual) and limits construction for an additional 11 feet further from the tree than the 30-foot setback proposed for the project. Alternative 2 mirrors the proposed project's characteristics but positions the mixed-use building and garage 11 feet further from the heritage-protected oak tree, exceeding the 30-foot setback proposed for the project and remaining outside the tree protection zone (TPZ). While featuring slightly less office space compensated by an additional story, the overall number of units and square footage for residential and office uses remains similar to the proposed project. This alternative alters vehicular access to Middlefield Road due to the increased setback on Byron Street. It aligns with the project objectives, emphasizing housing diversity, affordability, achieving RHNA targets, and promoting energy and GHG reduction goals. In terms of impact analysis, biological resources' impacts would be slightly reduced, addressing concerns related to nesting birds and the heritage-protected oak tree. Noise impacts during construction, would be similar to the proposed project; however, noise during operation may slightly increase as vehicles would enter/exit off Middlefield Road, adjacent to the single-family residence. Transportation impacts would be comparable, featuring similar VMT outcomes and avoiding conflicts with applicable policies. Overall, Alternative 2 would reduce impacts on biological resources, noise, and transportation. Thus, it is the environmentally superior alternative.

Alternative 3 (Reduced Underground Parking Alternative) would maintain the proposed mixed-use building with 63 residential units and 9,115 square feet of office space but would diverge by featuring only one level of below-grade parking, resulting in approximately half the parking stalls compared to the proposed project. This reduction in parking also entails less excavation depth. Similar to the proposed project, Alternative 3 aligns with the project objectives, contributing to housing diversity, increasing housing units (including affordable ones), adhering to RHNA targets, enhancing the job and housing balance, safeguarding the heritage-protected oak tree, and promoting energy and GHG reduction goals. While the biological resources' impacts remain the same, with potential effects on nesting birds and the oak tree, mitigation measures are implemented to maintain significance at an acceptable level. Noise impacts are slightly reduced during construction due to the shortened duration, but operational noise remains similar. Transportation impacts see a reduction in VMT per resident, as fewer parking spaces incentivize alternative transportation modes, aligning with existing policies. Although the reduced excavation in Alternative 3 lowers the likelihood of encountering groundwater, similar to the proposed project, compliance with regulations and mitigation measures remains necessary. In conclusion, while some impacts are slightly reduced, Alternative 3 generally mirrors the proposed project in terms of biological resources, noise, transportation, and potential archaeological discoveries. Thus, it is not considered the environmentally superior alternative.

Refer to Section 6, *Alternatives*, for the complete alternatives analysis.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project; however, comments were received during the scoping period identifying concerns with noise, parking, access, density, and biological resources, among others. Refer to Table 1-1 for a summary of comments receiving during the scoping period and Appendix A for copies of written comments received. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meeting held by the City are summarized in Section 1, *Introduction*.

Issues to be Resolved

The proposed project would require a demolition and building permit. In addition, Planning Commission approval of a discretionary permit/entitlement for Development Plan Review of a new building and a rooftop lunchroom would be required.

Issues Not Studied in Detail in the EIR

Table 1-2 in Section 1.4 summarizes issues from the environmental checklist that were addressed in the Initial Study (Appendix B). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur in relation to the following issue areas: Aesthetics, Agricultural Resources, Air Quality, , Cultural Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology, Land Use and Planning, Mineral Resources, Population/Housing, Public Services, Recreation, and Utilities. Impacts to Biological Resources, Noise, and Transportation were found to be potentially significant and are addressed in this EIR.

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project studied in the EIR, proposed mitigation measures for the project, and residual impacts (the impact after application of mitigation, if required). Refer also to Table 1-2 for a summary of issues analyzed in the Initial Study. Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Air Quality		
Impact AQ-1. The project may potentially impact sensitive receptors nearby from carbon monoxide hotspots and toxic air contaminants. Impacts would be less than significant with mitigation incorporated.	**AQ-1 Construction Emissions Reduction.** Prior to construction activity and issuance of grading and building permits, the property owner or their designee shall ensure that the following specifications are detailed in the grading plan, building plan, and any contractor agreements and ensure that they be implemented during construction: ▪ All mobile off-road equipment (wheeled or tracked) used during construction activities over 25 horsepower shall meet the USEPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 Final standards. ▪ All mobile off-road equipment (wheeled or tracked) used during construction activities under 25 horsepower, such as generators, pumps, forklifts, cement and mortar mixes, and plate compactors shall be equipped with Level 3 diesel particulate filters.	Less than significant with mitigation incorporated
Biological Resources		
Impact BIO-1. The project may result in impacts to protected nesting bird species. This impact would be less than significant with mitigation incorporated.	**BIO-1 Nesting Bird Surveys and Avoidance.** Construction of the project and other site disturbing activities that would involve vegetation or tree removal shall be prohibited during the general avian nesting season (February 1 – August 31), if feasible. If nesting season avoidance is not feasible, the applicant shall retain a qualified biologist, as approved by the City of Palo Alto, to conduct a preconstruction nesting bird survey to determine the presence/absence, location, and activity status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site shall be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the MBTA and CFGC, nesting bird surveys shall be performed not more than 14 days prior to scheduled vegetation clearance and structure demolition. In the event that active nests are discovered, a suitable buffer (typically a minimum buffer of 50 feet for passerines and a minimum buffer of 250 feet for raptors) shall be established around such active nests and no construction shall be allowed within the buffer areas until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). Nesting bird surveys are not required for construction activities occurring between August 31 and February 1.	Less than significant with mitigation incorporated

Impact	Mitigation Measure (s)	Residual Impact
Impact BIO-2. Construction activities near adjacent trees, specifically the heritage protected oak tree located on the adjacent parcel, could impact protected trees and conflict with the city's local tree and landscape preservation and management ordinance. However, this impact would be less than significant with mitigation incorporated.	**BIO-2 Tree Protection Plan.** During the project design phase, the project applicant shall comply with and implement design guidelines listed in Section 6.1 of the February 7, 2024 Arborist Report prepared by David L. Babby. Guidelines include delineation of tree protection zones, specific actions related to grading and excavation, specifications for new paving and hardscape, and erosion control and landscaping requirements, among others. Prior to demolition, grading, and construction, the project applicant shall comply with tree protection measures listed in Section 6.2 of the Arborist Report. Guidelines include a review of tree protection and construction processes, inspections and supervisions under direction of the project arborist, and installation of TPZs, among others. During demolition, grading, and construction, the project applicant shall comply with tree protection measures listed in Section 6.3 of the Arborist Report. Guidelines include specific actions related to demolition, excavation, and trenching, supervisions under direction of the project arborist, and disposal requirements, among others. A qualified arborist shall be retained and present for any activity that could impact trees on- and off-site. **BIO-3 Oak Tree Root Pruning and Protection.** Larger roots shall be pruned using a fine-tooth saw, and smaller roots shall be pruned using a hand looper. If roots are to be left exposed for long periods of time, especially in warm weather, they must be covered in burlap cloth and kept wet. A qualified arborist shall be present on site to oversee any root pruning activities.	Less than significant with mitigation incorporated
Cultural Resources		
Impact CR-1. Construction of the proposed project would involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously unidentified archaeological resources. Impacts would be less than significant with mitigation incorporated.	**CUL-1 Worker's Environmental Awareness Program**. The property owner or their designee shall retain a qualified archaeologist to conduct a Worker's Environmental Awareness Program (WEAP) training for archaeological sensitivity for all construction personnel prior to the commencement of any ground disturbing activities. Archaeological sensitivity training shall include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, the proper protocol for treatment of the materials in the event of a find, and an outline of the penalties for the willful and intention damage of cultural resources. **CUL-2 Unanticipated Discovery of Archeological Resources**. In the event that archaeological resources are unearthed during project construction, all earth-disturbing work near the find must be temporarily suspended or redirected until an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (NPS 1983) has evaluated the nature and significance of the find. If the discovery proves to be significant under CEQA (Section 15064.5f; PRC 21082), additional work, such as preservation in place or archaeological data recovery, shall occur as recommended by the archeologist in coordination with City staff and if applicable, the most likely descendants. Once the resource has been properly treated or protected, work in	Less than significant with mitigation incorporated

Impact	Mitigation Measure (s)	Residual Impact
	the area may resume. A Native American representative shall be retained to monitor mitigation work associated with Native American cultural material.	
Geology and Soils		
Impact GEO-1. Construction of the proposed project would involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact unique paleontological resources. Impacts would be less than significant with mitigation incorporated.	**GEO-1 Paleontological Resources Monitoring and Mitigation**. **Qualified Professional Paleontologist.** Prior to excavation, the project applicant shall retain a Qualified Professional Paleontologist (defined by the SVP (2010) as an individual, preferably with an M.S. or Ph.D. in paleontology or geology, who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for at least two years). The Qualified Professional Paleontologist shall direct all mitigation measures related to paleontological resources. **Paleontological Worker Environmental Awareness Program.** Prior to the start of construction, the Qualified Professional Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. **Paleontological Monitoring.** Full-time paleontological monitoring shall be conducted during ground disturbing construction activities reaching more than 5 feet below the ground surface in areas mapped as Quaternary coarse-grained alluvium and ground. Paleontological monitoring shall be conducted by a paleontological monitor with experience with collection and salvage of paleontological resources and who meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring will be determined by the Qualified Professional Paleontologist based on the observation of the geologic setting from initial ground disturbance, and subject to the review and approval by the City of Palo Alto. If the Qualified Professional Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions once the full depth of excavations has been reached, they may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. Monitoring shall be reinstated if any new ground disturbances are required, and reduction or suspension shall be reconsidered by the Qualified Professional Paleontologist at that time. In the event of a fossil discovery by the paleontological monitor or construction personnel, the following measures shall apply: ▪ **Fossil Salvage.** If fossils are discovered, the paleontological monitor shall have the authority to halt or temporarily divert construction equipment within 50 feet of the find until the paleontological	Less than significant with mitigation incorporated

Impact	Mitigation Measure (s)	Residual Impact
	monitor and/or Qualified Professional Paleontologist evaluate the discovery and determine if the fossil may be considered significant. Typically, fossils can be safely salvaged quickly by a single paleontological monitor and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive deposits ▪ **Fossil Preparation and Curation.** Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a museum repository with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Professional Paleontologist. ▪ **Final Paleontological Mitigation Report.** Upon completion of ground disturbing activity (and curation of fossils if necessary) the Qualified Professional Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to the City of Palo Alto Director of Planning and Development Services. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.	
Noise		
Impact N-1. Construction and demolition activities associated with the proposed project would intermittently generate noise adjacent to the project site. These construction noise levels would not exceed the applicable noise level thresholds. Noise associated with operation of the project would be generally similar to existing noise generated by nearby residential and commercial uses and would not cause a significant change in ambient noise levels. This impact would be less than significant.	**Recommended N-1 Construction Noise Reduction Measures**. The construction contractor shall prepare a Construction Noise Control Plan prior to issuance of a grading permit. The Construction Noise Control Plan shall specify the noise reduction measures to be implemented during project construction to ensure noise levels are reduced at nearby residences. The measures specified in the Construction Noise Control Plan shall be included on the building and grading plans and shall be implemented by the construction contractor during construction. At a minimum, the Construction Noise Control Plan shall include the following measures: 1. **Construction Operating Hours.** Limit all construction activities to the hours of 8:00 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 6:00 p.m. on Saturdays. Construction activity shall be prohibited on Sundays and national holidays. 2. **Mufflers.** During all construction phases, all construction equipment, fixed or mobile, shall be operated with closed engine doors and shall be	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	equipped with properly operating and maintained mufflers consistent with manufacturers' standards. 3. **Silencing.** Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with silencing devices consistent with manufacturer's standards, if available. Equipment shall be properly maintained, and the project applicant or owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications. 4. **Stationary Equipment.** All stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receptors. 5. **Signage and Noise Complaint Coordinator**. The project applicant shall designate an on-site construction project manager who shall be responsible for responding to any complaints about construction noise. This person shall be responsible for responding to concerns of neighboring properties about construction noise disturbance and shall be available for responding to any construction noise complaints during the hours that construction is to take place. They shall also be responsible for determining the cause of the noise complaint (e.g., bad silencer) and shall require that reasonable measures be implemented to correct the problem. A toll-free telephone number shall be posted at construction site entrances for the duration of construction and provided in all notices (mailed, online website, and construction site postings) for receiving questions or complaints during construction and shall also include procedures requiring that the on-site construction manager to respond to callers. The on-site construction project manager shall be required to track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction and shall notify the City's Community Development Director of each complaint occurrence. 6. **Smart Back-Up Alarms.** Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. 7. **Equipment Idling.** Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use. 8. **Temporary Noise Barriers.** Erect a temporary noise barrier along the eastern project boundary, and the southern and western project boundaries, where feasible, during demolition and grading/excavation phases. Temporary noise barriers shall be constructed with solid materials (e.g., wood) with a density of at least 1.5 pounds per square foot with no gaps from the ground to the top of the barrier at a minimum height of 12 feet. Where a solid barrier is not feasible,	

Impact	Mitigation Measure (s)	Residual Impact
	sound blankets affixed to the construction fencing shall be used. If a sound blanket is used, the sound blanket must have a density of at least 1 pound per square foot with no gaps from the ground to the top of the construction fencing, and the sound blank shall be rated sound transmission class (STC) 32 or higher.	
Impact N-2. Construction activities associated with the proposed project would intermittently generate groundborne vibration at residential receptors adjacent to the project site. Vibration could exceed FTA standards for potential damage to the adjacent residential building to the southeast, due to the proximity of construction equipment. However, this impact would be less than significant with implementation of Mitigation Measure N-2.	**N-2 Construction Vibration Control Plan.** The construction contractor shall prepare a Vibration Control Plan prior to issuance of a grading permit. The Construction Vibration Control Plan shall specify the vibration reduction measures to be implemented during project construction to ensure vibration levels are reduced to 0.2 in/sec PPV at nearby residences. The measures specified in the Construction Vibration Control Plan shall be included on the building and grading plans and shall be implemented by the construction contractor during construction. At a minimum, the Construction Vibration Control Plan shall include the following measures: 1. For paving activities within 25 feet of offsite residences, a static roller shall be used in lieu of a vibratory roller. 2. For grading and earthwork activities (not including the drop bucket or scoop) within 15 feet of offsite residences, off-road equipment shall be limited to 100 horsepower or less.	Less than significant with mitigation incorporated
Impact N-3. The project site is located outside of noise contours associated with airports. Therefore, new development under the proposed project would not be exposed to excessive noise levels from aircraft operations and no impact would occur.	None required	No Impact
fTribal Cultural Resources		
Impact TCR-1. There is potential to uncover buried archaeological and tribal cultural resources during ground disturbing activities, which could potentially be considered tribal cultural resources eligible for listing in the CRHR or a local register or be considered tribal cultural resources. Should project construction activities encounter and damage or destroy a tribal cultural resource or resources. With implementation of mitigation measures, impacts would be less than significant.	**TCR-1 Unanticipated Discovery of Tribal Cultural Resources.** In the event that cultural resources of Native American origin are identified during implementation of the proposed project, all earth-disturbing work within 50 feet of the find shall be temporarily suspended or redirected until an archaeologist and culturally affiliated Native American representative have evaluated the nature and significance of the find. If the City, in consultation with local Native Americans, determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with local Native American group(s). The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the culturally affiliated local Native American tribal representative and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for tribal cultural resources include, but are not	Less than significant with mitigation incorporated

Impact	Mitigation Measure (s)	Residual Impact
	limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.	
Transportation		
Impact TRA-1. The proposed project would not conflict with applicable policies addressing transit, roadway, bicycle, or pedestrian facilities. This impact would be less than significant.	None required	Less than significant
Impact TRA-2. VMT attributable to the proposed project would not exceed the city's thresholds. Therefore, this impact be less than significant.	None required	Less than significant
Impact TRA-3. The proposed project would not introduce design features or incompatible uses that could increase traffic hazards. This impact would be less than significant.	None required	Less than significant
Impact TRA-4. The project would meet City design standards related to emergency access and would provide adequate access for emergency vehicles. This impact would be less than significant.	None required	Less than significant

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1 Introduction

This document is an Environmental Impact Report (EIR) for the proposed 660 University Avenue Mixed-Use Project ("proposed project"). The project site is located on three parcels at 511 Byron Street, 660 University Avenue, and 680 University Avenue/500 Middlefield Road in Palo Alto, California and is currently developed with two office buildings. The proposed project would involve a Comprehensive Plan amendment to modify the description of Multiple Family Residential designation to include a provision for maintaining existing office space, and to rezone the site from Low Density Multiple-Family Residence (RM-20) to Planned Community (PC). The proposed project involves demolition of the existing office buildings and construction of a four-story mixed-use building with two levels of below-grade parking. Proposed uses consist of 9,115 square feet of office space, 63 residential units, and parking. The office space would be located only on the first floor. The remaining three floors above the office space would be used for residential units.

This section discusses (1) the project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) issue areas found not to be significant by the Initial Study; (5) the lead, responsible, and trustee agencies; and (6) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in detail in Section 2, *Project Description*.

1.1 Environmental Impact Report Background

The City of Palo Alto distributed a Notice of Preparation (NOP) of the EIR for a 30-day agency and public review period starting on November 4, 2022 and ending on December 5, 2022. The City received two letters from public agencies and 10 letters from the general public in response to the NOP during the public review period. The NOP and NOP responses are presented in Appendix A of this EIR. Table 1-1 summarizes the content of the letters and where the issues raised are addressed in the EIR.

Table 1-1 Summary of NOP Comments

Commenter	Comment/Request	Where Topic is Discussed
Public Agency Comments		
Native American Heritage Commission	This comment letter is a summary of requirements under state law related to cultural resources, tribal cultural resources, and Native American tribal outreach.	Refer to Section 5, *Cultural Resources,* and Section 18, *Tribal Cultural Resources*, of the Initial Study.
Santa Clara Valley Water District	This comment letter recommends implementing measures from the Model Water Efficient New Development Ordinance to reduce or avoid impacts to water supplies. The commenter notes that the project site is located within a flood zone, and recommends contacting the City of Palo Alto's Flood Plain Administrator for additional flood control requirements.	Refer to Section 19, *Utilities and Service Systems*, of the Initial Study (Appendix B) and Section 10, *Hydrology and Water Quality*, of the Initial Study (Appendix B).

Commenter	Comment/Request	Where Topic is Discussed
Public Comments		
Kathleen Rotow	The commenter expresses concern that the project and associated site rezoning would increase traffic, noise, and pollution, which would adversely affect local residents and senior living facilities.	Project impacts pertaining to pollution are discussed in the Section 3, *Air Quality*, of the Initial Study (Appendix B). Project impacts pertaining to noise are discussed in Section 4.2, *Noise*. Project impacts pertaining to transportation are discussed in Section 4.3, *Transportation*.
Alan and Donna Brauer	The commenters express concern about potential project-related noise and inquire about noise mitigation measures. The commenters also inquire whether access to their private driveway will be permitted, and when demolition would begin.	Project noise mitigation measures are discussed in Section 4.2, *Noise*. Project impacts pertaining to road access are discussed in Section 4.3, *Transportation*. The project's construction phasing and schedule is provided in Section 2, *Project Description.*
Becky Sanders	The commenter inquires how parking spaces were calculated, and if parking space calculations were based on a monitored transportation demand management (TDM) program. The commenter also inquires whether the EIR will study project alternatives that would reduce parking requirements.	Refer to Section 4.3, *Transportation*, of the EIR. Section 6, *Alternatives*, provides an overview and analysis of project alternatives.
Alex Dersh	The commenter expresses their support for the project's mixed-use characteristics and affordable housing component.	The project's characteristics are described in Section 2, *Project Description.*
Leigh Prince, representing the Homeowner's Association for The Hamilton	The commenter notes the EIR should examine impacts due to density increases throughout the EIR; impacts of the proposed office spaces throughout the EIR; project impacts to biological resources, including heritage trees; shade/shadow impacts from the proposed building; and noise impacts from rooftop uses.	Impacts to biological resources, including heritage trees, are discussed in Section 4.1, *Biological Resources*. Impacts involving aesthetics are discussed in Section 1, *Aesthetics*, of the Initial Study. Impacts regarding noise are discussed in Section 4.2, *Noise*.
	The commenter recommends preparing a housing needs assessment so the City may understand how the proposed office spaces would generate housing demand.	Refer to Section 14, *Population and Housing*, of the Initial Study and Section 5, *Other CEQA Required Discussions* of the EIR.
	The commenter notes the EIR should analyze impacts involving setback reductions, parking, access points, level of service, delay, and congestion, as well as impacts from project-generated traffic to public safety.	Impacts involving transportation, including setback reductions, access points, level of service, delay, and congestion, are discussed in Section 4.3, *Transportation*.
	The commenter recommends including a health risk assessment to understand how project-generated traffic may adversely impact air quality, as senior communities are located nearby.	Impacts regarding air quality are discussed in Section 3, *Air Quality*, of the Initial Study and results of a construction health risk assessment are discussed therein.

Commenter	Comment/Request	Where Topic is Discussed
	The commenter notes the EIR should consider a number of alternatives, including reduced density, larger setbacks, reduced height, provision of senior housing, and no office uses.	Section 6, *Alternatives*, provides an overview and analysis of project alternatives.
Christopher Ream	The commenter expresses concern that the project would damage a heritage tree, and recommends siting the proposed building a farther distance from this tree.	Impacts to biological resources, including heritage trees, are discussed in Section 4.1, *Biological Resources*.
	The commenter expresses concern that project-generated traffic would exacerbate existing traffic conditions on Middlefield Road, University Avenue, and Byron Street, leading to safety issues. The commenter expresses concern that the project does not provide adequate parking spaces. The commenter expresses concern regarding the proposed setback reductions.	Project impacts pertaining to transportation issues within the purview of CEQA are discussed in Section 4.3, *Transportation*.
	The commenter expresses concern regarding noise generated from the project's rooftop uses.	Impacts regarding noise are discussed in Section 4.2, *Noise*.
	The commenter expresses concern regarding the aesthetics of the proposed balconies.	Impacts involving aesthetics impacts are discussed in the Initial Study.
	The commenter expresses concern that the proposed office uses would increase population demand, and should be replaced with residential uses.	Impacts involving population and housing are discussed in the Initial Study. Section 6, *Alternatives*, provides an overview and analysis of project alternatives.

1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of the City of Palo Alto; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with *CEQA Guidelines* Section 15121 (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

> "...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

This EIR has been prepared as a project EIR pursuant to *CEQA Guidelines* Section 15161. A Project EIR is appropriate for a specific development project. As stated in the *CEQA Guidelines*:

> "This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation."

This EIR is to serve as an informational document for the public and City of Palo Alto decision makers. The process will include public hearings before the City Council to consider certification of a Final EIR and approval of the proposed project.

1.3 Scope and Content

The Initial Study is included in Appendix B of this EIR. This EIR addresses the following impacts identified by the Initial Study to be potentially significant:

- Biological Resources
- Noise
- Transportation

In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References and Preparers*.

The alternatives section of the EIR (Section 6) was prepared in accordance with *CEQA Guidelines* Section 15126.6 and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and three alternative development scenarios for the project site.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. *CEQA Guidelines* Section 15151 of provides the standard of adequacy on which this document is based. The *Guidelines* state:

> *"*An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure."

1.4 Issues Not Studied in Detail in the EIR

Table 1-2 summarizes issues from the environmental checklist that were addressed in the Initial Study and determined to have impacts that would be less than significant or less than significant with mitigation (Appendix B). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur in any of these issue areas. Impacts that were determined in the Initial Study to be potentially significant are addressed in further detail in this EIR.

Table 1-2 Issues Not Studied in the EIR

Issue Area	Initial Study Findings
Aesthetics	The project would be consistent with the scale of surrounding development, and views through the site from public viewpoints that are currently blocked by existing buildings and trees would be generally the same after construction of the project. The project would have a less than significant impact on scenic vistas.
	The project would not substantially damage scenic routes or scenic resources within a state scenic highway, and would have a less than significant impact in this regard.
	The project would be subject to Major Architectural Review, which would ensure that the project is reviewed for consistency with applicable regulations governing scenic quality. The project would not conflict with applicable zoning and other regulations governing scenic quality and impacts would be less than significant.
	Project light sources would not result in a significant impact, as they would only incrementally add to the existing background light levels already present as a result of the surrounding street lighting and urban development. The project would not create a substantial source of glare that would adversely affect day or nighttime views. Impacts would be less than significant.
Agricultural Resources	The project site is within an urbanized area of Palo Alto that lacks agricultural lands or forests. No impact to these resources would occur.
Air Quality	The project would support the goals and measures of the 2017 Clean Air Plan and would not conflict with or obstruct the implementation of an applicable air quality plan. The project would have a less than significant impact.
	Project construction and operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.
	Project construction and operation would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.
	The project would not substantially cause new sources of odors and would not significantly expose sensitive receptors to existing odors, and impacts would be less than significant with implementation of Mitigation Measure AQ-1.
Biological Resources	The project site does not contain riparian habitat or sensitive natural communities and is not located in a sensitive biological area. The project would have a less than significant impact involving substantial adverse effects to riparian habitat or other sensitive natural communities.
	The proposed project would not involve the direct removal, filling, hydrological interruption, or other means to the bed, bank, or channel of the San Francisquito Creek. No impact to wetlands would occur.
	The project site is not located within an approved Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.
Cultural Resources	The project site contains two built environment resources: a two-story commercial dental office constructed in 1950 at 511 Byron Street and a two-story commercial medical office constructed in 1950 at 680 University Avenue. Neither property is associated with historic events, was definitively tied to a person significant to history, or is an example of a type or style of architecture. As such, the project would result in no impact to a historical resource.
	No archaeological resources have been previously recorded within the project site. The project is considered to have low sensitivity for archaeological resources due to a high level of previous ground disturbance within the project site, as well as the absence of previously recorded resources within the project site or vicinity. Mitigation Measures CUL-1 and CUL-2 would reduce impacts associated with the unanticipated discovery of cultural resources to a less-than-significant level.

Issue Area	Initial Study Findings
	No human remains are known to be present within the project site. Compliance with the San Benito County Code of Ordinances, PRC Section 5097.98 and California Health and Safety Code Section 7050.5 would ensure impacts to unknown human remains are less than significant.
Energy	The project would not involve the inefficient, wasteful, and unnecessary use of energy during construction or operation, and impacts would be less than significant.
	The project would be consistent with applicable energy efficiency policies within the 2030 Comprehensive Plan. Impacts would be less than significant.
Geology and Soils	The project site is not located within an identified earthquake fault zone as delineated on the Alquist-Priolo Earthquake Fault Zoning Map. As a result, the likelihood of surface rupture occurring from active faulting at the site is remote. Impacts would be less than significant.
	All types of construction must adhere to California Building Code seismic safety restrictions and in-depth soil reports must be required as part of the development approval process for residential sites within earthquake fault zones. Impacts involving strong seismic ground shaking would be less than significant.
	With modern construction and adherence to the geology and soil provisions of the California Building Code, which sets forth seismic design standards (Chapters 16, 18) and geohazard study requirements (Chapter 18), impacts involving liquefaction and unstable soils would be less than significant.
	The project site has low potential for landslides. Impacts would be less than significant.
	Compliance with PAMC Chapters 16.28.070 and 16.28.120, BAAQMD best management practices, and the NPDES permit process would ensure that impacts of the proposed project associated with soil erosion and the loss of topsoil would be less than significant.
	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. Impacts associated with expansive soils would be less than significant.
	The proposed project would be connected to the local wastewater treatment system. Septic systems would not be used. No impact would occur.
	The project site has been previously developed, so construction activities that disturb surficial sediments would likely only impact previously disturbed, and therefore not paleontologically sensitive, sediments. Implementation of Mitigation Measure GEO-1 would reduce impacts associated with the unanticipated discovery of paleontological resources to a less-than-significant level.
Greenhouse Gas Emissions	The proposed project would not directly or indirectly generate greenhouse gases (GHG) that may have a significant impact on the environment, and impacts would be less than significant.
	The project would generally be consistent with applicable GHG goals, policies, and strategies in the regional plans such as Plan Bay Area 2050, as well as local plans such as the City of Palo Alto S/CAP and the 2030 Comprehensive Plan. 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.

Issue Area	Initial Study Findings
Hazards and Hazardous Materials	Local, state, and federal regulations and standards are in place to regulate the transportation, use, and disposal of hazardous materials. In addition, there are several local departments and agencies that are able to respond to foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Implementation of Mitigation Measure HAZ-1 would reduce impacts associated with potential on-site hazardous materials to a less-than-significant level.
	No hazardous releases have been reported at the site, and no permit violations with regulatory agencies have been reported. Therefore, the project would not emit or handle hazardous emissions or wastes, and would not create a significant hazard to the public or environment. Impacts would be less than significant.
	The project site is not located within an airport land use plan, Airport Influence Area, or Airport Safety Zone. No impacts involving airports or private airstrips would occur.
	The proposed building would not obstruct existing roadways or require the construction of new roadways or access points. Therefore, the proposed building would not block emergency response or evacuation routes or interfere with adopted emergency response and emergency evacuation plans. No impact would occur.
	The project site is within an urbanized area in Palo Alto, and is not located adjacent to or within the vicinity of wildlands or a Very High Fire Hazard Severity Zone. Therefore, there would be no risk of exposing people or structures to a significant risk of loss, injury or death involving wildland fires. No impact would occur.
Hydrology and Water Quality	With adherence to the City's policies regarding dewatering, the project would not violate water quality standards, waste discharge requirements, or degrade water quality. Impacts would be less than significant.
	The project would not result in an exceedance of safe yield or a significant depletion of groundwater supplies. Impacts related to groundwater would be less than significant.
	The project would involve retention of the existing surface runoff system, and configuration at the site would be maintained and would not introduce new surface water discharges, substantially increase runoff volumes, result in substantial erosion or siltation, or result in flooding on- or off-site. The project would also not alter the existing drainage pattern of the site or area. Impacts would be less than significant.
	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. Therefore, the project site is located in a low hazard area for tsunami, seiche, and mudflow. Impacts would be less than significant.
	The proposed project would not interfere with the objectives and goals in the Water Quality Control Plan for the San Francisco Bay Basin. Impacts would be less than significant.
Land Use and Planning	The project would not separate 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 impacts would occur.
	The proposed project would be consistent with the land uses envisioned for the multi-family land use designation with a Planned Community application since the project would provide a public benefit to the City by including 20 percent affordable housing. The project would involve high-quality urban design elements, including landscaping elements and open space. The project would also be consistent with the scale and character of neighboring uses. Therefore, the project would not conflict with the City's Comprehensive Plan. Impacts involving conflict with a land use plan would be less than significant.
Mineral Resources	The project site is within an urbanized area with no current oil or gas extraction, and no mineral deposits of regional significance. Therefore, no mineral resource activities would be altered or displaced by the proposed project, and no impact would occur.

Issue Area	Initial Study Findings
Noise	The project site is not within two miles of a public or private airstrip or airport. No impacts would occur.
Population and Housing	The housing growth associated with the project is well within regional projections. The proposed project would not substantially induce population growth through the provision of new housing units or employment opportunities. Impacts involving substantial unplanned population growth would be less than significant.
	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 impact would occur.
Public Services	As the project site is located in an urbanized and existing service area of the Palo Alto Fire Department, continued implementation of existing practices of the City, including required compliance with the California Fire Code, would result in less than significant impacts to fire protection services.
	The proposed project 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. Impacts regarding police protection facilities would be less than significant.
	The proposed project would generate up to 63 additional students at Palo Alto Unified School District schools. If approved, this project would be subject to the Palo Alto Unified School District School Impact Fees, which are assessed based on proposed land use and floor area. Therefore, the project would not have a significant impact with respect to schools.
	The level of project-generated population growth would not be substantial and would not require the construction of new library facilities. This impact would be less than significant.
Recreation	The incremental increase in new residents derived from the project would not substantially alter citywide demand for parks such that substantial physical deterioration of parks would occur, or the construction of new recreational facilities would be required. Construction of the project would not involve off-site activities or construction that would directly affect nearby recreational facilities. Therefore, impacts involving recreational facilities would be less than significant.
Tribal Cultural Resources	No cultural resources have been identified within the project site. However, there is always potential to uncover buried archaeological and tribal cultural resources during ground disturbing activities. Mitigation Measure TCR-1 would reduce impacts associated with the unanticipated discovery of tribal cultural resources to a less-than-significant level.
Utilities and Service Systems	There would be sufficient water supplies, wastewater treatment capacity, and storm drain system capacity to service the proposed project. The project would be accommodated adequately by existing electricity and telecommunication facilities. Impacts involving the provision of new utility facilities, including water, wastewater, stormwater, electric, natural gas, and telecommunications, would be less than significant
	The incremental increase in solid waste associated with the project would be within the permitted capacities of Kirby Canyon Landfill. The proposed project would not result in a substantial physical deterioration of public solid waste facilities. Impacts would be less than significant.
Wildfire	The project site is not located in or near a Fire Hazard Severity Zone or Very High Hazard Severity Zone for wildland fires. The proposed project would be required to comply with the California Fire Code requirements pursuant to PAMC Section 15.04.015. No impacts related to wildfire would occur.

1.5 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The City of Palo Alto is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no responsible or trustee agencies for the proposed project.

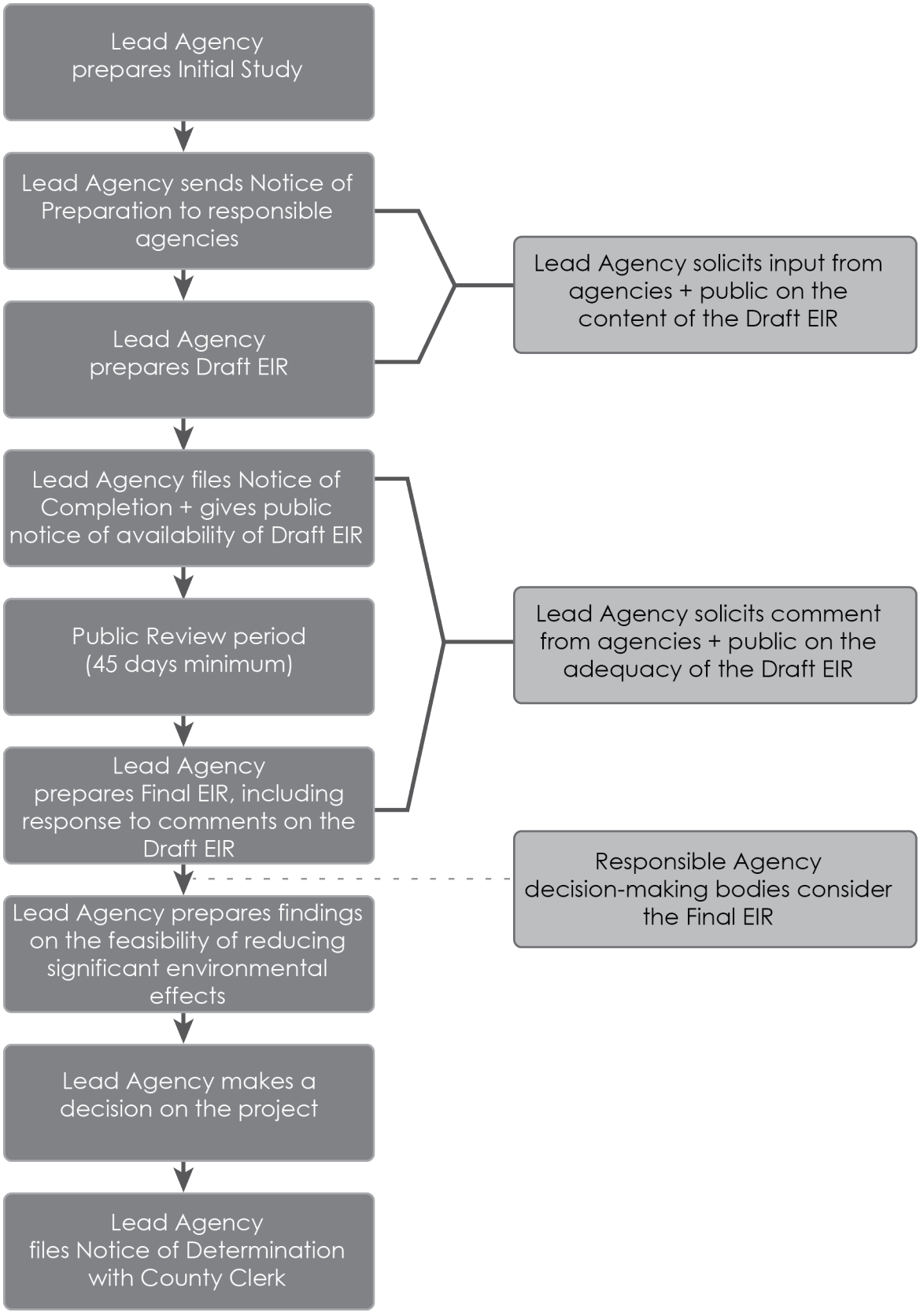
1.6 Environmental Review Process

The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP) and Initial Study**. After deciding that an EIR is required, the lead agency (City of Palo Alto) must file a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the project could create significant environmental impacts.
2. **Draft EIR Prepared.** The Draft EIR must contain a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC)/Notice of Availability of a Draft EIR.** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091).
4. **Final EIR.** A Final EIR must include a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).

6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



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2 Project Description

This section describes the proposed project, including the project applicant, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

2.1 Lead Agency and Contact

City of Palo Alto
Planning and Development Services Department
285 Hamilton Avenue, Suite 100
Palo Alto, California 94301
Contact: Emily Kallas, AICP, Planner, 650-617-3125

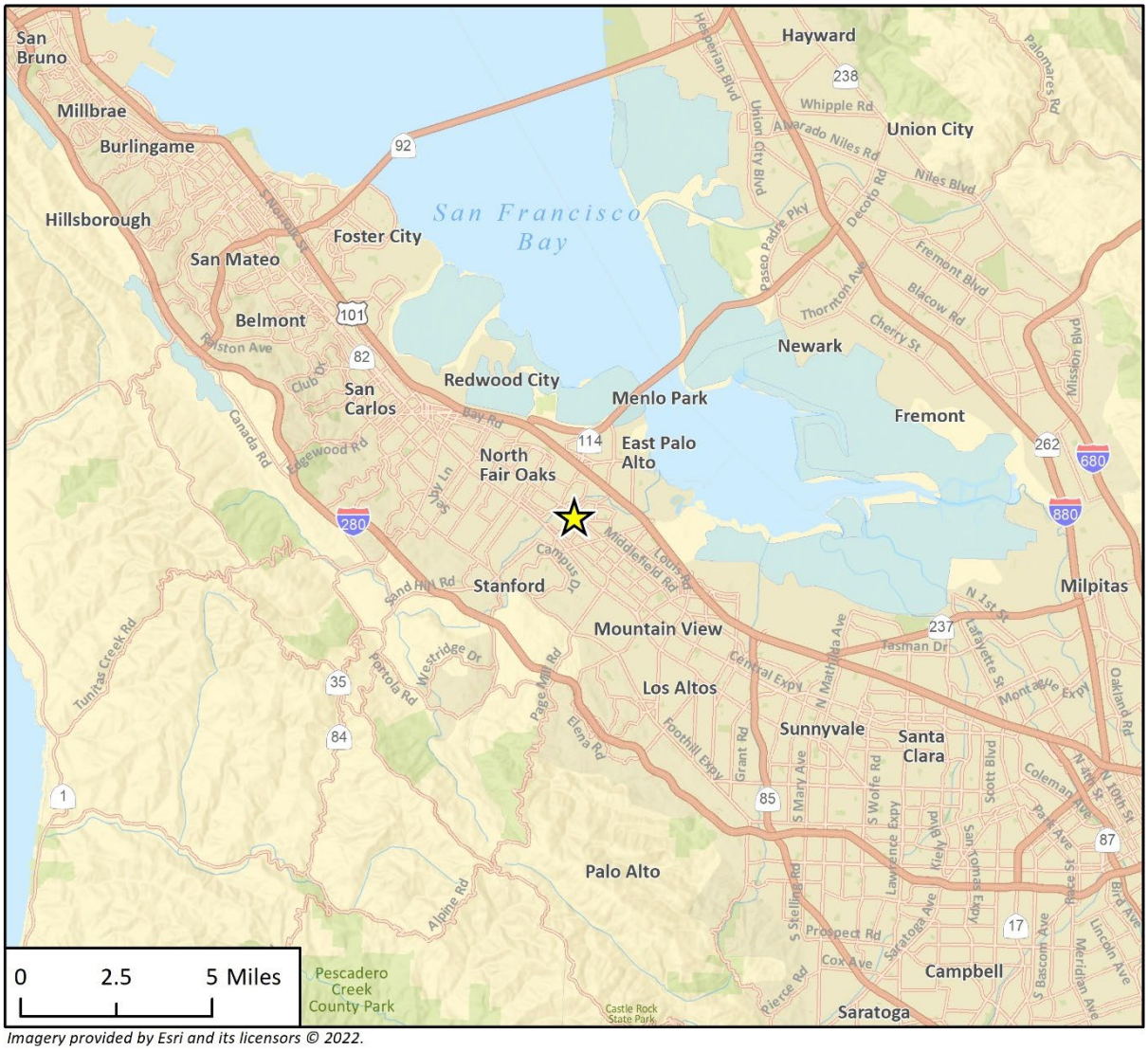
2.2 Project Applicant

Smith Development
682 Villa Street, Suite G
Mountain View, California 94041

2.3 Project Location

Figure 2-1 shows the regional location of the project site and Figure 2-2 shows the project site's immediate location and selected nearby land uses. For the purposes of this analysis, the "project site" includes the entire area bounded in a yellow line on Figure 2-2. The project site encompasses approximately 0.5 acres (22,526 square feet) across three parcels. The project site includes all of Assessor's Parcel Numbers (APNs) 120-03-042, 120-03-043, and 120-03-044 at the addresses of 511 Byron Street, 660 University Avenue, and 680 University Avenue/500 Middlefield Road, respectively. The site is bounded by the intersection of University Avenue and Middlefield Road to the north; Middlefield Road to the east; Byron Street, Cardinal Dental, a single-family residence, and The Hamilton Independent Senior Living community to the south; and University Avenue to the west.

Figure 2-1 Regional Location



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Project Location

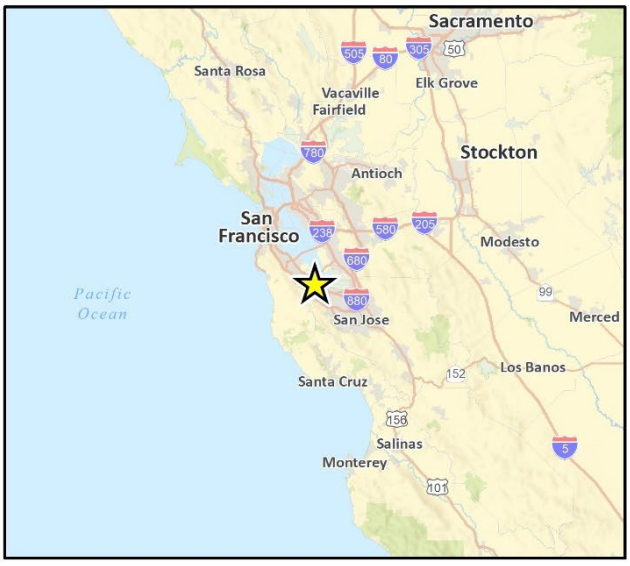

Figure 2-2 Project Location

Imagery provided by Microsoft Bing and its licensors © 2023.

2.4 Existing Site Characteristics

2.4.1 Current Land Use and Zoning Designations

The project site has a 2030 Comprehensive Plan designation of Multiple Family Residential (MF). The City of Palo Alto's 2030 Comprehensive Plan Land Use and Community Design Element (City of Palo Alto 2017) defines the Multiple-Family Residential category as follows:

> The permitted number of housing units will vary by area, depending on existing land use, proximity to major streets and public transit, distance to shopping and environmental problems. Net densities will range from 8 to 40 units and 8 to 90 persons per acre. Density should be on the lower end of the scale next to single-family residential areas. Densities higher than what is permitted may be allowed where measurable community benefits will be derived, services and facilities are available, and the net effect will be consistent with the Comprehensive Plan. Population densities will range up to 2.25 persons per unit by 2030.

The project site is within the Low Density Multiple-Family Residence District (RM-20). The Palo Alto Municipal Code (PAMC) defines the RM-20 district as follows:

> The RM-20 low-density multiple-family residence district is intended to create, preserve and enhance areas for a mixture of single-family and multiple-family housing which is compatible with lower density and residential districts nearby, including single-family residence districts. The RM-20 residence district also serves as a transition to moderate density multiple-family districts or districts with nonresidential uses. Permitted densities in the RM-20 residence district range from eight to twenty dwelling units per acre (PAMC Section 18.13.010).

2.4.2 Surrounding Land Uses

The project site is in a neighborhood characterized by a mix of uses including residential development and commercial offices. Uses to the north on the other side of the University Avenue and Middlefield Road intersection, east across Middlefield Road, and southwest across Byron Street comprise primarily of office uses such as medical offices, corporate offices, software companies, and law services. Uses directly adjacent to the east and southeast of the project site include Cardinal Dental, a single-family residence, and an independent living facility. Uses further south across Byron Street include a preschool and church. Uses northwest of the site across University Avenue include an assisted living facility and a skilled nursing facility.

2.4.3 Existing Project Site Conditions

The project site is developed with two office buildings located on the parcels at 511 Byron Street and 680 University Avenue/500 Middlefield Road, respectively, that are currently used by dental offices, and a surface parking lot. The total floor area of the building at 511 Byron Street is approximately 5,260 square feet and the total floor area of the building at 680 University Avenue/500 Middlefield Road is approximately 3,955 square feet. The project site is generally flat with minimal sloping and an elevation of approximately 40 feet above mean sea level. Aside from some perimeter landscaping and trees, the project site is almost entirely covered in impermeable surfaces. One oak tree, considered a "protected tree" under the City's Tree Protection Ordinance, is located on the adjacent parcel at 519 Byron Street and its canopy and root zone extend into the eastern portion of the site. Figure 2-3 shows photographs of the existing buildings on the project site and the oak tree on the adjacent parcel.

Figure 2-3 Photographs of Project Site – Photographs 1 through 4

Photograph 1. View of existing structure at 511 Byron Street (on the left side of the frame), taken from Byron street, looking northeast. The adjacent structure at 517 Byron Street is visible in the right side of the frame.

Photograph 2. View of existing parking lot on the project site and the oak tree on the adjacent parcel, taken from the University Avenue sidewalk looking southeast. The two existing on-site structures are visible on either site of the parking lot.

Photograph 3. View of the existing structure on the project site at 500 Middlefield Road (on the right side of the frame) from Middlefield Road looking southwest. The adjacent structure at 524 Middlefield Road is visible in the left side of the frame.

Photograph 4. View of protected oak tree on the adjacent parcel, taken from the interior of the project site.

2.5 Project Description

2.5.1 Project Overview

The proposed project would involve merging the three parcels, demolition of the two existing on-site office buildings and the surface parking lot and construction of a four-story mixed-use building with two levels of below grade parking. Proposed uses include 9,115 sf of office space, 63 residential units, and parking. Table 2-1 provides a summary of the proposed development and Figure 2-4 shows the proposed site plan. The office space, an office lobby, and a residential lobby would be located only on the first floor. The remaining three stories above the office space would be used for residential units.

Residential units would include studios, one-bedroom units, and two-bedroom units ranging from 387 square feet to 755 square feet. The project would provide 20 percent affordable housing units (13 units) and the project applicant is therefore seeking allowances through the discretionary Planned Community (PC) rezoning process pursuant to Palo Alto Municipal Code (PAMC) Section 18.38. The proposed PC ordinance for this site would include the following allowances that deviate from the RM-20 Zone District development standards:

- **Floor area ratio (FAR) maximum.** The project would have a maximum FAR of 2.19 where a FAR of 0.5:1 is currently permitted.
- **Setback requirement.** The project site is subject to front yard, street side yard, and street rear yard setback requirements. The project would have a front yard (Middlefield Road) setback at a minimum of 10 feet where a 24-foot special setback is currently required; a street side yard (University Avenue) setback at a minimum of 10 feet where 16 feet is currently required; and a street rear yard (Byron Street) setback at a minimum of 10 feet where 16 feet is currently required.
- **Height requirement.** The project would have a maximum building height of 50 feet and 8.5 inches to the top of the roof terrace where a building height of 30 feet is currently permitted.
- **Density requirement.** The project's density would be 63 units per approximately 0.5 acres, or approximately 126 dwelling units per acre (du/ac) where 20 du/ac are currently allowed.
- **Lot coverage.** The project would have 58% lot coverage where a maximum of 35% lot coverage with an additional 5% coverage allocated for covered patios is currently permitted.
- **Open space requirement**. The RM-20 zone district requires 50 square feet of private open space and 75 square feet of common open space per residential unit. The proposed units that include balconies and terraces would have a range of approximately 60 square feet to 490 square feet of private open space per unit. Eight units would not have private open space. The project would not meet the common open space requirement; however, the proposed combined private and common space[1] would exceed the total open space minimum requirement.

The rezoning of a site to PC for a residential use has more recently been referred to as "Planned Home Zoning" to emphasize the focus on housing as the benefit to the community. However, PAMC Section 18.38, which outlines the requirement and process for Planned Community (PC) Zoning remains the underlying code supporting application of this policy. In accordance with the PC rezoning process, the project would provide housing, including affordable housing with 20 percent

[1] The project proposes 5,230 sq ft of private open space and 4,642 sq ft of common space for a total of 9,872 square feet of combined private and common space, which exceeds the minimum 9,450 square feet of total open space required.

of the units below market rate, as the project's public benefit. The applicant is also asking the Council to consider the medical office use as a public benefit, as the residents, especially senior citizens living in the neighborhood can walk to this location. The project would also require a Comprehensive Plan Text Amendment to the Multi-family land use designation allow for existing nonconforming office use to be retained if proposed as part of a housing development project.

Table 2-1 Proposed Residential Development Summary[1]

Feature	Details
Proposed Office Area	
Office Area	First Floor: 9,115 square feet
Floor Area Ratio (FAR)	**0.4**
Proposed Residential Area	
Residential Area	First Floor (Lobby): 1,418 square feet Second Floor (22 Units): 13,224 square feet Third Floor (22 Units): 13,224 square feet Fourth Floor (19 Units): 11,840 square feet **Total (63 Units): 39,806 square feet**
Floor Area Ratio (FAR)	**1.77**
Density	**63 dwelling units per 0.5 acres (or 126 du/ac)**
Setbacks	
Building Height	**50 feet 8.5 inches**
Front Yard (Middlefield Road)	**Minimum of 10 feet**
Street Side Yard (University Avenue, Arterial Roadway)	**Minimum of 6 feet**
Street Rear Yard (Byron Street)	**Minimum of 10 feet**
Interior Side Yard	Minimum of 19 feet 6.5 inches
Proposed Parking	
Below Grade Parking	Below Grade Level P2 (51 Stalls): 18,038 square feet Below Grade Level P1 (28 Stalls): 19,767 square feet
Proposed Number of Stalls	Office: 18 stalls Residential: 52 stalls ADA/Accessible: 9 stalls **Total: 79 stalls**
Number of Accessible Parking Spaces (ADA)	2 ADA on P2 7 ADA on P1
Number of Electric Vehicle Supply Equipment (EVSE) Parking Spaces	Office: 5 spaces **Residential: 50 spaces**
Total Bicycle Parking Spaces	Short-Term (Racks): 5 bicycle spaces Long-Term (Secured Enclosure): Approximately 100 bicycle spaces at residential (80 spaces) and office area (20 spaces)

Feature	Details
Proposed Open Space	
Private Open Space (private unit balconies/terraces)	5,230 square feet
Common Open Space (roof terrace)	4,642 square feet
Ground Level Open Space	9,455 square feet
Total Residential Open Space	9,872 square feet
Total Open Space	19,327 square feet
Lot Coverage	**13,071 square feet (58%)**

[1] As described under Project Overview above, the **bolded** characteristics shown in this table seek to deviate from the existing RM-20 zoning.

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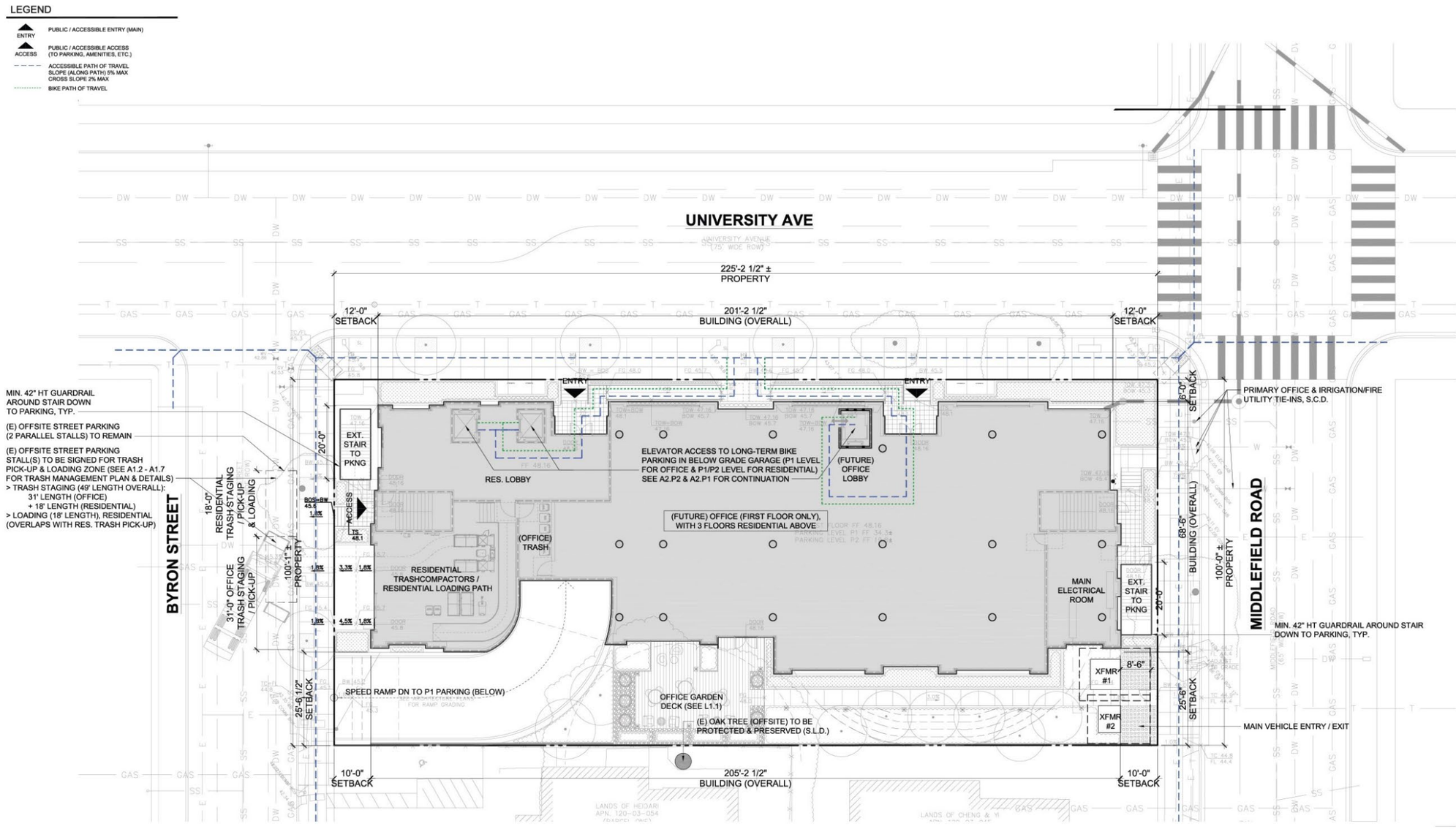
Figure 2-4 Proposed Project Site Plan



Source: KSH Architects, 2023

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2.5.2 Circulation, Access, and Parking

Primary pedestrian access to the proposed residential units and office space would be provided via two entrances on University Avenue: one leading to the office lobby and one leading to the residential lobby. Secondary doors are on all other sides of the building. Separate elevators would be provided for office and residential uses. Vehicular access would be provided via an entrance on Byron Street, which would grant access to the below grade parking lots. The project would include a total of 79 stalls, with 28 stalls on Level P1, 51 and stalls on Level P2 including 9 ADA stalls. The project would also include five short term bicycle parking spaces and 100 long term spaces. Short term bicycle parking spaces would be provided via two bicycle racks fronting University Avenue and long term spaces would be provided in dedicated office and residential bike rooms on Level P1 and Level P2.

2.5.3 Open Space

The project would include common open space in the form of an office garden deck (735 square feet) on the first floor of the office space as well as a roof terrace (4,642 square feet) for residential units. Private open space would be provided in the form of private balconies (5,230 square feet) for most of the units.

2.5.4 Landscaping

There are currently 25 trees within or adjacent to the project site. The proposed project would preserve 6 trees off-site and remove 19 trees mostly located in the center of the site or on the southeast border of the site. Two street trees on the northwest border of the site, one street tree on the northeast corner of the site, one street tree on the southwest border, one street tree along the frontage of the adjoining southeast property, and the Oak tree on the neighboring property would remain. This protected oak tree, considered as a “protected tree” under the City’s Tree Protection Ordinance, is located on the adjacent parcel at 519 Byron Street and its canopy and root zone extend into the site. The proposed project would not involve removal of the protected oak tree and would ensure its protection through a root study and implementation of a tree protection plan, further discussed in Section 4.1, *Biological Resources*, of this EIR. The project would involve planting of 12 proposed new trees, 8 on-site and 4 street trees, resulting in a total of 17 trees on site.

Proposed landscaping other than the 12 new trees would include new plantings along the borders of the project site and would include the use of native shrubs, groundcovers, grasses, and perennials. Landscaping would be required to comply with the Bay Friendly Landscape Guidelines. To treat stormwater, the proposed project would include raised concrete treatment planters and flush treatment planters located on the borders of the project site.

2.5.5 Building and Architecture

The buildings would feature a contemporary design, with flat roofs, large rectangular windows with clear vision glass, metal mullions, public art, and a pastel color palette.

2.5.6 Construction

Construction would occur over approximately 23 months and would involve the following phases and timeframes:

- **Demolition:** Approximately 20 days
- **Site preparation:** Approximately 10 days
- **Grading/excavation:** Approximately 30 days
- **Building exterior:** Approximately 300 days
- **Interior/architectural coating:** Approximately 50 days
- **Paving:** Approximately 15 days

To complete the construction of the project, grading would take place over most of the area of development, and approximately 20,000 cubic yards (CY) of soil would be exported, 200 CY of cut soil would be used as fill, and 100 CY of soil would be imported from off-site sources. Excavation would reach a maximum depth of 38 feet based on the lowest proposed parking level below-grade.

2.5.7 Utilities

The City of Palo Alto Utilities department (CPAU) provides electric services; natural gas; water; and wastewater collection, treatment, and disposal to the site to the project site. Water is provided through the City's Individual Supply Guarantee with the San Francisco Public Utilities Commission (SFPUC). The City of Palo Alto's Public Works Division provides refuse service and storm drain services to the site. Police and fire protection services would be provided by the City of Palo Alto.

2.5.8 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, 2017) 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. 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.

2.6 Project Objectives

The project applicant has listed the following objectives for the project:

1. Develop a mixed-use project that adds diversity to the City of Palo Alto's housing supply and will meet a variety of residents' needs by providing a mix of one- and two-bedroom units, including affordable units.
2. Develop residential uses on a site specifically designated for housing in the City of Palo Alto's Housing Element but that does not currently contain any housing, and that will help meet the City's Regional Housing Needs Assessment (RHNA) obligations.

3. Provide sufficient parking but do not overpark the site, consistent with regional transportation and climate policy goals.
4. Protect and preserve the existing protected oak tree located on the adjacent parcel at 519 Byron Street.
5. Contribute to achieving Goal 7 in the 2030 Comprehensive Plan regarding energy and GHG reduction by using environmentally sustainable siting, development, and construction practices, including LEED Gold or equivalent certification and an all-electric building system.
6. Redevelop the site with housing and include replacement of approximately 9,000 square feet of existing office space.
7. Provide new housing in proximity to jobs and services.

2.7 Required Approvals

The proposed project would require Council approval of the following discretionary entitlements:

- Zoning Code Text Amendment and Zoning Map Amendment to rezone the site to a Planned Community Zone District[2]
- Comprehensive Plan Text Amendment to modify the Multi-family land use designation

No approvals from other public agencies would be required for the proposed development.

2.8 California Native American Tribal Consultation

Tribal consultation is discussed in Section 18, *Tribal Cultural Resources*, of the Initial Study for this project. On June 23, 2022, the City, pursuant to Public Resources 21080.3.1, AB 52, California Government Code Section 65352.3, and SB 18, sent via certified mail notification letters to 9 California Native American Tribes that are traditionally and culturally affiliated with the project area. The letters were sent to representatives of the Amah Mutsun Tribal Band, the Amah Mutsun Tribal Band of Mission San Juan Bautista, Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of the SF Bay Area, the Ohlone Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, and Tamien Nation. The City did not receive any requests for consultation under AB 52 or SB 18.

[2] The rezoning of a site to PC for a residential use has more recently been referred to as "Planned Home Zoning" to emphasize the focus on housing as the benefit to the community. However, PAMC Section 18.38, which outlines the requirement and process for Planned Community (PC) Zoning remains the underlying code supporting application of this policy.

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3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

The project site is located in the City of Palo Alto, which is located in the southeastern portion of the San Francisco Peninsula in Santa Clara County. Palo Alto covers an area of approximately 26 square miles and is bordered by the cities of Menlo Park, East Palo Alto, Mountain View, and Los Altos, as well as the Town of Los Altos Hills, the unincorporated community of Portola Valley, and Stanford University.

A grid system of east-west and north-south roadways, including arterials, collectors, and local streets, provide vehicular access throughout the City. The major roadways include Middlefield Road, Charleston Road, Embarcadero Road, University Avenue, and El Camino Real. The closest freeways are Interstate 280 (I-280) and U.S. 101. I-280 is located 3.6 miles southwest of the project site, and U.S. 101 is located 1.1 miles northeast of the project site. The city is also served by the Caltrain passenger rail network. Figure 2-1 in Section 2, *Project Description*, shows the regional location of the project.

The Mediterranean climate of the region and the coastal influence produce moderate temperatures year round, with rainfall concentrated in the winter months. Although air quality in the area has steadily improved in recent years, the Santa Clara region remains a nonattainment area for ozone (urban smog) and particulate matter. The City of Palo Alto is located approximately 16 miles inland from the coastline of the Pacific Ocean.

3.2 Project Site Setting

Figure 2-2 in Section 2, *Project Description,* shows the project location. The project site encompasses approximately 0.5 acres (22,526 square feet) across three parcels. The project site includes all of Assessor's Parcel Numbers (APNs) 120-03-042, 120-03-043, and 120-03-044 at the addresses of 511 Byron Street, 660 University Avenue, and 680 University Avenue/500 Middlefield Road, respectively. The site is bounded by the intersection of University Avenue and Middlefield Road to the north; Middlefield Road to the east; Byron Street, Cardinal Dental, a single-family residence, and The Hamilton senior condominiums to the south; and University Avenue to the west.

The project site is developed with two office buildings located on the parcels at 511 Byron Street and 680 University Avenue/500 Middlefield Road, respectively, that are currently used by dental offices, and a surface parking lot. The total floor area of the building at 511 Byron Street is approximately 5,260 square feet and the total floor area of the building at 680 University Avenue/500 Middlefield Road is approximately 3,955 square feet. The project site is generally level, with minimal sloping and an elevation of approximately 40 feet above mean sea level. Aside from some perimeter landscaping and trees, the project site is almost entirely covered in impermeable surfaces. One heritage oak tree, considered a "protected tree" under the City's Tree Protection

Ordinance, is located on the adjacent parcel at 519 Byron Street and its canopy and root zone extend into the eastern portion of the site.

3.3 Cumulative Development

In addition to the specific impacts of individual projects, CEQA requires EIRs to consider potential cumulative impacts of the proposed project. CEQA defines "cumulative impacts" as two or more individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be less than significant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

CEQA requires cumulative impact analysis in EIRs to consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. There are few notable projects on file within 0.5-mile of the project site are listed in Table 3-1. Although a couple of single-family residences are under review within 0.3 to 0.5 miles from the project site, these are not expected to have a cumulatively considerable impact during construction due to their size and proximity to the proposed project. Two projects are close to completing construction, one project is about to begin construction, and one project recently became operational, as detailed in Table 3-1. The San Francisquito Creek Joint Powers Authority's Upstream of Highway 101 project is under review. However, the project is expected to occur in phases, with creek widening work further downstream occurring prior to Pope/Chaucer bridge replacement in order to avoid downstream impacts from the modifications to Pope/Chaucer bridge. Construction on the Pope/Chaucer bridge is not expected to coincide with construction of the proposed project. These projects are considered in the cumulative analyses in Section 4, *Environmental Impact Analysis*.

Table 3-1 Cumulative Projects List

Project Number	Project Location	Land Use	Status	Distance from Project
City of Palo Alto[1]				
1	Upstream of Highway 101 Project	Pope/Chaucer Bridge removal and replacement and associated creek improvements	Under Review	0.3 mile north of the project site
2	429 University Avenue	Mixed-Use	Under Construction	0.2 mile southwest of the project site
3	565 Hamilton Avenue	Multi-Family	Operational in 2023	0.3 mile south of the project site
4	160 Waverley Street	Residential	Under Construction	0.6 mile west of the project site

[1] City of Palo Alto 2023

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the 660 University Avenue Mixed Use Project for the specific issue areas that were identified through the scoping process and in the Initial Study (Appendix B) as having the potential to experience significant effects. A "significant effect" as defined by the *CEQA Guidelines* Section 15382:

> means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per *CEQA Guidelines* Section 15093.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under *CEQA Guidelines* Section 15091.
- **Less than Significant**. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3, *Environmental Setting*.

The Executive Summary of this EIR summarizes all impacts and mitigation measures that apply to the proposed project.

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4.1 Biological Resources

This section analyzes the proposed project's potential impacts related to biological resources. The analysis in this section is based, in part, on two Arborist Reports prepared for the project by David L. Babby on February 7, 2024, and by Robert Booty from Horticultural Consulting, Inc. on May 23, 2022. The full reports are provided in Appendix C of this EIR. Potential project-specific impacts related to biological resources are discussed in Section 4, *Biological Resources*, of the project Initial Study (included in Appendix B of this EIR).

4.1.1 Setting

Palo Alto encompasses a variety of natural plant communities amidst a densely built environment. The plant communities provide habitat for wildlife species. The city limits extend from the San Francisco Bay wetlands to the Santa Cruz mountains, including several microclimates and, as a result, several habitats. The undeveloped land near San Francisco Bay (in the area known as the "Baylands") and undeveloped land in the western hills contain undisturbed plant communities and habitat for a variety of species. The natural vegetation has been substantially altered in the developed areas of the city, leaving the urban forest as the dominant habitat.

The project site is developed with two office buildings located on the parcels at 511 Byron Street and 680 University Avenue and 500 Middlefield Road, respectively, that are currently used as dental offices, and a surface parking lot. Fifteen trees are located within the project site boundaries, nine street trees are directly adjacent to the project site in the public right-of-way adjacent to the site boundary, and one tree is adjacent to the project site with a canopy and root zone that extends onto the project site. Of the nine adjacent street trees, there is one European hackberry, three London plane trees, two glossy privet, two southern magnolia, and one Chinese pistache. Of the 15 on-site trees, there is one olive tree, five Raywood ash, two purple robe locusts, six crape myrtle, one yew pine, and one coast live oak. The coast live oak tree located on the adjacent parcel at 519 Byron Street that extends onto the site (canopy and root zone) is designated as a "protected" tree pursuant to the Palo Alto Municipal Code (PAMC) (see additional information about the City's tree protection code requirements under Regulatory Setting). The on-site trees are nearly all non-native landscape trees and are considerably smaller than the off-site coast live oak tree and larger street trees.

4.1.2 Regulatory Setting

Federal, State, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority under CEQA for general biological resources lies within the land use control and planning authority of local jurisdictions, which in this instance is the City of Palo Alto. The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the State under CEQA and also has direct jurisdiction under the California Fish and Game Commission, which includes, but is not limited to, resources protected by the State of California under the CESA.

a. Federal Regulations

Endangered Species Act

Under the Federal Endangered Species Act (FESA), authorization is required to "take" a listed species. Take is defined under FESA Section 3 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulation (50 CFR Sections 17.3, 222.102); "harm" is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Critical habitat is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. FESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat.

Section 7(a)(2) of FESA and its implementing regulations require federal agencies to consult with USFWS or National Marine Fisheries Service (NMFS) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under FESA Section 10(a). Section 10(a) allows USFWS to permit the incidental take of listed species if such take is accompanied by an HCP that includes components to minimize and mitigate impacts associated with the take.

The USFWS and NMFS share responsibility and regulatory authority for implementing the FESA (7 USC Section 136, 16 USC Section 1531 et seq.).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it is unlawful, except as permitted by regulations, "to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, […] any migratory bird, or any part, nest, or egg of any such bird" (16 USC Section 703[a]). The Bald and Golden Eagle Protection Act (BGEPA) is the primary law protecting eagles, including individuals and their nests and eggs. The USFWS implements the MBTA (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). Under the Act's Eagle Permit Rule (50 CFR 22.26), USFWS may issue permits to authorize limited, non-purposeful take of bald eagles and golden eagles.

Clean Water Act

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE), with EPA oversight, has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge of dredged or fill material into jurisdictional wetlands or other jurisdictional "waters of the United States" would require a Section 404 permit from the USACE prior to the start of work. Typically, when a project involves

impacts to waters of the United States, the goal of no net loss of wetlands is met by compensatory mitigation; in general, the type and location options for compensatory mitigation should comply with the hierarchy established by the Corp/EPA 2008 Mitigation Rule (in descending order): (1) mitigation banks; (2) in-lieu fee programs; and (3) permittee-responsible compensatory mitigation. Also, in accordance with Section 401 of the Clean Water Act, applicants for a Section 404 permit must obtain water quality certification from the appropriate RWQCB.

The USACE, RWQCB, and CDFW typically take jurisdiction over wetlands that exhibit three parameters: suitable wetland hydrology, hydric soils, and hydrophytic vegetation. The RWQCB will also consider features with saturated, anaerobic conditions wetlands.

b. State Regulations

Endangered Species Act

The California Endangered Species Act (CESA; Fish and Game Code Section 2050 et. seq.) prohibits take of State-listed threatened and endangered species without a CDFW incidental take permit. Take under CESA is restricted to direct harm of a listed species and does not prohibit indirect harm by way of habitat modification.

Protection of fully protected species is described in Fish and Game Code Sections 3511, 4700, 5050 and 5515. These statutes prohibit take or possession of fully protected species. Incidental take of fully protected species may be authorized under an approved NCCP.

California Fish and Game Code sections 3503, 3503.5 and 3511

California Fish and Game Code (CFGC) sections 3503, 3503.5 and 3511 describe unlawful take, possession, or destruction of birds, nests and eggs. Fully protected birds (CFGC Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Section 1600 et seq. of the California Fish and Game Code

Section 1600 et seq. of the CFGC prohibits, without prior notification to CDFW, the substantial diversion or obstruction of the natural flow of, or substantial change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. In order for these activities to occur, the CDFW must receive written notification regarding the activity in the manner prescribed by the department, and may require a lake or streambed alteration agreement. Lakes, ponds, perennial and intermittent streams and associated riparian vegetation, when present, are subject to this regulation.

Natural Community Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) Act was established by the California Legislature, is directed by the CDFW, and is implemented by the state, as well as public and private partnerships as a means to protect habitat in California. The NCCP Act takes a regional approach to preserving habitat. An NCCP identifies and provides for the regional protection of plants, animals and their habitats, while allowing compatible and appropriate economic activity. Once an NCCP has been approved, CDFW may provide take authorization for all covered species, including fully protected species, Section 2835 of the CFGC.

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCB) has jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The local RWQCB (the Central Coast RWQCB for the AMBAG region) implements this general order for isolated waters not subject to federal jurisdiction and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the CWA for waters subject to federal jurisdiction.

c. Local Regulations

City of Palo Alto 2030 Comprehensive Plan

The Natural Environment Element of the City's 2030 Comprehensive Plan (City of Palo Alto 2017) contains several goals and policies aimed at efficient management of open land and natural resources in Palo Alto. The following policies and programs apply to the project:

- **Policy N-1.4:** Protect special-status species and plant communities, including those listed by State and federal agencies and recognized organizations from the impacts of development and incompatible activities.
- **Policy N-2.8:** Require new commercial, multi-unit, and single-family housing projects to provide street trees and irrigation systems.
- **Policy N-2.9:** Minimize removal of, and damage to, trees due to construction-related activities such as trenching, excavation, soil compacting and release of toxins.
- **Policy N-2.10:** Preserve and protect Regulated Trees, such as native oaks and other significant trees, on public and private property, including landscape trees as part of a development review process and consider strategies for expanding tree protection in Palo Alto.
    - **Program N-2.10.1**: Continue to require replacement of trees, including street trees lost to new development.

According to Figure 4.3-2, Vegetation and Habitat Types, of the 2030 Comprehensive Plan EIR, the project site is an area categorized as "urban forest." Policies N-2.1-N-2.14 of the 2030 Comprehensive Plan Natural Resources Element (listed above in Section 4.1.1(a)) support the City's

goal to ensure a thriving urban forest that provides public health, ecological, economic, and aesthetic benefits for Palo Alto. Policies applicable to the project include:

- **Policy N-2.1:** Recognize the importance of the urban forest as a vital part of the city's natural and green infrastructure network that contributes to public health, resiliency, habitat values, appreciation of natural systems and an attractive visual character which must be protected and enhanced.
- **Policy N-2.3:** Enhance the ecological resilience of the urban forest by increasing and diversifying native species in the public right-of-way, protecting the health of soils and understory vegetation, encouraging property owners to do the same and discouraging the planting of invasive species.
- **Policy N-2.4:** Protect soils in both urban and natural areas as the foundation of a healthy urban forest. Recognize that healthy soils are necessary to filter air and water, sustain plants and animals and support buildings and infrastructure.
- **Policy N-2.5:** Enhance tree health and the appearance of streets and other public spaces through regular maintenance as well as tree and landscape planting and care of the existing canopy.
- **Policy N-2.6:** Improve the overall distribution of citywide canopy cover, so that neighborhoods in all areas of Palo Alto enjoy the benefits of a healthy urban canopy.
- **Policy N-2.7:** Strive toward the aspirational, long-term goal of achieving a 50 percent tree canopy cover across the city.
- **Policy N-2.8:** Require new commercial, multi-unit and single-family housing projects to provide street trees and related irrigation systems.
- **Policy N-2.9:** Minimize removal of, and damage to, trees due to construction-related activities such as trenching, excavation, soil compacting and release of toxins.
- **Policy N-2.10:** Preserve and protect Regulated Trees, such as native oaks and other significant trees, on public and private property, including landscape trees approved as part of a development review process and consider strategies for expanding tree protection in Palo Alto.

While the Natural Resources Element includes policies regarding tree canopy, the Land Use and Community Design Element also contains a relevant tree canopy policy:

- **Policy L-9.9:** Involve the Urban Forester, or appropriate City staff, in development review.

Palo Alto Municipal Code

The Palo Alto community has long valued the environmental, aesthetic, and functional benefits of trees as recognized by the Palo Alto Municipal Code, Chapter 8.10 (Tree Ordinance) and Palo Alto's status as "Tree City USA." Chapter 8.10 protects specified trees in Palo Alto and establishes a standard for removal, maintenance, and planting of trees in the city, with the goal of preserving the city's trees. It also provides rules for the protection of trees, designation of "heritage" trees, and for when trees can be removed.

Under the Tree and Landscape Preservation and Management 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. "Protected tree" is defined as:

- Any locally native tree of the species *Acer macrophyllum* (Bigleaf Maple), *Calocedrus decurrens* (California Incense Cedar), *Quercus agrifolia* (Coast Live Oak), *Quercus douglasii* (Blue Oak), *Quercus kelloggii* (California Black Oak), or *Quercus lobata* (Valley Oak) which is eleven and one-half inches in diameter (thirty-six inches in circumference) or more when measured four and one-half feet (fifty-four inches) above natural grade.
- Any Coast Redwood tree (species Sequoia sempervirens) that is eighteen inches in diameter (fifty-seven inches in circumference) or more when measured four and one-half feet (fifty-four inches) above natural grade,
- Any tree larger than fifteen inches in diameter (forty-seven inches in circumference) or more when measured four and one-half feet (fifty-four inches) above natural grade of any species except those invasive species described as weeds in Section 8.08.010 and those species classified as high water users by the water use classification of the landscape species list approved by the California Department of Water Resources (with the exception of Coast Redwood).
- Any tree designated for protection during review and approval of a development project.
- Any tree designated for carbon sequestration and storage and/or environmental mitigation purposes as identified in an agreement between the property owner and a responsible government agency or recorded as a deed restriction.
- Any heritage tree designated by the city council in accordance with the provisions of this chapter, or
- Any replacement mitigation tree or other tree designated to be planted due to the conditions listed in section 8.10.055.

4.1.3 Impact Analysis

a. Methodology and Significance Thresholds

As listed in Appendix G of the CEQA Guidelines, a project is considered to have a significant impact on biological resources if it would have:

1. 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;
2. 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;
3. A substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As discussed under Section 4, *Biological Resources*, of the Initial Study, impacts related to thresholds 2, 3, and 6 were found to result in less than significant impacts or no impacts, and therefore are not discussed further in the analysis below. This analysis focuses on thresholds 1, 4, and 5.

b. Project Impacts and Mitigation

Threshold 1:	Would the project have a substantial adverse impact, 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?
Threshold 4:	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?

Impact BIO-1 THE PROJECT MAY RESULT IN IMPACTS TO PROTECTED NESTING BIRD SPECIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The project site is located in an urbanized area of Palo Alto and is developed with two office buildings, a surface parking lot, and perimeter landscaping trees. According to Figure 4.3-2, Vegetation and Habitat Types, of the 2030 Comprehensive Plan EIR, the project site is an area categorized as "urban forest." This urban forest (a habitat type that covers most of Palo Alto east of Interstate 280, even sites completely devoid of trees) is comprised of "street trees, trees in parks, landscaping trees planted around public facilities, and trees on private property throughout the city." The urban forest, in locations with tree cover or significant vegetation, provides cover, forage, and habitat for common wildlife, such as nesting birds. According to the U.S. Fish and Wildlife Service (USFWS), the project site is not located in a known regional wildlife movement corridor (USFWS 2023a).

There are currently 25 trees on and adjacent to the project site and the proposed project would involve removal of 19 of these trees. On-site and directly adjacent trees could potentially contain bird nests and birds protected under the MBTA. Protected birds include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows, and others, including their body parts (feathers, plumes etc.), nests, and eggs. Therefore, impacts to nesting birds would be potentially significant and mitigation is required.

Mitigation Measures

The following mitigation measure is required.

BIO-1 Nesting Bird Surveys and Avoidance

Construction of the project and other site disturbing activities that would involve vegetation or tree removal shall be prohibited during the general avian nesting season (February 1 – August 31), if feasible. If nesting season avoidance is not feasible, the applicant shall retain a qualified biologist, as approved by the City of Palo Alto, to conduct a preconstruction nesting bird survey to determine the presence/absence, location, and activity status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site shall be established by the qualified

biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the MBTA and CFGC, nesting bird surveys shall be performed not more than 14 days prior to scheduled vegetation clearance and structure demolition. In the event that active nests are discovered, a suitable buffer (typically a minimum buffer of 50 feet for passerines and a minimum buffer of 250 feet for raptors) shall be established around such active nests and no construction shall be allowed within the buffer areas until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). Nesting bird surveys are not required for construction activities occurring between August 31 and February 1.

Significance After Mitigation

Implementation of Mitigation Measure BIO-1 would ensure protection of nesting birds that may be affected during construction activities. This measure would reduce the potentially significant impact to special-status species and wildlife movement to a less than significant level.

Threshold 5:	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)?

Impact BIO-2 CONSTRUCTION ACTIVITIES NEAR ADJACENT TREES COULD IMPACT TREES AND CONFLICT WITH THE CITY'S LOCAL TREE AND LANDSCAPE PRESERVATION AND MANAGEMENT ORDINANCE. HOWEVER, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The purpose of the City of Palo Alto Tree and Landscape Preservation and Management Ordinance (PAMC Chapter 8.10) 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.

Under the Tree and Landscape Preservation and Management Ordinance, development approvals for property containing protected public trees are required to include appropriate conditions as set forth in the *Tree and Landscape Technical Manual*, providing for the protection of such trees during construction and for maintenance of such trees thereafter. "Protected tree" is defined as any tree of the species Coast Live Oak, Valley Oak (greater than 11.5 inches in diameter), and Coast Redwood (greater than 16 inches in diameter).

There are currently 25 trees within or adjacent to the project site. The proposed project would preserve six trees off-site (5 street trees and the Coast Live Oak on the adjacent parcel at 519 Byron Street), while removing 19 trees (15 onsite trees and 4 street trees) located in the developable area of the site. Of the 19 trees to be removed, none are "protected trees" under the City's tree protection ordinance. The number of trees to be removed and preserved are shown in Table 4.1-1. Nonetheless, the project has the potential to impact trees planned for retention. This impact is potentially significant, and mitigation is required.

Table 4.1-1 Trees to be Removed and Preserved

Type of Use	On-Site	Off-Site Adjacent (with Canopy and Root On-Site)	Street	Total
Existing Number of Trees	15	1	9	25
Existing Number of Protected Trees	0	1	0	1
Number of Trees Removed	15	0	4	19
Number of Protected Trees Removed	0	0	0	0
Number of Trees Preserved	0	1	5	6
Number of Protected Trees Preserved	0	1	0	1

Source: David L. Babby 2024; Appendix C

There is one protected oak tree located on the adjacent parcel at 519 Byron Street that extends onto the site (canopy and root zone). According to the Arborist Report prepared by David L. Babby, Registered Consulting Arborist on February 7, 2024 (David L. Babby 2024; Appendix C), the project design includes a minimum 30-foot setback from the oak tree's trunk for the future building and parking garage, and a minimum setback of 20 feet for ground disturbance beneath the existing asphalt surface. Careful shoring placement (for driving piles or a drill rig) and pruning would also limit impacts to the oak tree. According to the Arborist Report prepared by Robert Booty on May 23, 2022 (Robert Booty 2022; Appendix C), the edge of proposed excavation for the below-grade parking structure would occur approximately 30 feet from the oak tree. However, the root system of the oak tree extends up to 51 feet and construction activities could potentially result in damages to the root system; this could affect the long-term viability of the tree if tree protection measures are not properly conducted. Therefore, this impact is potentially significant and mitigation is required.

Mitigation Measures

The following mitigation measures are required.

BIO-2 Tree Protection Plan

During the project design phase, the project applicant shall comply with and implement design guidelines listed in Section 6.1 of the February 7, 2024 Arborist Report prepared by David L. Babby. Guidelines include delineation of tree protection zones, specific actions related to grading and excavation, specifications for new paving and hardscape, and erosion control and landscaping requirements, among others. Prior to demolition, grading, and construction, the project applicant shall comply with tree protection measures listed in Section 6.2 of the Arborist Report. Guidelines include a review of tree protection and construction processes, inspections and supervisions under direction of the project arborist, and installation of TPZs, among others. During demolition, grading, and construction, the project applicant shall comply with tree protection measures listed in Section 6.3 of the Arborist Report. Guidelines include specific actions related to demolition, excavation, and trenching, supervisions under direction of the project arborist, and disposal requirements, among others. A qualified arborist shall be retained and present for any activity that could impact trees on- and off-site.

BIO-3 Oak Tree Root Pruning and Protection

Larger roots shall be pruned using a fine-tooth saw, and smaller roots shall be pruned using a hand looper. If roots are to be left exposed for long periods of time, especially in warm weather, they must be covered in burlap cloth and kept wet. A qualified arborist shall be present on site to oversee any root pruning activities.

Significance After Mitigation

Implementation of mitigation measures BIO-2 and BIO-3 would ensure the protection of on- and off-site trees, especially the protected oak tree, and reduce impacts to a less than significant level.

c. Cumulative Impacts

Cumulative impacts to biological resources are addressed on a project-by-project basis through site-specific investigations and surveys as well as the development of the assessment of potential impacts and prescription of appropriate mitigation. As with the project, other cumulative development within the city that would result in potential impacts to biological resources would be subject to applicable Comprehensive Plan goals and policies and would be required to incorporate project-specific mitigation measures to implement these policies. Cumulative development outside of the city limits that would result in potential impacts to biological resources would be subject to applicable County goals and policies and would be required to incorporate project-specific mitigation measures to implement these policies.

Implementation of the mitigation measures described in this section would reduce project-level impacts to biological resources to a less than significant level. In particular, Mitigation Measure BIO-1 requires nesting bird surveys to avoid impacts to migratory bird species and mitigation measures BIO-2 and BIO-3 would ensure the protection of on- and off-site trees, especially the protected oak tree on the adjacent property. Therefore, with the implementation of required mitigation measures, the project's contribution to cumulative impacts on nesting bird species and trees would be less than significant.

4.2 Noise

This section analyzes potential impacts related to noise and vibration from the proposed project. Topics addressed include construction noise and vibration, on-site operational noise, traffic noise, and aircraft noise.

4.2.1 Setting

a. Fundamentals of Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Human Perception of Sound

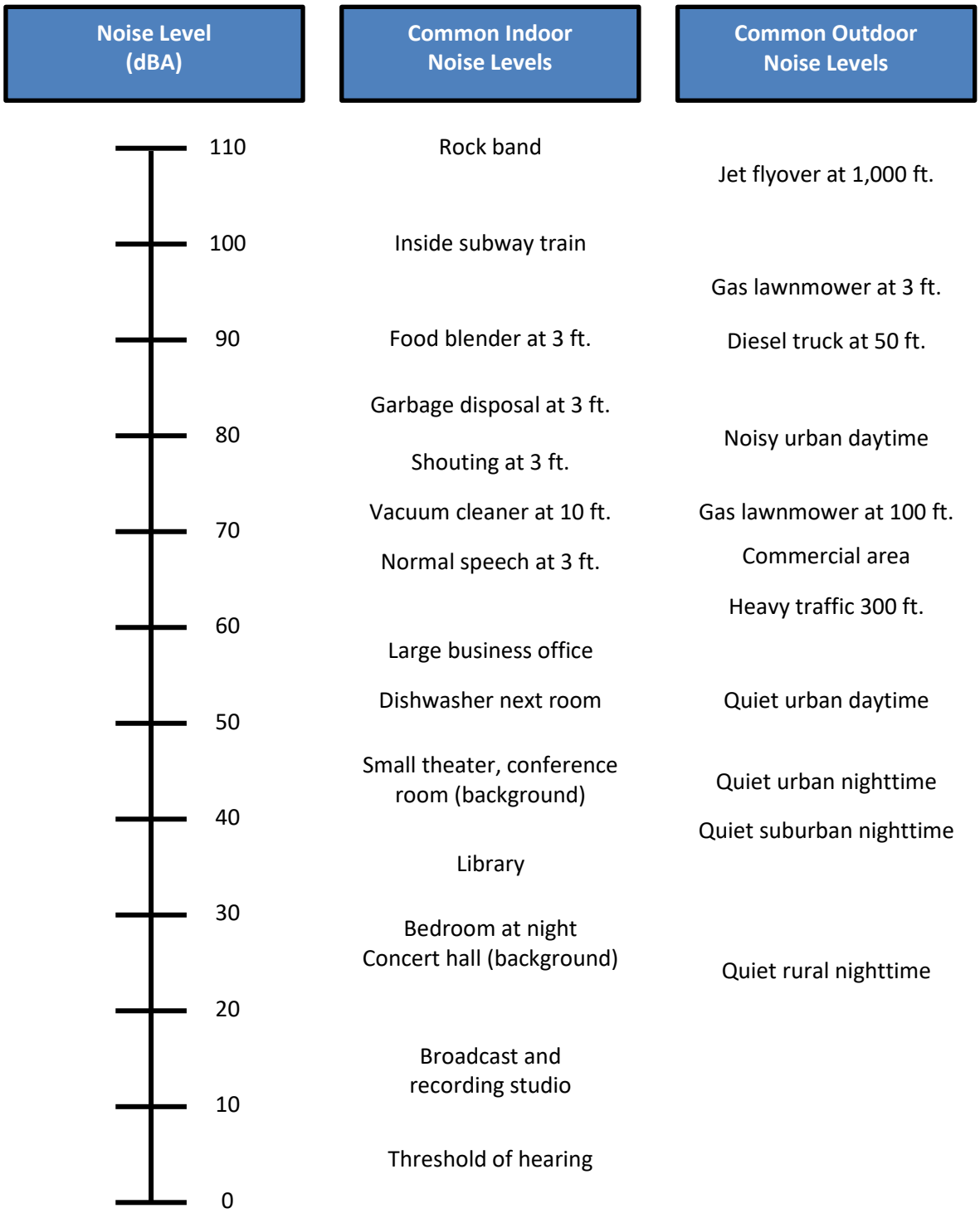
Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dBA; similarly, dividing the energy in half would result in a decrease of 3 dBA (Crocker 2007). Common outdoor and indoor noise sources and their typical corresponding A-weighted noise levels are shown in Figure 4.2-1.

Human perception of noise has no simple correlation with sound energy. The perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (Crocker 2007).

Sound Propagation and Shielding

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise declines with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013).

Figure 4.2-1 Examples of Typical Noise Levels



Source: Caltrans 2013

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013).

Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5 dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce occupants' exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

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Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptors used for this study are the equivalent noise level (L_{eq}) and Day-Night Average Level (L_{dn}).

L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (L_{dn} or DNL), which is a 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by DNL and CNEL usually differ by about 0.5 dBA. Quiet suburban areas typically have a CNEL in the range of 40 to 50 dBA, while areas near arterial streets are typically in the 50 to 70+ CNEL range (FTA 2018).

b. Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hertz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body is from a low of less than 1 Hertz up to a high of about 200 Hertz (Crocker 2007). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020).

Vibration amplitudes are usually described in terms of the peak particle velocity (PPV). PPV, measured in inches per second (in/sec), is the maximum instantaneous peak of the vibration signal. PPV is appropriate for evaluating potential building architectural damage (Caltrans 2020).

c. Project Site Noise Environment

Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The City of Palo Alto Comprehensive Plan defines noise-sensitive receptors as including residences, schools, and medical clinics, among others (City of Palo Alto 2017). The nearest noise-sensitive receptor is a single-family residence located adjacent to the southeastern project boundary on Middlefield Road. Additional sensitive receptors include the Lytton Garden Assisted Living facility located approximately 65 feet west of the project site across University Avenue, and the Hamilton retirement community approximately 50 feet southeast of the project site along Hamilton Avenue.

Noise Measurements

The most common source of noise in the project site vicinity is vehicular traffic from University Avenue and Middlefield Road. To characterize ambient sound levels in the project vicinity, one short term 15-minute noise level measurement and one long term 24-hour noise level measurement were conducted on August 15-16, 2022. Short-term noise measurement (ST) 1 was conducted at the western edge of the project site to capture noise levels at and in the vicinity of the project site. The long-term noise measurement (LT-1) was conducted at the eastern edge of the project site approximately 110 feet southwest from the centerline of Middlefield Road and 130 feet southeast from the centerline of University Avenue. Table 4.2-1 summarizes the results of the short-term noise measurement, Table 4.2-2 summarizes the results of the long-term noise measurement, and Figure 4.2-2 shows the approximate noise measurement locations.

Table 4.2-1 Project Site Short-Term Noise Monitoring Results

Measurement Location	Measurement Location	Sample Times[1]	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
ST-1	Western property boundary, on University Avenue, at the midpoint between Middlefield Road and Byron Street.	9:54 – 10:09 a.m.	Approximately 20 feet to University Avenue centerline	65	50	76

dBA = A-weighted decibels; L_{eq} = equivalent noise level; L_{min} = minimum noise level, L_{max} = maximum noise level

[1]Sample times shown in this table are the correct sample times. The date and time located in the raw data is not shown correctly due to an input error.

See Figure 4.2-2 for noise measurement locations; see Appendix D for full measurement details.

Table 4.2-2 Project Site Long-Term Noise Monitoring Results

Sample Time	dBA L_{eq}	Sample Time[1]	dBA L_{eq}
24-hour Measurement – August 15 – 16, 2022			
9:37 a.m.	58	9:37 p.m.	57
10:37 a.m.	55	10:37 p.m.	54
11:37 a.m.	56	11:37 p.m.	53
12:37 p.m.	57	12:37 a.m.	49
1:37 p.m.	57	1:37 a.m.	51
2:37 p.m.	56	2:37 a.m.	57
3:37 p.m.	55	3:37 a.m.	51
4:37 p.m.	59	4:37 a.m.	55
5:37 p.m.	56	5:37 a.m.	59
6:37 p.m.	57	6:37 a.m.	60
7:37 p.m.	57	7:37 a.m.	58
8:37 p.m.	57	8:37 a.m.	63
24-hour Noise Level (dBA L_{dn})			**63**

dBA = A-weighted decibels; L_{eq} = equivalent noise level; L_{dn} = Day/Night average noise level

[1]Sample times shown in this table are the correct sample times. The date and time located in the raw data is not shown correctly due to an input error.

See Figure 4.2-2 for noise measurement locations; see Appendix D for full measurement details.

Figure 4.2-2 Approximate Noise Measurement Locations

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d. Regulatory Environment

Local

2030 Comprehensive Plan

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 (Table 4.2-3). For residential uses, hotels, and motels, the City identifies noise levels up to 60 dBA L_{dn} as normally acceptable and noise levels between 60 and 75 dBA L_{dn} as conditionally acceptable (Palo Alto, City of 2017).

Table 4.2-3 Palo Alto Land Use Compatibility for Community Noise Environments

	Exterior Noise Exposure L_{dn} or CNEL or dB		
Land Use Category	**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 2017

Palo Alto Municipal Code

The Palo Alto Municipal Code (PAMC) regulates noise primarily through the Noise Ordinance, which comprises Chapter 9.10 of the Code, under Title 9, Public Peace, Morals and Safety. 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 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 in a structure on the property, the measurement shall be made outside 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.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds

As listed in Appendix G of the *CEQA Guidelines*, a project is considered to have a significant impact related to noise if it would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Generation of excessive groundborne vibration or groundborne noise levels; or
3. 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, exposure of people residing or working in the project area to excessive noise levels.

Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at noise sensitive receptors near the project site. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment.

Construction activity would result in temporary noise in the project area, exposing surrounding sensitive receptors to increased noise levels. The project would involve site preparation, grading and excavation, building construction, paving, and architectural coating. Construction noise would typically be higher during the heavier periods of initial construction (i.e., demolition, grading and excavation) and would be lower during the later construction phases. Construction equipment is typically dispersed in various areas of the site, with only a limited amount of equipment operating near a given location at a particular time. Based on information provided by the applicant, the loudest phase of construction includes a concrete saw, excavator, and front-end loader working during demolition.

Based on the City's Noise Ordinance, significant construction noise impacts would occur if individual pieces of equipment produce a noise level exceeding 110 dBA at a distance of 25 feet or if the noise level at any point outside of the property plane of the project exceeds 110 dBA.

Groundborne Vibration

Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities, such as, vibratory compaction or excavation, are based on information contained in the 2018 Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual*. As shown in Table 4.2-4, limiting vibration levels to below 0.2 in/sec PPV at residential and other non-engineered structures would prevent architectural damage (FTA 2018).

Table 4.2-4 Groundborne Vibration Architectural Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

in/sec = inches per second; PPV = peak particle velocity
Source: FTA 2018

Operation of the project would not include any substantial vibration sources. Thus, construction activities would have the greatest potential to generate ground-borne vibration affecting nearby receptors, especially during grading and excavation of the project site. The greatest vibratory source during construction would be a large bulldozer. Neither blasting nor pile driving would be required for construction of the proposed project. Table 4.2-5 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 4.2-5 Vibration Levels Measured during Construction Activities

Equipment	PPV at 25 ft. (in./sec.)
Vibratory Roller	0.210
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003

Source: FTA 2018

Permanent Increases in Ambient Noise

The analysis of permanent increases in ambient noise from on-site stationary sources (i.e., heating ventilation and air conditioning (HVAC) units and noise associated with the increase of traffic to and from the site.

Because the City of Palo Alto does not have recommended thresholds of significance for traffic noise increases, the following thresholds of significance, similar to those recommended by the Federal Aviation Administration, are used to assess traffic noise impacts at sensitive receptor locations:

- Greater than 1.5 dBA L_{dn} increase for ambient noise environments of 65 dBA L_{dn} and higher.
- Greater than 3 dBA L_{dn} increase for ambient noise environments of 60 to 64 dBA L_{dn}.
- Greater than 5 dBA L_{dn} increase for ambient noise environments of less than 60 dBA L_{dn}.

HVAC Units

The proposed project would have HVAC systems. Mechanical equipment is anticipated to be installed on the roof of the proposed mixed-use building. Based on review of various manufacturer specifications for residential applications, a representative noise level of 65 dBA L_{eq} at 3 feet for a 2.5-ton Carrier 24ABA4030 is used for the analysis. HVAC equipment typically would diminish at a rate of at least 6 dBA per doubling of distance (conservatively ignoring other attenuation effects from ground and shielding effects).

Traffic Noise

Noise levels affecting the proposed project site would be primarily influenced by traffic noise from Middlefield Road and University Avenue.

Middlefield Road is a four-lane roadway with a posted speed limit of 25 miles per hour (mph). University Avenue is a two-lane roadway with a posted speed limit of 25 mph. Traffic volumes used for the noise analysis are shown in Table 4.2-6 based on average daily traffic (ADT) data provided in the project traffic report (Hexagon 2023).

Table 4.2-6 Existing and Future Traffic Volumes

	Traffic Counts (Average Daily Trips)			
Roadway/Segment	Existing	Existing + Project	Cumulative	Cumulative + Project
University Avenue				
West of Middlefield Road	9,550	9,740	13,460	13,650
Middlefield Road				
South of University Avenue	7,510	7,636	10,620	10,746

Source: Hexagon 2023 (Appendix E)

Exposure of New Residents to Noise

As a result of the Supreme Court decision regarding the assessment of the environment's impacts on projects (*California Building Industry Association [CBIA] v. Bay Area Air Quality Management District [BAAQMD]*, 62 Cal. 4th 369 [No. S 213478] issued December 17, 2015), it is generally not considered the purview of the CEQA process to evaluate the impact of existing environmental conditions on a proposed project. Therefore, this environmental analysis does not consider the potential impacts of the environment (i.e., existing noise) on the project.

b. Project Impacts and Mitigation

Threshold 1:	Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact N-1 CONSTRUCTION AND DEMOLITION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT WOULD INTERMITTENTLY GENERATE NOISE ADJACENT TO THE PROJECT SITE. THESE CONSTRUCTION NOISE LEVELS WOULD NOT EXCEED THE APPLICABLE NOISE LEVEL THRESHOLDS. NOISE ASSOCIATED WITH OPERATION OF THE PROJECT WOULD BE GENERALLY SIMILAR TO EXISTING NOISE GENERATED BY NEARBY RESIDENTIAL AND COMMERCIAL USES AND WOULD NOT CAUSE A SIGNIFICANT CHANGE IN AMBIENT NOISE LEVELS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction

Project construction activities are anticipated to occur over the course of 23 months, from Fall 2023 through Fall 2026. Construction activity would result in a temporary noise increase in the project vicinity, exposing surrounding sensitive receptors to increased noise levels. Construction would

involve site preparation, grading, building construction, paving, and architectural coating. Table 4.2-7 identifies the estimated noise levels at nearby sensitive receptors from construction activity based on the conservatively assumed combined use of all construction equipment during each phase of construction.

Table 4.2-7 Estimated Noise Levels by Construction Phase at Sensitive Receptors

	L_{max} dBA		
Construction Activity Phase	**RCNM Reference Noise Level (50 feet)**	**Single Family Residential on 524 Middlefield Road (25 feet) [1]**	**Lytton Garden Assisted Living (70 feet) [1]**
Demolition	90	96	87
Site Preparation	81	87	78
Grading and Excavation	85	91	82
Building Construction	81	87	78
Paving	80	86	77
Architectural Coating	81	87	78

Notes: Calculations performed with the FHWA's RCNM software are included in Appendix D.

Noise levels rounded to the nearest whole number.

[1] Distance from the edge of the nearest construction activity to receptor property line.

Project construction would occur nearest to the single-family residence along Middlefield Road to the southeast of the on-site construction activity. Over the course of a typical construction day, construction equipment would be located as close as 25 feet to adjacent residences to the southeast of the project site. The loudest phase of construction would be during demolition and would last approximately 20 days. At a distance of 25 feet, use of a concrete saw, excavator, and front-end loader during demolition would generate a noise level up to 93 dBA L_{max}. Construction noise levels would be up to 90 dBA L_{max} at the Lytton Garden Assisted Living facility approximately 70 feet to the northwest (RCNM calculations are included in Appendix D).

As stated in Section 9.10.060 of the PAMC, the noise level at the property line may not exceed 110 dBA L_{max}.[1] Noise during the highest intensity phase of construction would be below the City's Municipal Code threshold of 110 dBA L_{max}. Nevertheless, if uncontrolled, construction activity may cause a temporary increase of noise levels in the project vicinity. Therefore, Mitigation Measure N-1 is recommended to further reduce noise levels during construction.

Operation

General Site Activities

The noise sources on the project site after completion of construction are anticipated to be those that would be typical of a mixed-use development such as landscaping maintenance, general conversations, and mail delivery and recycling/trash hauling activity. On-site noise sources such as landscape maintenance, conversations, and mail delivery and recycling/trash hauling also would be typical of noise generated by neighboring and previously existing land uses and would not

[1] For conservative purposes of this analysis, we assume the noise level of 110 dBA is a value of L_{max}.

substantially contribute to overall ambient noise levels. Therefore, these on-site operations would have a less than significant impact on noise-sensitive receptors.

Mechanical Equipment Noise

The primary on-site operational noise source from the project would be from HVAC units that are anticipated to be in an HVAC enclosure on the rooftop of the proposed building. For a conservative approach, this analysis assumes that HVAC units would operate at 100 percent of an hour for 24 hours and does not take into account the attenuation from the proposed HVAC enclosure and building height. Based on review of various manufacturer specifications for residential applications, a representative noise level of 65 dBA L_{eq} at 3 feet for a 2.5-ton Carrier 24ABA4030 was selected for the analysis (see Appendix D for specification sheets). The nearest single-family residential noise-sensitive receiver property line to the southeast would be located at least 35 feet from the nearest roof edge, based on the approximate location of proposed residential buildings and distance of the nearest residential property lines. Because noise from HVAC equipment would attenuate at a rate of approximately 6 dBA per doubling of distance from the source, HVAC equipment would generate noise levels of up to 44 dBA L_{eq} at 35 feet at the nearest residential property line. Assuming that units could conservatively run 24 hours a day, this would equate to a L_{dn} of 51 dBA. Based on noise measurements taken at the project site, the existing ambient noise level is 63 dBA L_{dn}. Therefore, noise generated by HVAC equipment would not produce a noise level of 3 dBA above the local ambient noise level of 63 dBA L_{dn}. In addition, project HVAC noise would be approximately 37 dBA L_{eq} at 80 feet at other nearby sensitive receptors, such as the Lytton Garden Assisted Living facility to the northwest, which are further from proposed project buildings. This impact would be less than significant.

Outdoor Amenities

In addition to mechanical equipment, the project would generate noise from people gathering on the rooftop terrace. The main noise source associated with the use of the proposed roof terrace would be speech from conversations. Typically, a conversation between two people using a normal voice (not raised) at a distance of three feet is 60 dBA (Engineering ToolBox 2005). No amplified sound is proposed on the terrace, and speech from conversations would quickly dissipate and would not interfere with surrounding outdoor activities and noise-sensitive uses. At a distance of 35 feet from the single-family residence to the southeast, noise from conversations would attenuate to approximately 39 dBA and approximately 30 dBA at 100 feet to the Lytton Gardens Assisted Living facility to the northwest. Furthermore, per Assembly Bill 1307 (2023), the effect of noise generated by residential project occupants and their guests is not a significant effect on the environment. This impact would be less than significant.

Off-site Traffic Noise Increases

The project would not alter roadway alignments or change the vehicle classifications mix on local roadways. Therefore, the primary factor affecting off-site noise levels would be increased traffic volumes from the proposed project. The traffic noise increases caused by project traffic are shown in Table 4.2-8. The project traffic noise increase would be up to 0.1 dBA L_{dn} on all study roadway segments, which would not exceed the most stringent 1.5 dBA L_{dn} threshold for off-site traffic noise impacts. Impacts would be less than significant.

Table 4.2-8 Off-site Project Traffic Noise Increases

Roadway Segment	Roadway Segment Volumes (ADT)				dBA (L_{dn})		
	Existing	Existing + Project	Cumulative	Cumulative + Project	Project Noise Increase	Cumulative Increase	Project Cumulative Contribution
University Ave, west of Middlefield Rd	9,550	9,740	13,460	13,650	0.1	1.5	0.1
Middlefield Rd, south of University Ave	7,510	7,636	10,620	10,746	0.1	1.5	0.1

Notes: ADT = average daily traffic. The estimated traffic noise increase is based on the following formula: 10xLOG(future traffic volume/existing traffic volume).

ADT estimated based on the peak hour volume times ten.

Source: Hexagon 2023 (Appendix E)

Recommended Mitigation Measure

N-1 Construction Noise Reduction Measures

The construction contractor shall prepare a Construction Noise Control Plan prior to issuance of a grading permit. The Construction Noise Control Plan shall specify the noise reduction measures to be implemented during project construction to ensure noise levels are reduced at nearby residences. The measures specified in the Construction Noise Control Plan shall be included on the building and grading plans and shall be implemented by the construction contractor during construction. At a minimum, the Construction Noise Control Plan shall include the following measures:

1. **Construction Operating Hours.** Limit all construction activities to the hours of 8:00 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 6:00 p.m. on Saturdays. Construction activity shall be prohibited on Sundays and national holidays.
2. **Mufflers**. During all construction phases, all construction equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained mufflers consistent with manufacturers' standards.
3. **Silencing**. Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with silencing devices consistent with manufacturer's standards, if available. Equipment shall be properly maintained, and the project applicant or owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications.
4. **Stationary Equipment**. All stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receptors.
5. **Signage and Noise Complaint Coordinator** The project applicant shall designate an on-site construction project manager who shall be responsible for responding to any complaints about construction noise. This person shall be responsible for responding to concerns of neighboring properties about construction noise disturbance and shall be available for responding to any construction noise complaints during the hours that construction is to take place. They shall also be responsible for determining the cause of the noise complaint (e.g., bad silencer) and shall require that reasonable measures be implemented to correct the problem. A toll-free telephone number shall be posted at construction site entrances for the duration of construction and provided in all notices (mailed, online website, and construction site postings) for receiving

questions or complaints during construction and shall also include procedures requiring that the on-site construction manager to respond to callers. The on-site construction project manager shall be required to track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction and shall notify the City's Community Development Director of each complaint occurrence.

6. **Smart Back-Up Alarms.** Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels.
7. **Equipment Idling**. Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use.
8. **Temporary Noise Barriers**. Erect a temporary noise barrier along the eastern project boundary, and the southern and western project boundaries, where feasible, during demolition and grading/excavation phases. Temporary noise barriers shall be constructed with solid materials (e.g., wood) with a density of at least 1.5 pounds per square foot with no gaps from the ground to the top of the barrier at a minimum height of 12 feet. Where a solid barrier is not feasible, sound blankets affixed to the construction fencing shall be used. If a sound blanket is used, the sound blanket must have a density of at least 1 pound per square foot with no gaps from the ground to the top of the construction fencing, and the sound blank shall be rated sound transmission class (STC) 32 or higher.

Threshold 2:	Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

IMPACT N-2 CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT WOULD INTERMITTENTLY GENERATE GROUNDBORNE VIBRATION AT RESIDENTIAL RECEPTORS ADJACENT TO THE PROJECT SITE. VIBRATION COULD EXCEED FTA STANDARDS FOR POTENTIAL DAMAGE TO THE ADJACENT RESIDENTIAL BUILDING TO THE SOUTHEAST, DUE TO THE PROXIMITY OF CONSTRUCTION EQUIPMENT. HOWEVER, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH IMPLEMENTATION OF MITIGATION MEASURE N-2.

Operation of the proposed residential project would not include substantial vibration sources. Thus, construction activities have the greatest potential to generate ground-borne vibration affecting nearby sensitive receptors. Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be required for project construction. The greatest anticipated source of vibration during general project construction activities would be from a large bulldozer, which would be used during demolition and grading activities and may be used within 10 feet from the nearby single-family residential property line. As stated above in subsection 4.2.2, vibration impacts would be significant if they would exceed 0.2 in/sec PPV (FTA 2018) at the residential building adjacent to the southeastern boundary of the project site which is the level at which structural damage may occur.

A vibratory roller would be used for repaving off-site and would not be used for on-site construction. At a distance of 25 feet, a vibratory roller would create approximately 0.210 in/sec PPV (FTA 2018). This would exceed the architectural damage criterion of 0.2 in/sec PPV nearby a vibratory roller is used within 25 feet of nearby residential buildings. Therefore, construction vibration impacts would be potentially significant. Additionally, grading and excavation work would occur within approximately 10 feet of the adjacent residential buildings to the southeast. A large bulldozer or other large earthmoving equipment would create a vibration level of approximately 0.35 in/sec PPV at a distance of 10 feet. This would exceed the architectural damage criterion at the adjacent off-site residence to the southeast of 0.2 In/sec PPV and would be potentially significant. A

deep soil mixing drill would be used immediately adjacent to nearby residential buildings. A deep soil mixing drill would create approximately 0.008 in/sec PPV at 10 feet (Choo, Jinhyun & Kim, Youngseok & Cho, YongSang 2012). This would not exceed the architectural criterion of 0.2 in/sec PPV. The next closest sensitive receptor is located to the south across Byron Street, approximately 45 feet from the southern project boundary. Vibration levels from a large bulldozer would be 0.04 in/sec PPV at 45 feet, which would not exceed the threshold of 0.2 in/sec PPV. Other sensitive receptors would be located at a greater distance from construction activity and because vibration levels attenuate with distance, groundborne vibration levels would be lower. Therefore, construction vibration impacts would be less than significant at other nearby sensitive receptors.

Mitigation Measures

The following mitigation measure is required:

N-2 Construction Vibration Control Plan

The construction contractor shall prepare a Vibration Control Plan prior to issuance of a grading permit. The Construction Vibration Control Plan shall specify the vibration reduction measures to be implemented during project construction to ensure vibration levels are reduced to 0.2 in/sec PPV at nearby residences. The measures specified in the Construction Vibration Control Plan shall be included on the building and grading plans and shall be implemented by the construction contractor during construction. At a minimum, the Construction Vibration Control Plan shall include the following measures:

1. For paving activities within 25 feet of offsite residences, a static roller shall be used in lieu of a vibratory roller.
2. For grading and earthwork activities (not including the drop-bucket or scoop) within 15 feet of offsite residences, off-road equipment shall be limited to 100 horsepower or less.

Significance After Mitigation

Mitigation Measure N-2 would require that use of a static roller in lieu of a vibratory roller is used within 25 feet of off-site receptors to reduce construction-related vibration. Specifically, use of a static roller would generate vibration levels of approximately 0.05 in/sec PPV at a distance of 25 feet (McIver 2012). Additionally, Mitigation N-2 would require that alternative equipment is used near off-site receptors to reduce construction related vibration. Grading and earthwork equipment, such as a small bulldozer, that is limited to 100 horsepower or less would generate less than 0.01 in/sec PPV within 15 feet of the adjacent sensitive receptor. With implementation of Mitigation Measure N-2, project groundborne vibration would be less than the significance threshold of 0.2 in/sec PPV at the adjacent off-site residence to the southeast. Therefore, with mitigation, project construction vibration impacts at all surrounding sensitive receptors would be less than significant.

Threshold 3:	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?

Impact N-3 THE PROJECT SITE IS LOCATED OUTSIDE OF NOISE CONTOURS ASSOCIATED WITH AIRPORTS. THEREFORE, NEW DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD NOT BE EXPOSED TO EXCESSIVE NOISE LEVELS FROM AIRCRAFT OPERATIONS AND NO IMPACT WOULD OCCUR.

The project site is located approximately 2.2 miles northeast of the closest airport, the Palo Alto Airport. The project would not be located within the noise contours of the airport (Santa Clara County Airport Land Use Commission 2008). Therefore, no substantial noise exposure from airport noise would occur to people residing or working in the project area, and there be would no impact.

Mitigation Measures

No mitigation measures required.

c. Cumulative Impacts

Cumulative noise assessment considers development of the proposed project in combination with development projects within the vicinity of the project site. Cumulative projects considered in this analysis are listed in Chapter 3, *Environmental Settings*.

Construction Noise

Noise from construction of development projects is typically localized and has the potential to affect noise-sensitive uses within approximately 500 feet from the construction site. Thus, noise from construction activities for two projects within 1,000 feet of each other can contribute to a cumulative noise impact for receptors located midway between the two construction sites. There are no projects under review or in construction that are located within 1,000 feet of the project site and therefore no projects that have the potential to result in cumulative noise impacts during the construction of the proposed project. Therefore, cumulative construction noise impacts would be less than significant.

Operational Noise

Cumulative development would result in stationary (non-traffic) operational noise and vibration increases in the project vicinity. As part of the development review process, cumulative projects would be required to complete project- and site-specific noise assessments for operational impacts in accordance with the PAMC and mitigate each project accordingly. Therefore, cumulative stationary operational noise increases would be less than significant.

Cumulative development in the project area would increase noise levels along local roadways as a result of additional vehicle trips. A cumulative traffic noise increase would be considered significant if the cumulative noise increase was found to be potentially significant and the project's contribution to the cumulative increase is greater than 1 dBA L_{dn}. As shown in Table 4.2-8, the cumulative traffic noise increase would be up to 1.5 dBA L_{dn}, which does not exceed the most stringent threshold of 1.5 dBA L_{dn}. Therefore, cumulative traffic noise increase on Middlefield Road or University Avenue would be less than significant.

Groundborne Vibration

The potential for construction groundborne vibration impacts is within relatively close distances (e.g., within approximately 25 feet for a vibratory roller). Since the closest project that is anticipated to be under construction in conjunction with this project is over 1,000 feet away and construction activities associated with that project that have the potential to create groundborne vibrations (e.g. demolition, grading, and foundation work) are already complete, cumulative groundborne construction vibration impacts would be less than significant.

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4.3 Transportation

This section analyzes the proposed project's impacts related to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities; the change in vehicle miles traveled (VMT); hazards and incompatible uses; and emergency access. The analysis in this section is based, in part, on a Transportation Impact Analysis (TIA) prepared for the project by Hexagon Transportation Consultants, Inc. (Hexagon) on February 15, 2024, which is included in Appendix E.

4.3.1 Setting

a. Existing Roadway Network

Regional access to the project site is provided by U.S. 101. Local access to the project site is provided via University Avenue, Middlefield Road, Lytton Avenue, Hamilton Avenue, Byron Street, Guinda Street, and Webster Street. The study area roadways are summarized below.

- **U.S. 101** is a north-south freeway that extends through and beyond the Bay Area, connecting San Francisco to San Jose. U.S. 101 is ten lanes wide with three mixed-flow lanes and two high-occupancy vehicle (HOV) lanes in each direction in the vicinity of the project site. US 101 provides access to the study area via the interchange at University Avenue.
- **Middlefield Road** is a north-south arterial that runs parallel to US 101. It begins at the intersection of Central Expressway in Mountain View and traverses through Redwood City. Within the vicinity of the project site, Middlefield Road is four lanes wide, with sidewalks on both sides of the street. It has a posted speed limit of 25 mph. There are no bike facilities on Middlefield Road, and on-street parking is prohibited on both sides of Middlefield Road in the project vicinity. Middlefield Road runs along the eastern boundary of the project site.
- **University Avenue** is an east-west arterial that begins east at State Route 84 and extends west, passing the interchange at US 101, towards the intersection with El Camino Real, at which point it transitions to Palm Drive. University Avenue has one lane in each direction except between Fulton Street and Middlefield Road where it has two lanes in the westbound direction. In the project vicinity, sidewalks are present on both sides of the street. University Avenue has a posted speed limit of 25 mph. On-street parking is prohibited between Fulton Street and Byron Street, which includes the project frontage. There are Class II bike lanes on University Avenue to the east of Fulton Street.
- **Lytton Avenue** is an east-west residential street that extends eastward from Alma Street and terminates at Palo Alto Avenue. Lytton Avenue has one lane in each direction in the project vicinity. Lytton Avenue has a posted speed limit of 25 mph. In the project vicinity, sidewalks are present on both sides of the street. There are no existing bike facilities on Lytton Avenue except west of Tasso Street. On-street parking is prohibited in the project vicinity, except east of Middlefield Road.
- **Hamilton Avenue** is an east-west residential street that extends eastward from Alma Street and terminates at Greer Road. Hamilton Avenue has one lane in each direction in the project vicinity. Hamilton Avenue has a posted speed limit of 25 mph. In the project vicinity, sidewalks are present on both sides of the street. There are no existing bike facilities on Hamilton Avenue, and on-street parking is allowed in the project vicinity.

- **Byron Street** is a north-south street that extends between University Avenue to the north and Hamilton Avenue to the south. Byron Street has a prima facie speed limit of 25 mph. Sidewalks are present on both sides of the street. There are no existing bike facilities on Byron Street. On-street parking is permitted on both sides of the street. Byron Street runs along the western boundary of the project site and provides direct access to the site via one full access driveway.
- **Guinda Street** is a north-south residential street that extends southward from Palo Alto Avenue to Melville Avenue. Guinda Street has a prima facie speed limit of 25 mph. In the project vicinity, sidewalks are present on both sides of the street. There are no existing bike facilities on Guinda Street. On-street parking is permitted on both sides of the street.
- **Webster Street** is a north-south residential street that extends southward from Palo Alto Avenue to Oregon Expressway. Webster Street has a prima facie speed limit of 25 mph. In the project vicinity, sidewalks are present on both sides of the street. There are no existing bike facilities on Webster Street. On-street parking is permitted on both sides of the street.

b. Vehicle Miles Traveled

This section uses the metric of VMT, as described below, to analyze transportation-related impacts consistent with Senate Bill 743 and the state CEQA guidelines. Pursuant to California Public Resources Code section 21099(b)(2) and CEQA Guidelines Section 15064.3, "a project's effect on automobile delay shall not constitute a significant environmental impact." Because the City of Palo Alto has updated its CEQA thresholds in accordance with state regulations, this analysis does not make significance conclusions with respect to impacts related to automobile delay, which is typically described as "Level of Service" (LOS).

"Vehicle miles traveled" refers to the amount and distance of automobile travel "attributable to a project." VMT re-routed from other origins or destinations as the result of a project would not be attributable to a project except to the extent that the re-routing results in a net increase in VMT. Daily VMT per resident is the average number of vehicle miles that a resident in a given area travels per day. One factor that leads to a higher relative daily VMT per resident is an imbalance of jobs and housing availability in an area. Palo Alto is in a part of the Bay Area that has a surplus of jobs relative to the supply of housing. The large supply of jobs in Palo Alto, Mountain View and other neighboring cities results in relatively long commute lengths for many employees, particularly those commuting from residences in the East Bay and San Francisco. According to the City's Transportation Impact Analysis (TIA) Guidelines, the impact threshold for the residential project component is 15 percent below the existing average VMT per resident for the City of Palo Alto. The City average daily VMT for residential uses is 13.33 per resident.

c. Transit Access and Circulation

Existing bus transit service in the project vicinity is provided primarily by San Mateo County Transit District (SamTrans) and the Dumbarton Express.

SamTrans provides bus service and operates 76 bus routes throughout San Mateo County including the Coastside and parts of San Francisco and Palo Alto. SamTrans has worked with San Francisco and the Santa Clara Valley Transportation Authority since 1980s to save and operate Caltrain, which runs from San Francisco to San Jose/Gilroy.

The Dumbarton Express service is provided through a consortium of Alameda-Contra Costa County Transit (AC Transit), Bay Area Rapid Transit (BART), Union City Transit, Caltrain, SamTrans and the Santa Clara Valley Transportation Authority (VTA). This service is provided on weekdays as an

express bus service across the Dumbarton Bridge, connecting Palo Alto and Menlo Park with Union City, Fremont, and Newark.

Caltrain is the commuter rail line serving the San Francisco Peninsula. It connects Palo Alto with San Francisco to the north and San Jose and Gilroy to the south. The project site is located approximately 0.7 miles northeast of the Palo Alto Caltrain station. Caltrain provides service with approximately 20- to 30-minute headways[1] during the weekday AM and PM commute hours and 60-minute headways midday, at nights and on weekends.

The transit services are described in Table 4.3-1. All transit services described in the table are within walking distance of the project site. All bus routes described in the table also provide connection between the project site and the Caltrain station.

Table 4.3-1 Existing Transit Facilities

				Weekday		Weekend
Bus Route	Route Description	Bus Stop Location	Within Project Vicinity	Operating Hours	Headway	Service Provided?
Route 280	Stanford Shopping Center to Purdue Ave/ Fordham St	At University Ave and Middlefield Rd	University Ave, Webster St, Lytton Ave	5:40 AM – 9:25 PM	60 min	Yes, 60-min headways
Route 281	Stanford Shopping Center to Onetta Harris Center	At University Ave and Middlefield Rd	University Ave, Webster St Lytton Ave	6:00 AM – 10:31 PM	30 min	Yes, 30-min headways
Route 296	Redwood City Transit Center to Bayshore/ Donohoe	At University Ave and Middlefield Rd	University Ave, Webster Str, Lytton Ave	6:30 AM – 1:30 AM	30 min	No
Route 397	San Francisco to Palo Alto Transit Center	At University Ave and Middlefield Rd	University Ave, Webster St, Lytton Ave	12:46 AM – 1:30 AM	60 min	Yes, 60-min headways
Dumbarton Express (DB)	Stanford University to Union City BART Station	At University Ave and Byron St	University Ave, Middlefield Ro, Lytton Ave	5:25 AM – 8:46 PM	30 min	No

d. Pedestrian Conditions

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians near the project site.

Existing pedestrian facilities in the project area consist of sidewalks and crosswalks found along roadways near the site as described under Existing Local Roadway Network. Nearby intersections have pedestrian crosswalks and curb ramps. All signalized intersections have pedestrian-actuated signals.

[1] Headways are the amount of time between transit vehicle arrivals at a stop.

e. Bicycling Conditions

The Highway Design Manual (Caltrans 2017) classifies bikeways into four categories:

- **Class I Multi-Use Path.** A completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane.** A striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route.** Signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Class IV Bikeway.** Also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

There are no bike lanes on University Avenue along the project frontage. Bike lanes exist east of Fulton Street. According to the City of Palo Alto Pedestrian and Bicycle Master Plan, the City envisions installing Class III bike routes on Middlefield Road, Webster Street, and on University Avenue west of Fulton Street. Class II bike lanes are also planned on Lytton Avenue between Fulton Street and Alma Street.

4.3.2 Regulatory Setting

This section describes applicable state, regional, and local laws, ordinances, regulations, and standards governing transportation.

a. State

State Senate Bill 375

Senate Bill (SB) 375 provides guidance regarding curbing emissions from cars and light trucks, and has the following four major components:

- Establishing regional greenhouse gas emission targets are required. These targets must be updated every 8 years in conjunction with the revision schedule of the housing and transportation elements of local general plans.
- Metropolitan Planning Organizations (MPO) are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets.
- Housing elements and transportation plans are required to be synchronized on 8-year schedules.
- MPOs must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by the California Transportation Commission.

The City of Palo Alto is a member of the Association of Bay Area Governments (ABAG) which was merged with the region's Metropolitan Transportation Commission (MTC). ABAG/MTC have developed the region's SCS and established GHG emission reduction targets.

State Senate Bill 743

On September 27, 2013, California Governor Jerry Brown signed SB 743 into law and started a process that changed the way transportation impact analysis is conducted as part of CEQA

compliance. These changes include elimination of automobile delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA. According to SB 743, these changes are intended to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

In December 2018, the Natural Resources Agency finalized updates to Section 15064.3 of the CEQA Guidelines, including the incorporation of SB 743 modifications. The Guidelines' changes were approved by the Office of Administrative Law and, as of July 1, 2020, are in effect statewide.

To help aid lead agencies with SB 743 implementation, the Governor's Office of Planning and Research (OPR) published the *Technical Advisory on Evaluating Transportation Impacts in CEQA* that provides guidance on a variety of implementation questions with respect to shifting to a VMT metric. Key guidance from this document includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis.
- OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing regional development may be a reasonable threshold. In other words, a residential project that generates VMT per capita that is not more than 15 percent below the regional VMT per resident could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the State's emissions goals.
- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less than significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

Lead agencies have the discretion to set or apply their own significance thresholds.

California Building Code

California provides minimum standards for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The CBC is based on the 1997 Uniform Building Code with modifications specific for California conditions. The CBC provides fire and emergency equipment access standards for public roadways, which include specific width, grading, design and other specifications for roads which provide access for fire apparatus. Street modifications in the City of Palo Alto are subject to these and other modified State standards. The City of Palo Alto adopted the 2022 edition of the CBC in 2023.

b. Regional

Metropolitan Transportation Commission and Association of Bay Area Governments: Plan Bay Area 2040

Most federal, State, and local financing available for transportation projects are allocated at the regional level by MTC, the transportation planning, coordinating, and financing agency for the nine-county Bay Area region. Integrated with the Association of Bay Area Government's (ABAG's) regional

land use plan, the current regional transportation plan, *Plan Bay Area 2050*, was adopted by MTC and ABAG in October 2021. *Plan Bay Area 2050* specifies a detailed set of investments and 35 strategies throughout the region through the year 2050 to maintain, manage, and improve the surface transportation system and to integrate transportation investments with projected housing and job growth. *Plan Bay Area 2050* also specifies how strategies will be implemented and how to secure revenue sources. *Plan Bay Area 2050* serves as the Bay Area's Regional Transportation Plan (RTP) and the Bay Area's Sustainable Communities Strategy (SCS) (MTC.ca.gov).

Santa Clara Valley Transportation Authority

The Santa Clara Valley Transportation Authority is an independent special district that provides transportation options throughout Santa Clara Valley, and oversees several transportation programs such as the Congestion Management Program (CMP) and Bicycle Program.

The CMP describes the VTA's strategies for addressing congestion problems and monitoring compliance. The CMP contains level of service (LOS) standards for highways and arterials, multimodal performance standards, a capital improvement program, and a travel demand management (TDM) program (VTA 2021). The City of Palo Alto uses a minimum LOS standard of LOS D for its intersections not monitored as part of the VTA CMP.

The VTA prepared the *Santa Clara Countywide Bicycle Plan* (SCCBP) and Bicycle Technical Guidelines (BTG). The SCCBP provides a foundation for maintaining and enhancing the countywide bicycle network, which contains over 800 miles of bikeways (VTA 2018). The BTG contains standards and provides guidance for planning, designing, operating, retrofitting, and maintaining roadways and bikeways throughout the county and City.

Santa Clara Countywide Trails Master Plan

The Santa Clara Countywide Trails Master Plan is an element of the Parks and Recreation Section of the County's General Plan, which envisions a comprehensive network of over 800 miles of regional, sub-regional, and connector trails throughout Santa Clara County (Santa Clara County Parks 2022). Santa Clara County Parks adopted the Santa Clara County Countywide Trails Master Plan Update on November 14, 1995, which aims to build a realistic trail system that effectively meets the needs of County residents; respect private property rights through due process in the detail planning and design of trails; provide responsible trail management, inform the trail user that the idea of "shared-use" includes respecting adjacent land uses; accept responsibility for any liability arising form the public's use of County trails; and implement trails involving private property only when the landowner is a willing participant in the process (Santa Clara County Parks 1995).

c. Local

2030 Comprehensive Plan

The Transportation Element of the City's 2030 Comprehensive Plan (City of Palo Alto 2017) contains several goals and policies pertaining to the improvement of transportation facilities and reducing project impacts. The following goals, policies, and programs apply to the project:

- **Policy T-1.2**: Collaborate with Palo Alto employers and business owners to develop, implement and expand comprehensive programs like the TMA to reduce single-occupant vehicle commute trips, including through incentives.

    - **Program T1.2.3**: Formalize TDM requirements by ordinance and require new developments above a certain size threshold to prepare and implement a TDM Plan to meet specific performance standards. Require regular monitoring/reporting and provide for enforcement with meaningful penalties for non-compliance. The ordinance should also: […] Require new development projects to pay a Transportation Impact Fee for all those peak-hour motor vehicle trips that cannot be reduced via TDM measures. Fees collected would be used for capital improvements aimed at reducing vehicle trips and traffic congestion.

- **Policy T-1.17**: Require new office, commercial, and multi-family residential developments to provide improvements that improve bicycle and pedestrian connectivity as called for in the 2012 *Palo Alto Bicycle + Pedestrian Transportation Plan*.
- **Policy T-5.6**: Strongly encourage the use of below-grade or structured parking, and explore mechanized parking instead of surface parking for new developments of all types while minimizing negative impacts including on groundwater and landscaping where feasible.
- **Policy T-5.7**: Require new or redesigned parking lots to optimize pedestrian and bicycle safety.

Sustainability/Climate Action Plan Framework and 2018-2020 Sustainability Implementation Plan

The City adopted an update to the Sustainability/Climate Action Plan Framework (S/CAP) in June 2022 (2022 S/CAP) which includes the goal of reducing GHG emissions 80 percent below 1990 levels by 2030 (the "80 x 30" goal) and most recent Carbon Neutral by 2030 goal. To meet the City's reduction target, the S/CAP includes several mobility strategies aimed at developing multimodal transportation options to minimize the use of personal vehicles, encouraging land use patterns that reduce congestion and climate impacts, and promoting electric vehicle charging infrastructure (City of Palo Alto 2023).

Palo Alto Municipal Code

Palo Alto Municipal Code Title 10 regulates vehicle and traffic operations within the city, which includes traffic-control devices, pedestrian safety, bicycle safety and designated bike paths, and general vehicle and traffic safety.

4.3.3 Impact Analysis

a. Methodology and Significance Thresholds

Consistent with Appendix G of the State CEQA Guidelines, the project would have a significant impact on transportation if it would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
2. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment); or
4. Result in inadequate emergency access.

Pursuant to the City's criteria for determining significant environmental impacts under CEQA (which are based on Appendix G of the CEQA Guidelines), parking supply and demand is not a criterion of analysis for consideration in an EIR and is therefore not analyzed in this section.

Traffic-Related Impacts

To implement SB 743, the CEQA Guidelines have been updated to change the criteria for determining what constitutes a significant traffic-related environmental impact to rely upon quantification of vehicle miles traveled (VMT) instead of LOS. As of July 1, 2020, the VMT-based approach in Section 15064.3 of the CEQA Guidelines applies statewide for the purpose of assessing traffic-related impacts under CEQA. As a result, this analysis uses the metric of VMT to determine the project's traffic-related impact. Section 15064.3(b)(1) of the CEQA Guidelines states that land use "projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact." According to the Technical Advisory on Evaluating Transportation Impacts, published by the Governor's Office of Planning and Research in December 2018, a 15 percent reduction in VMT per capita from existing development is "generally achievable" and supportive of State goals to reduce greenhouse gas emissions (OPR 2018). However, State guidance allows localities to set their own VMT standards based on substantial supporting evidence.

On June 15, 2020, the Palo Alto City Council adopted a resolution setting locally applicable CEQA thresholds of significance for VMT (City of Palo Alto 2020). Under these new thresholds, redevelopment projects are first analyzed to determine whether the new development would result in a net increase in VMT compared to the existing development. Guidance from the OPR and the City also recommends the use of screening thresholds to identify when a project would be expected to result in a less than significant transportation impact. The City's VMT criteria states that projects located within half a mile walkshed around high-quality transit corridors that do not exceed City parking requirements could be expected to result in a less than significant VMT impact. The proposed project would not be located within half a mile walkshed around high-quality transit corridors since the project would be approximately 0.7-mile northeast of the Palo Alto Caltrain station, and therefore would not satisfy the VMT screening criteria. Further analysis is warranted.

A proposed residential project would have a significant impact if VMT attributable to the project exceeds a level of 15 percent below the existing daily home-based VMT per County resident. This threshold is consistent with the State guidance discussed above for evaluating traffic-related impacts. In Santa Clara County, the existing daily home-based VMT is 13.33 miles per resident. Therefore, a significant impact would occur if the project generates an average daily home-based VMT exceeding 11.33 miles per resident, which is equivalent to 15 percent below the existing County metric.

Pursuant to California Public Resources Code section 21099(b)(2) and CEQA Guidelines Section 15064.3, "a project's effect on automobile delay shall not constitute a significant environmental impact." The proposed project is expected to generate fewer than 50 net a.m. or p.m. peak hour trips. Therefore, an office intersection level of service (LOS) analysis is not required as per the City of Palo Alto's LOS policy, and a detailed traffic analysis is not required in accordance with the VTA's CMP guidelines.

The amount of traffic generated by the project was estimated by applying industry standard trip generation rates to the type and size of new development. The standard trip generation rate was derived from the Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 11th Edition*, 2021 based on "Multi-Family Housing (Mid Rise)" (Land Use #221) and "Small Office"

(Land Use #712), since these two land uses most closely match the proposed project. Trips generated by the current office building use were also estimated using ITE trip generation rates and then subtracted from the total project trips to estimate the net new trips generated by the project.

As shown in Table 4.3-2, the proposed project could generate up to 316 net daily vehicle trips, including 26 during the a.m. peak hour and 27 during the p.m. peak hour.

Table 4.3-2 Project Trip Generation

Land Use	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Proposed Uses								
Multi-Family Housing (Mid-Rise)[1]	63 du	286	5	18	23	15	10	25
Small Office Building [2]	9,115 sf	131	12	3	15	7	13	20
Subtotal		**417**	**17**	**21**	**38**	**22**	**23**	**45**
Existing Use								
Small Office Building	9,216 sf	(133)	(12)	(3)	(15)	(7)	(13)	(20)
Net New Trips		**284**	**5**	**18**	**23**	**15**	**10**	**25**

( ) denotes subtraction; du=dwelling units, sf=square feet

[1] Land Use Code 221 (Multi-Family Housing Mid-Rise) data from ITE *Trip Generation Manual,* 11th Edition, 2021.

[2] Land Use Code 712 (Small Office Building) data from ITE *Trip Generation Manual,* 11th Edition, 2021.

Source: Hexagon Transportation Consultants, Appendix E

Transit-Related Impacts

According to the VTA Congestion Management Program (CMP) Transportation Impact Analysis Technical Guidelines, a project would create an adverse effect on transit service if it: (1) causes vehicular congestion that would significantly degrade transit operations, (2) cause a ridership increase that would exceed existing transit capacity, or (3) conflict with existing transit service plans or preclude future transit service to the project area.

Bicycle and Pedestrian Facility Related Impacts

According to the VTA CMP Transportation Impact Analysis Technical Guidelines, a project would create an adverse effect on pedestrian and bike circulation if: (1) its vehicle trips would present a barrier to bikes/pedestrians safely crossing roadways, or (2) it would reduce or sever existing or planned bike/pedestrian circulation in the area.

b. Project Impacts and Mitigation

Threshold 1:	Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact TRA-1 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH APPLICABLE POLICIES ADDRESSING TRANSIT, ROADWAY, BICYCLE, OR PEDESTRIAN FACILITIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Transit Facilities

The project is located within walking distance of SamTrans bus stops for routes 280, 281, 296, and 397, VTA bus route 21, as well as bus stops for the Dumbarton Express. The project site is also located approximately 0.7 miles northeast of the Palo Alto Caltrain Station at 95 University Avenue. Therefore, the project would be adequately served by transit. The proposed project would also not involve changes to the transit network and would not directly affect transit facilities.

As discussed in the TIA prepared by Hexagon (Hexagon 2024; Appendix E), according to the U.S. Census data for Palo Alto, approximately five percent of the proposed project's commuters would be expected to use transit to and from the site. For the proposed project, this would equate to approximately two new transit trips during the a.m. and p.m. peak hours, respectively. This volume of riders generated by the project would not exceed the carrying capacity of the existing bus service near the project site.

No improvements to existing bus service frequencies would be necessary in conjunction with the proposed project. In addition, the project would not conflict with any existing transit facilities, create significant congestion for buses, nor preclude any future transit service to the area. Overall, the proposed project would not conflict with a program, plan, ordinance, or policy addressing transit facilities.

Roadway Facilities

In December 2019, California's Third District Court of Appeal ruled that under SB 743, automobile delay may no longer be treated as a significant impact in CEQA analysis (*Citizens for Positive Growth & Preservation v. City of Sacramento* 2019 WL 6888482). The City has adopted a separate Local Transportation Analysis (LTA) Policy, which retains LOS to determine if projects create local transportation impacts. Because the proposed project would generate fewer than 50 net a.m. and p.m. peak hour trips, an offsite intersection LOS analysis and a separate LTA was not required. Impacts related to roadway facilities would be less than significant.

Bicycle and Pedestrian Facilities

The proposed project would generate pedestrian trips to and from transit stops and commercial areas in the project vicinity. All of the streets in the project vicinity have sidewalks and crosswalks at intersections. As discussed in the TIA (Hexagon 2024; Appendix E), University Avenue and Middlefield Road showed light pedestrian and bicycle activity in the area, and the volume of pedestrian trips generated by the project is not expected to exceed the carrying capacity of the sidewalks and crosswalks in the vicinity of the site. The addition of the project would not remove any existing bike/pedestrian facilities, nor would it preclude future planned improvements. The addition of project traffic would have a negligible effect on walking and biking in the project vicinity. In addition, the project would improve pedestrian safety by removing the two driveways on

University Avenue and one driveway on Middlefield Road. As discussed above under Section 4.1.3e, according to the City of Palo Alto Pedestrian and Bicycle Master Plan, the City envisions installing Class III bike routes on Middlefield Road, Webster Street, and on University Avenue west of Fulton Street. Class II bike lanes are also planned on Lytton Avenue between Fulton Street and Alma Street, which future residents and employees would be able to utilize once constructed. The project would not conflict with the City's Bicycle and Pedestrian Transportation Plan and this impact would be less than significant.

Mitigation Measures

This impact would be less than significant without mitigation. No mitigation measures are required.

Threshold 2:	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Impact TRA-2 VMT ATTRIBUTABLE TO THE PROPOSED PROJECT WOULD NOT EXCEED THE CITY'S THRESHOLDS. THEREFORE, THIS IMPACT BE LESS THAN SIGNIFICANT.

The proposed project would provide housing growth in a segment of the County that has a surplus of jobs relative to the supply of housing. The large supply of jobs in Palo Alto, Mountain View, and other neighboring cities results in relatively long commute lengths for many employees, particularly those commuting from residences in the East Bay and San Francisco. By providing residences closer to employment centers in the Peninsula, the project would help to reduce net VMT at a regional level.

Projects may be screened from requiring a VMT analysis based on location, or other characteristics anticipated to result in low rates of VMT. However, the proposed project was determined to not meet the eligibility for screening as defined by the City of Palo Alto since the proposed project would be located approximately 0.7-mile northeast of the Palo Alto Caltrain station and would not be located within half a mile walkshed around high-quality transit corridors.

As discussed above under Section 4.3.2a, a significant impact would occur if the project generates an average daily home-based VMT exceeding 11.33 miles per county resident, which is equivalent to 15 percent below the existing County metric. The proposed project would be located in a Transportation Analysis Zone (TAZ) where the daily VMT per resident is 9.39, which is below the threshold of 11.33. Additionally, there would be a net decrease in office space from 9,216 square feet under existing conditions to 9,115 square feet under the project, which would result in a slight net reduction in VMT. Therefore, the proposed project would result in a less than significant VMT impact for both the residential and office components.

Mitigation Measures

This impact would be less than significant without mitigation. No mitigation measures are required.

Threshold 3:	Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Impact TRA-3 THE PROPOSED PROJECT WOULD NOT INTRODUCE DESIGN FEATURES OR INCOMPATIBLE USES THAT COULD INCREASE TRAFFIC HAZARDS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed project is located adjacent to University Avenue but would not affect the configuration of this or other roadways. The proposed project would not introduce incompatible uses such as agricultural vehicles or farm equipment on roadways.

Access to the project site would be provided via a full-access driveway on Byron Street, approximately 100 feet south of University Avenue. The driveway ramp from the vehicular entrance on Byron Street to the garage is 22 feet wide, and the TIA found that the 90-degree turn between the driveway opening on Byron Street and the garage entrance is wide enough to accommodate simultaneous turning movements of inbound and outbound vehicles.

Hexagon also evaluated the sight distance at the project driveway and determined it to be adequate. There is an existing driveway to the immediate south of the proposed project driveway on Byron Street, which would provide adequate visibility of northbound traffic on Byron Street for vehicles exiting the project site. Vehicles leaving the project site would egress in two stages. First, vehicles would stop at back of the sidewalk to look for pedestrians on the sidewalk, and then pull forward into the parking lane to assess gaps in traffic. The project would also provide a 5-foot landing for the garage ramp approaching the sidewalk on Byron Street which would allow exiting vehicles to be able to see approaching pedestrians on the sidewalk.

In addition, Hexagon determined that pedestrian circulation within the site would provide adequate connectivity between the vehicle parking, off-site pedestrian facilities, and on-site amenities. There are two stairwells and three elevators with access to the front lobby and parking garage. The project would also include four entry doors for the development on the ground floor, which all connect to existing sidewalks on University Avenue, Middlefield Road, and Byron Street (Hexagon 2024; Appendix E).

Lastly, Hexagon evaluated on-site circulation for the parking garage and determined that the 24-foot-wide drive aisles would be consistent with the City's standard for 90-degree parking. At both the P1 and P2 levels, although the parking aisle would terminate at both ends, space would be provided for vehicle turnarounds. The project site plans show the grades of parking ramps would vary between 10 percent and 22 percent, which meet the maximum allowable grade of 22 percent as required by the PAMC Section 18.54.070. However, the vertical clearance of the garage ramps was not shown in the project plans. City staff would review the proposed project to ensure that it avoids potential traffic hazards related to access and internal circulation and complies with the vertical clearance requirements in PAMC Section 18.54.050(a). Therefore, the proposed project would not introduce potentially hazardous design features such as sharp curves or dangerous intersections, and impacts related to traffic hazards would be less than significant.

Mitigation Measures

This impact would be less than significant without mitigation. No mitigation measures are required.

Threshold 4: Would the project result in inadequate emergency access?

Impact TRA-4 THE PROJECT WOULD MEET CITY DESIGN STANDARDS RELATED TO EMERGENCY ACCESS AND WOULD PROVIDE ADEQUATE ACCESS FOR EMERGENCY VEHICLES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Access to the project site would be provided via one full access driveway on Byron Street, which emergency response vehicles would be able to use. The TIA evaluated site access and circulation and concluded that the project's driveways and internal roadway network would be designed to current City standards and would accommodate the access requirements for emergency and passenger vehicles. In addition, all roadway users must yield to the right-of-way of emergency vehicles when emergency sirens and lights are on. Therefore, the proposed project would not result in inadequate emergency access and this impact would be less than significant.

Mitigation Measures

This impact would be less than significant without mitigation. No mitigation measures are required.

c. Cumulative Analysis

CEQA Guidelines 15130(a) require that the cumulative effect of implementing a project be assessed to determine if the project's incremental effect - together with that of other- would be cumulatively considerable. For the purposes of this analysis, the cumulative setting for thresholds 1, 3, and 4 includes the City of Palo Alto, as effects associated with those thresholds tend to occur more locally or citywide, while the cumulative setting for Threshold 2, VMT impacts, includes development associated with the project and Plan Bay Area 2050, the Bay Area's RTP/SCS.

As discussed under Impact TRA-1, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Therefore, the project would not contribute to a significant cumulative impact related to the circulation system.

Based on technical guidance from the Governor's Office of Planning and Research, if a project has a less than significant impact on VMT using an efficiency-based threshold (e.g., VMT per resident), this implies that the project would not contribute to a cumulative VMT impact (OPR 2018). As discussed above under Impact TRA-2, the proposed project would be located in a TAZ where the daily VMT per resident is 9.39, which is below the threshold of 11.33. Therefore, the project would not result in a cumulatively considerable VMT impact and impacts would be less than significant.

As discussed under Impact TRA-3, the project would not introduce potentially hazardous design features such as sharp curves or dangerous intersections, and therefore would not contribute to a significant cumulative impact related to traffic hazards.

As discussed under Impact TRA-4, the project would not result in inadequate emergency access and therefore would not contribute to a significant cumulative impact related to emergency access.

Overall, cumulative land use development and transportation projects would promote accessibility for pedestrians and bicyclists to and from the project site by conforming to policies within applicable circulation plans, and by adhering to planning principles that emphasize providing convenient connections and safe routes for people walking, bicycling, driving, and taking transit. Implementation of the proposed project in combination with past, present, and reasonably foreseeable projects, would not result in activities or transportation network changes that would

conflict with applicable plans and policies, result in traffic hazards, or result in inadequate emergency access.

For these reasons, the proposed project, in combination with cumulative projects, would have a less-than-significant cumulative impact.

5 Other CEQA Required Discussions

This section discusses growth-inducing impacts, irreversible environmental impacts, and significant, unavoidable impacts that would be caused by the proposed project.

5.1 Growth Inducement

CEQA Guidelines Section 15126(d) requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth-inducing potential is therefore considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

5.1.1 Population Growth

As discussed in Section 14, *Population and Housing*, of the Initial Study (Appendix B), the proposed project would directly generate population growth and would add an estimated 157 new residents to the City of Palo Alto. The estimated population increase associated with the proposed project would increase the City's total population to 67,444. The City's Housing Element forecasts that the population in Palo Alto will increase to 86,510 by 2040 (Palo Alto 2023). The population increase associated with the project would therefore be within the population forecast for Palo Alto.

The City also currently has 29,285 housing units. The addition of 63 units would bring the total number of housing units to 29,384. The Association of Bay Area Governments (ABAG) projections from the 2023 – 2031 Regional Housing Needs Allocation (RHNA) Plan estimates that Palo Alto must accommodate an additional 6,086 housing units by 2031. The housing growth associated with the project is therefore well within ABAG projections. Therefore, the proposed project would not substantially induce population growth through the provision of new housing units.

Overall, population growth associated with the project would not result in significant long-term physical environmental effects, other than those already disclosed in this EIR.

5.1.2 Economic Growth

The proposed project would generate temporary employment opportunities during construction. Because construction workers would be expected to be drawn from the existing regional work force, construction of the project would not be growth-inducing from a temporary employment standpoint. As discussed in Section 14, *Population and Housing*, of the Initial Study, although the proposed project would generate approximately 36 new jobs that could indirectly generate population growth and a greater need for employee housing, the net new employees generated from the project would be approximately one less employee when accounting for the current existing office use on site, which generated approximately 37 jobs. Furthermore, the project would provide an increase in housing to support new employment resulting from the office space.

Thus, the proposed project would not induce substantial economic expansion to the extent that direct physical environmental effects would result.

5.1.3 Removal of Obstacles to Growth

The proposed project is located in a fully urbanized area that is well served by existing infrastructure. As discussed in Section 19, *Utilities*, of the Initial Study (Appendix B) and Section 4.3, *Transportation* of this EIR, existing infrastructure in Palo Alto would be adequate to serve the project. Minor improvements to water, sewer, and drainage connection infrastructure could be needed, but would be sized to specifically serve the proposed project. No new roads would be required. Because the project constitutes redevelopment within an urbanized area and does not require the extension of new infrastructure through undeveloped areas, project implementation would not remove an obstacle to growth.

5.2 Significant Unavoidable Effects

CEQA Guidelines Section 15162.2(c) requires that an EIR identify significant impacts that a project would cause which cannot be reduced to a less than significant with the application of mitigation measures. The implications and reasons why the project is being proposed, notwithstanding, must be described. Implementation of the proposed project would not result in significant, unavoidable impacts.

5.3 Irreversible Environmental Effects

CEQA Guidelines Section 15162.2(d) requires a discussion of any significant irreversible environmental changes which would be caused by implementation of the proposed project. Such significant irreversible environmental changes may include the following:

- Use of non-renewable resources during the initial and continued phases of the project which would be irreversible because a large commitment of such resources makes removal or non-use unlikely.
- Primary impacts and, particularly secondary impacts (such as highway improvement which provides access to a previously inaccessible area) which generally commit future generations to similar uses.
- Irreversible damage which may result from environmental accidents associated with the project.

The proposed project involves infill development on a currently developed lot in the City of Palo Alto. Construction and operation of the project would involve an irreversible commitment of construction materials and non-renewable energy resources. Construction of the proposed project would require building materials and energy, including non-renewable resources. Consumption of these resources would occur with any development in Palo Alto and are not unique to the proposed project.

The proposed project would also irreversibly increase local demand for non-renewable energy resources such as electricity. However, development would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California, and the Green Building Standards Code requires solar access, natural ventilation, and stormwater capture. Consequently, development would not use unusual amounts of energy or construction materials and impacts

related to consumption of non-renewable resources would be less than significant. Again, consumption of these resources would occur with any development in the region and is not unique to the proposed project.

Additional vehicle trips associated with the proposed project would incrementally increase local traffic and regional air pollutant and greenhouse gas emissions. As discussed in the Initial Study (Appendix B), development and operation of the proposed project would not generate air quality or GHG emissions that would result in a significant impact. Additionally, Section 4.3, *Transportation*, of this EIR concludes that long-term impacts associated with the proposed project would be less than significant based on City and regional thresholds.

Growth accommodated by the proposed project would require an irreversible commitment of fire protection services, law enforcement, water supply, wastewater treatment, and solid waste disposal services', however, as described in Section 15, *Public Services*, and Section 19, *Utilities and Service Systems* of the Initial Study (Appendix B), these impacts would be less than significant.

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6 Alternatives

As required by *CEQA Guidelines* Section 15126.6, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives but would avoid or substantially lessen the significant adverse impacts. Section 15126.6 also requires consideration of a "No Project" alternative, regardless of whether it would achieve the project objectives or lessen its environmental effects.

As discussed in Section 2, *Project Description*, the applicant's objectives for the proposed project are as follows:

1. Develop a mixed-use project that adds diversity to the City of Palo Alto's housing supply and will meet a variety of residents' needs by providing a mix of one- and two-bedroom units, including affordable units.
2. Develop residential uses on a site specifically designated for housing in the City of Palo Alto's Housing Element but that does not currently contain any housing, and that will help meet the City's Regional Housing Needs Assessment (RHNA) obligations.
3. Provide sufficient parking but do not overpark the site, consistent with regional transportation and climate policy goals.
4. Protect and preserve the existing protected oak tree located on the adjacent parcel at 519 Byron Street.
5. Contribute to achieving Goal 7 in the 2030 Comprehensive Plan regarding energy and GHG reduction by using environmentally sustainable siting, development, and construction practices, including LEED Gold or equivalent certification and an all-electric building system.
6. Redevelop the site with housing and include replacement of approximately 9,000 square feet of existing office space.
7. Provide new housing in proximity to jobs and services.

Included in this analysis are four alternatives, including the CEQA-required "no project" alternative, that involve changes to the project that may reduce the project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project Alternative
- Alternative 2: Additional Setback from Oak Tree Alternative
- Alternative 3: Reduced Underground Parking Alternative

Descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.1 through 6.4.

6.1 Alternative 1: No Project Alternative

6.1.1 Description

Under the No Project Alternative, the proposed four-story mixed-use building with 63 residential units, 9,115 square feet of office space, and two levels of below grade parking would not be constructed. The project site is currently developed with two office buildings located on the parcels at 511 Byron Street and 680 University Avenue/500 Middlefield Road, respectively, that are currently used by dental offices, and a surface parking lot. The two existing office buildings and surface parking would remain under this alternative. The No Project Alternative would not meet most of the project objectives.

6.1.2 Impact Analysis

a. Biological Resources

Since no demolition or construction would occur under the No Project Alternative, there would be no impacts related to special-status species or wildlife corridors, unlike the proposed project. Alternative 1 would not include construction activities that would impact nesting birds, and Mitigation Measure BIO-1 would not be required. In addition, existing trees on site would not be removed and the one protected oak tree located on the adjacent parcel at 519 Byron Street that extends onto the site (canopy and root zone) would not be impacted, and impacts related to consistency with the City's Tree Protection ordinance would be less than significant. Mitigation measures BIO-2 and BIO-3 would not be required under this alternative. Overall, no biological resources impacts would occur and impacts would be reduced compared to the proposed project.

b. Noise

Since no demolition or construction activities would occur as part of the No Project Alternative, construction noise levels at nearby sensitive receptors would not exceed thresholds, and Mitigation Measures N-2 would not be required to reduce construction vibration, and Mitigation Measure N-1 would not be recommended for construction noise.

Similarly, the operation of the existing two buildings on site would continue unchanged, and there would be no increases in on-site operational noise or traffic noise. Noise levels would not increase compared to existing levels.

Overall, no noise impacts would occur and impacts would be reduced compared to the proposed project.

c. Transportation

Under the No Project Alternative, transportation and trip conditions would not change. Alternative 1 would not result in an increase in daily trips and there would be no change in vehicle miles traveled (VMT).

The No Project Alternative would not conflict with applicable policies addressing transit, roadway, bicycle, or pedestrian facilities; would not introduce design features or incompatible uses that could increase traffic hazards; and would not result in inadequate emergency access, similar to the proposed project.

Overall no transportation impacts would occur and impacts would be reduced compared to the proposed project.

d. Impact Areas Addressed in the Initial Study

Under this alternative, the proposed four-story mixed-use building with 63 residential units, 9,115 square feet of office space, and two levels of below grade parking would not be constructed. Therefore, this alternative would not include excavation and groundwater would not be encountered, and dewatering would not be required. There would be no impacts related to hydrology and water quality.

In addition, since this alternative would not include construction activities, there would be no impacts related to the unanticipated discovery of archaeological resources, paleontological resources, and tribal cultural resources, and mitigation measures CUL-1, CUL-2, GEO-1, TCR-1, and AQ-1 from the Initial Study (Appendix B to this EIR) would not be required.

Overall, no impacts would occur and impacts would be reduced compared to the proposed project.

6.2 Alternative 2: Additional Setback from Oak Tree Alternative

6.2.1 Description

Alternative 2 would include the same characteristics as the proposed project described in Section 2, *Project Description*. However, under this alternative, the mixed-use building and garage would be located approximately 41 feet away from the off-site protected oak tree, which is outside the tree protection zone, as defined by the City's tree technical manual) and limits construction for an additional 11 feet further from the tree than the 30-foot setback proposed for the project. Additionally, this alternative would include slightly less office space as compared to the proposed project. The resulting reduction in building footprint and office space would be compensated for with an additional story. Therefore, under this alternative, the height would be increased compared to the proposed project and the square footage of office space would be slightly reduced but the overall number of units and square footage of residential uses would be generally the same as the proposed project. Under this alternative, vehicular access to the site would be provided on Middlefield Road instead of Byron Street, since the 41-foot setback would prohibit the inclusion of a ramp to the parking garage off of Byron Street.

Alternative 2 would fulfill the project objectives because, similar to the proposed project, Alternative 2 would develop a mixed-use project that adds diversity to the City's housing supply, increases the number of affordable housing in the city, helps meet the City's RHNA target, locates residents in proximity to jobs and services, and achieves the City's goals related to energy and GHG reduction. It would fulfill the objective of protecting and preserving the protected oak tree to a slightly greater extent.

6.2.2 Impact Analysis

a. Biological Resources

As discussed in Section 4.1, *Biological Resources*, of the EIR, there are currently 25 trees on and adjacent to the project site and the proposed project would involve removal of 19 of these trees.

On-site and directly adjacent trees could potentially contain bird nests and birds protected under the Migratory Bird Treaty Act (MBTA). Alternative 2 would include the removal of the same 19 trees as under the proposed project and therefore could result in potentially significant impacts related to nesting birds. Therefore, Alternative 2 would require implementation of Mitigation Measure BIO-1 to reduce potential impacts to nesting birds to a less than significant level. This impact would be less than significant with mitigation, the same as under the proposed project.

In addition, similar to the proposed project, Alternative 2 could impact trees planned for retention. Therefore, Mitigation Measure BIO-2 would be required to ensure tree protection during construction activities. Impacts to on-site trees planned for retention would be less than significant with mitigation, the same as under the proposed project.

Under Alternative 2, ground disturbance would not occur within 41 feet of the protected oak tree located on the adjacent parcel at 519 Byron Street. Although the Arborist Report prepared by Robert Booty on May 23, 2022 (Robert Booty 2022; Appendix C), the root system for the protected oak tree begins at a distance of seven feet from the tree and ends at a distance of 51 feet, 41 feet represents the Tree Protection Zone for the Tree in accordance with the City's Tree Technical Manual.). Because this Alternative would not include construction of the main building within the tree protection zone, , construction activities under Alternative 2 would have less potential to damage the root system of the protected oak tree; however, the root system extends 51 feet from the tree, and therefore this alternative could still affect the long-term viability of the tree.

Mitigation Measures BIO-2 and BIO-3 would still be required under this alternative. Impacts related to the protected tree would be less than significant with mitigation and would be reduced, but similar to those of the proposed project.

Overall, biological resources impacts would be slightly reduced compared to impacts under the proposed project.

b. Noise

This alternative would involve the same uses and residential density as the proposed project described in Section 2, *Project Description*. However, the mixed-use building and garage would be located 11 feet further away from the protected oak tree, respecting the tree protection zone, and the square footage of the office use would also be slightly reduced. Noise impacts during construction are expected to be similar to those of the proposed project during construction; however, they could slightly increase during operations as vehicles would enter/exit the structure off a ramp from Middlefield Road adjacent to the single-family residence instead of from Byron. Noise impacts relative to other sensitive receptors such as the Lytton Garden Assisted Living facility to the northwest would remain the same. Because this alternative includes the same number of units and trips as under the proposed project, impacts associated with off-site traffic noise increases would also be the same as under the proposed project. Overall, impacts related to construction and operational noise would be less than significant, the same as under the proposed project, though they could slightly increase during operations in comparison to the proposed project because all vehicles entering/exiting the site would access the site from a ramp adjacent the single-family residence.

As discussed in Section 4.2, *Noise*, construction vibration levels at the adjacent off-site residence to the southeast would exceed the architectural damage criterion for non-engineered timber and masonry buildings of 0.2 in/sec PPV. Construction would occur within the same distance from sensitive receptors. Therefore, impacts related to construction vibration would be potentially

significant, same as the project, and Mitigation Measure N-2 would be required to reduce impacts to a less than significant level. This impact would be similar to the impacts of the proposed project.

Overall, noise impacts would be generally the same as impacts under the proposed project.

c. Transportation

Under Alternative 2, the reduction in building footprint would be compensated for with an additional story and, overall, the number of units would be the same as the proposed project and the square footage of office space would be slightly reduced. Therefore, VMT impacts would be the same, if not slightly less, as under the proposed project and would be less than significant.

Under this alternative, vehicular access would be provided on Middlefield Road instead of Byron Street like the proposed project. A driveway on Middlefield Road would occasionally be blocked by vehicles stopped on Middlefield Road for red lights. However, vehicles entering or exiting the driveway would be able to proceed once the light at University Avenue turns green and traffic is moving. In addition, there is a driveway on Middlefield Road opposite the proposed project with a 30-foot offset. The opposite driveway is in-bound only and serves a small office building. Because of the low driveway volume on both driveways, the offset would not cause operational or safety problems. Similar to the proposed project, this alternative would not conflict with applicable policies addressing transit, roadway, bicycle, or pedestrian facilities; would not introduce design features or incompatible uses that could increase traffic hazards; and would not result in inadequate emergency access. Impacts would be less than significant, the same as under the proposed project. The location of the ramp on Middlefield Road is less desirable because of its proximity to the traffic light at University Avenue and Middlefield Road and because cars waiting to turn left into the site would likely cause delays to vehicles traveling northbound on Middlefield Road toward University. Therefore, under this scenario the City would require a right-turn in, right-turn out only driveway configuration to reduce queueing on site and delays for vehicles traveling northbound on Middlefield Road. However, this would not be considered an impact under CEQA.

Overall transportation impacts would be slightly increased but similar to impacts under the proposed project.

d. Impact Areas Addressed in the Initial Study

Under this alternative, the reduction in building footprint would be compensated for with an additional story and, overall, the number of units and square footage of office space would be the same as the proposed project. Since this alternative would still include two levels of below grade parking, the likelihood of encountering groundwater would be the same under this alternative as the proposed project. As discussed in Section 10, *Hydrology and Water Quality*, of the Initial Study, groundwater was measured in borings at depths of approximately 28 feet and is historically known to occur at depths of 20 feet, and therefore dewatering could be required. However, dewatering is regulated by the City during the permitting process, including through the City's *Construction Dewatering System Policy and Plan Preparation Guidelines* (City of Palo Alto 2013). Similar to the proposed project, Alternative 2 would be required to comply with regulations for groundwater dewatering as detailed in the City's How-to Guide (City of Palo Alto 2020), which would prevent contaminated groundwater from entering the stormwater system.

Alternative 2 would include a reduced building footprint. However, the garage size would remain substantially the same. Therefore impacts related to the unanticipated discovery of archaeological resources, paleontological resources, and tribal cultural resources when compared to the proposed

project would be similar. Mitigation measures CUL-1, CUL-2, GEO-1, TCR-1, and AQ-1 from the Initial Study would still be required to reduce cultural resources, paleontological resources, tribal cultural resources, and air quality impacts to a less than significant level, similar to the proposed project. The project would result in a taller building than what is currently proposed that, similar to the proposed project, would require Council approval of the proposed Planned Community rezoning. With council approval of the zoning, this Alternative would be consistent with the zoning ordinance. Although the height is taller than the immediately adjacent buildings, a five-story building would not be significantly taller than other buildings within the general vicinity, which generally range from one story to five stories. Therefore, aesthetic impacts would be less than significant, similar to the proposed project.

Overall, impacts would be slightly reduced compared to the proposed project.

6.3 Alternative 3: Reduced Underground Parking Alternative

6.3.1 Description

Alternative 3 assumes that the proposed mixed-use building with 63 residential units and 9,115 square feet of office space would still be constructed. However, instead of two levels of below grade parking, Alternative 3 would only include one level of below grade parking, resulting in approximately half the number of parking stalls compared to the proposed project. Under this alternative, there would be approximately 18 parking stalls for office use and 17 parking stalls for residential use. This would reduce the amount of parking provided and the amount and depth of excavation for the below grade parking.

Alternative 3 would fulfill the project objectives because, similar to the proposed project, Alternative 3 would develop a mixed-use project that adds diversity to the City's housing supply, increase the number of housing units, including affordable housing units, in the city consistent with the City's RHNA targets, locate residents in proximity to jobs and services, protect and preserve the protected oak tree, and achieve the City's goals related to energy and GHG reduction. This alternative would satisfy Objective 3 by providing sufficient but even less parking than the proposed project.

6.3.2 Impact Analysis

a. Biological Resources

Alternative 3 would include the same characteristics as the proposed project but with one level of below grade parking and fewer parking spaces compared to two levels under the proposed project. Although Alternative 3 would include one less level of below grade parking, the overall building footprint would remain the same as the proposed project. In addition, Alternative 3 would include the removal of the same 19 trees as the proposed project and therefore could result in potentially significant impacts related to nesting birds. Therefore, Alternative 3 would require implementation of Mitigation Measure BIO-1 to reduce impacts to nesting birds to a less than significant level. This impact would be less than significant with mitigation, the same as under the proposed project.

In addition, similar to the proposed project, Alternative 3 could impact trees planned for retention. Therefore, Mitigation Measure BIO-2 would be required to ensure tree protection during

construction activities. Impacts to on-site trees planned for retention would be less than significant with mitigation, the same as under the proposed project.

Under this alternative, the edge of proposed excavation for the below-grade parking structure would occur approximately 30 feet from the protected oak tree located on the adjacent parcel at 519 Byron Street. Since the root system of the oak tree extends up to 51 feet, similar to the proposed project, construction activities could potentially result in damages to the root system and could affect the long-term viability of the tree if not properly conducted. Therefore, similar to the proposed project, Mitigation Measure BIO-3 would be required under this alternative to reduce impacts on the protected oak tree to a less than significant level. This impact would be less than significant with mitigation, the same as under the proposed project.

Overall, biological resources impacts would be the same as impacts under the proposed project.

b. Noise

Under this alternative, the size of the proposed mixed-use building would be the same as the proposed project. However, Alternative 3 would include one less level of below grade parking which would reduce construction duration because less excavation and hauling of excavated material would be required. Therefore, construction noise impacts would be reduced compared to the proposed project and would remain less than significant.

Because the proposed mixed-use building would be the same under this alternative, impacts related to operational noise would be the same as under the proposed project. However, although this alternative includes the same number of units as under the proposed project, because it would provide fewer parking spaces it is assumed that fewer building occupants would travel by vehicle and vehicle trips to and from the site would be reduced compared to the proposed project. Therefore, off-site traffic noise would be slightly reduced compared to the proposed project due to fewer vehicles trips. Vehicle noise impacts would remain less than significant, the same as the proposed project.

Since the location of the proposed project would remain the same as the proposed project, construction activities and the use of a large bulldozer could occur within 15 feet of the adjacent off-site residence to the southeast. Therefore, Mitigation Measure N-2 would be required to reduce vibration impacts to a less than significant level, and Mitigation Measure N-1 would be recommended to reduce construction noise. This impact would be slightly reduced compared to the proposed project due to a slightly shorter construction duration.

Overall, noise impacts would be slightly reduced when compared to impacts under the proposed project.

c. Transportation

Under Alternative 3, the number of units and square footage would be the same as the proposed project. However, since Alternative 3 would include one less level of below grade parking and significantly fewer of parking stalls, it is assumed that fewer building occupants and users would travel by vehicle as they would be incentivized to use other modes of transportation. Therefore, the VMT per resident would be reduced compared to the proposed project. Like the proposed project, this alternative would be located in a Transportation Analysis Zone (TAZ) where the daily VMT per resident is 9.39, which is below the threshold of 11.33. Additionally, there would be a net decrease in office space from 9,216 square feet under existing conditions to 9,115 square feet under this alternative, which would result in a slight net reduction in VMT from office use. Therefore, this

alternative would result in a less than significant VMT impact for both the residential and office components, the same as under the proposed project. Like the proposed project, this alternative would not conflict with applicable policies addressing transit, roadway, bicycle, or pedestrian facilities; would not introduce design features or incompatible uses that could increase traffic hazards; and would not result in inadequate emergency access. Impacts would be less than significant, the same as under the proposed project.

Overall transportation impacts would be slightly reduced when compared to impacts under the proposed project.

d. Impact Areas Addressed in the Initial Study

Under this alternative, the size of the proposed mixed-use building would be the same as the proposed project. However, Alternative 3 would include one less level of below grade parking which would require less excavation and hauling of excavated material. As a result, the likelihood of encountering groundwater would be reduced under this alternative. Nonetheless, as discussed in Section 10, *Hydrology and Water Quality*, of the Initial Study, groundwater was measured in borings at depths of approximately 28 feet and is historically known to occur at depths of 20 feet, and therefore dewatering could be required. However, dewatering is regulated by the City during the permitting process, including through the City's *Construction Dewatering System Policy and Plan Preparation Guidelines* (City of Palo Alto 2013). Similar to the proposed project, Alternative 3 would be required to comply with regulations for groundwater dewatering as detailed in the City's How-to Guide (City of Palo Alto 2020), which would prevent contaminated groundwater from entering the stormwater system. Although Alternative 3 would result in less excavation due to one less level of below grade parking, it could still result in the unanticipated discovery of archaeological resources, paleontological resources, and tribal cultural resources. Therefore, mitigation measures CUL-1, CUL-2, GEO-1, TCR-1, and AQ-1 from the Initial Study would still be required to reduce cultural resources, paleontological resources, tribal cultural resources, and air quality impacts to a less than significant level, similar to the proposed project.

Overall, impacts would be reduced, but generally similar to, the proposed project.

6.4 Environmentally Superior Alternative

Table 6-1 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied. CEQA requires the identification of the environmentally superior alternative among the options studied. When the "No Project" alternative is determined to be environmentally superior, CEQA also requires identification of the environmentally superior alternative among the development options. In this case, the proposed project does not have any significant and unavoidable impacts.

Alternative 1 (*No Project Alternative)* assumes that the proposed four-story mixed-use building with 63 residential units, 9,115 square feet of residential space, and two levels of below grade parking would not be constructed, and the existing two office buildings on site would remain. Under this alternative, no construction would occur, and therefore the mitigation measures associated with biological resources and noise would not be required. In addition, there would be no impacts related to transportation. Based on the alternatives analysis provided in Section 6.1, Alternative 1 would be the environmentally superior alternative. However, Alternative 1 would not achieve the basic project objectives. This alternative would not meet the project objectives because it would not develop a mixed-use project that adds diversity to the City's housing supply, increase the number of

affordable housing in the city, help meet the City's RHNA target, locate residents in proximity to jobs and services, or achieve the City's goals related to energy and GHG reduction.

Under Alternative 2 (*Additional Setback from Oak Tree Alternative*), the same characteristics as the proposed project described in Section 2, *Project Description*, of the EIR, would be included. However, under this alternative, the mixed-use building and garage would be located approximately 41 feet away from the tree, which is 11 feet further away than the 30-foot setback proposed for the project. Because this alternative would be located outside of the TPZ for the protected oak tree and roots extend out to 51 feet, it would still require mitigation measures BIO-2 and BIO-3. Construction activities under Alternative 2 would occur at a similar distance from the off-site residence. Therefore, Mitigation Measure N-2 would still be required to reduce construction vibration to a less than significant level, and Mitigation Measure N-1 recommended for construction noise. This alternative would result in reduced impacts related to biological resources, cultural resources, paleontological resources, and tribal cultural resources, and similar impacts related to noise, groundwater dewatering, and transportation. Alternative 2 would also fulfill the project objectives since the same development as the proposed project would be built.

Alternative 3 (*Reduced Underground Parking Alternative*) would include the same characteristics as the proposed project. However, Alternative 3 would include one less level of below grade parking and half the number of parking spaces compared to the proposed project. Since the location and overall building footprint of this alternative would be the same as the proposed project, Mitigation Measures BIO-1 through BIO-3 and N-1 would continue to apply. Nonetheless, since Alternative 3 would include only one level of below grade parking and fewer parking spaces, impacts related to construction vibration and off-site traffic noise would be slightly reduced, and impacts related to groundwater dewatering, cultural resources, paleontological resources, tribal cultural resources, and VMT would also be reduced.

Among the development alternatives, Alternative 2 would be the environmentally superior alternative since it would result in lower potential for adverse impacts to the adjacent protected oak tree and would result in slightly less VMT from office use.

Table 6-1 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification	Alternative 1: No Project/Existing Buildings to Remain	Alternative 2: Additional Setback from Oak Tree Alternative	Alternative 3: Reduced Underground Parking Alternative
Biological Resources	Less than Significant with Mitigation Incorporated	+	+	=
Noise	Less than Significant with Mitigation Incorporated	+	=	+
Transportation	Less than Significant	=	+	+
Other Impact Areas	Less than Significant with Mitigation Incorporated	+	+	+

+ Superior to the proposed project (reduced level of impact)

- Inferior to the proposed project (increased level of impact)

= Similar level of impact to the proposed project

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7.2 List of Preparers

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