PUBLIC REVIEW DRAFT

389 EL CAMINO REAL PROJECT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2011022057

LSA

February 2012

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Submitted to:

City of Menlo Park
Community Development Department
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LSA

February 2012

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I. INTRODUCTION

A. PURPOSE OF THE EIR

In compliance with the California Environmental Quality Act (CEQA), this report describes the environmental consequences of the 389 El Camino Real Project (project) proposed for the redevelopment of approximately 1.23 acres in the City of Menlo Park (City). This Environmental Impact Report (EIR) is designed to inform City decision-makers, responsible agencies, and the general public of the proposed project and the potential physical consequences of project approval. This EIR also examines alternatives to the proposed project and recommends mitigation measures to reduce or avoid potentially significant physical impacts. The City of Menlo Park is the Lead Agency for environmental review of the proposed project. This EIR will be used by the City and the public in their review of the proposed project and associated approvals, including those described in Chapter III, Project Description.

B. PROPOSED PROJECT

The project considered in this EIR is the redevelopment of an approximately 1.23-acre site (consisting of seven legal parcels) located along the El Camino Real corridor, north of Sand Hill Road and south of the Menlo Park Caltrain station and downtown Menlo Park. El Camino Real is a State highway (State Route 82) that extends along a roughly north/south alignment through the San Francisco Peninsula, between San Francisco and San Jose. The Menlo Park Caltrain Station is located on the east side of El Camino Real; downtown Menlo Park is located on the west side of El Camino Real. The proposed project would demolish two existing one-story residential buildings on the site (containing a total of four units, two of which are occupied), require the conveyance of the public street easement for Alto Lane to the project sponsor, and develop 26 residential units, 60 parking spaces (consisting of 34 two-car (side-by-side) parking garage spaces, 18 two-car (tandem[1]) garage spaces, [2] and eight surface parking spaces), and associated facilities and landscaping.

The residential development would include nine detached single-family units in the western portion of the site (farthest from El Camino Real) and 17 townhouse units in the central and eastern portions of the site. The residential units would be two to three stories in height and would contain two to four bedrooms. All units would be for sale, and three of the 26 units would be priced at affordable levels for low-income households, in accordance with the City's Below Market Rate (BMR) Housing Program and the provisions of Government Code Section 65915, the State Density Bonus Law. The proposed project includes approximately 18,315 square feet of open space (comprising approximately 34 percent of the site). Please refer to Chapter III, Project Description, for additional information about the project, including a project location map and project plans.

[1] When vehicles are parked nose-to-end in tandem, the first vehicle does not have independent access (and is "parked in"), and the second motor vehicle must move to provide access.

[2] In other words, each proposed residential unit would have either two side-by-side parking spaces or two tandem parking spaces. 26 units x 2 parking spaces = 52 parking spaces.

C. EIR SCOPE

The City of Menlo Park circulated a Notice of Preparation (NOP) for the proposed project. The NOP notified responsible agencies and interested parties that an EIR would be prepared for the project and indicated the environmental topics anticipated to be addressed in this EIR. The NOP was published on February 14, 2011, and was mailed to public agencies, organizations, and individuals likely to be interested in the potential impacts of the project. A copy of the NOP is included in Appendix A of this EIR. A scoping session for the EIR was held as a public meeting before the Planning Commission on February 28, 2011. Written comments submitted on the NOP and verbal comments made at the Planning Commission hearing were considered during preparation of the EIR. Refer to Chapter II, Summary, for a list of potential areas of controversy identified during the EIR scoping period.

The following environmental topics are addressed in separate sections of this EIR:

- Land Use and Planning Policy
- Transportation, Circulation and Parking
- Air Quality
- Noise
- Public Services and Utilities
- Aesthetics

The following topics are not evaluated in detail in this EIR: agriculture and forestry resources; biological resources; cultural resources; geology and soils; greenhouse gas emissions; hazards and hazardous materials; hydrology and water quality; mineral resources; population and housing; and recreation. These topics are discussed in the Effects Found Not to Be Significant section of Chapter VI, Other CEQA Considerations.

D. REPORT ORGANIZATION

This EIR is organized into the following chapters:

- *Chapter I – Introduction:* Discusses the overall EIR purpose, provides a summary of the proposed project, and summarizes the organization of the EIR.
- *Chapter II – Summary:* Provides a summary of the proposed project and of the impacts that would result from implementation of the proposed project, and describes mitigation measures recommended to reduce or avoid significant impacts. A discussion of alternatives to the proposed project is also provided.
- *Chapter III – Project Description:* Provides a description of the project site, site development history, project objectives, required approval process, and details of the project itself.
- *Chapter IV – Setting, Impacts and Mitigation Measures:* Describes the following for each environmental technical topic: existing conditions (setting); potential environmental impacts and their level of significance; and measures to mitigate identified impacts. Potential adverse impacts are identified by level of significance, as follows: less-than-significant impact (LTS), significant impact (S), and significant and unavoidable impact (SU). The significance of each impact is

categorized before and after implementation of any recommended mitigation measure(s). Each topical section also includes an analysis of the cumulative effects of the project.

- *Chapter V – Alternatives:* Provides an evaluation of five alternatives to the proposed project, including the No Project alternative.
- *Chapter VI – Other CEQA Considerations:* Provides additional specifically-required analyses of the proposed project's growth-inducing effects, cumulative effects, significant irreversible changes, and effects found not to be significant.
- *Chapter VII – Report Preparation:* Identifies preparers of the EIR, references used, and persons and organizations contacted.

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II. SUMMARY

A. PROJECT UNDER REVIEW

This EIR has been prepared in order to evaluate the environmental impacts of the project proposed for the redevelopment of approximately 1.23 acres in the City of Menlo Park. A detailed description of the proposed project is provided in Chapter III, Project Description. The key elements of the project are summarized in Table II-1. The proposed project would develop 26 residential single-family and townhouse units, three of which would be priced at affordable levels for low-income households, in accordance with the City's BMR Housing Program and the provisions of Government Code Section 65915, the State Density Bonus Law.

B. SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained in Chapter IV, Setting, Impacts and Mitigation Measures. CEQA requires a summary to include discussion of: 1) potential areas of controversy; 2) significant impacts; 3) recommended mitigation measures; and 4) alternatives to the proposed project.

1. Potential Areas of Controversy

Based on the verbal comments presented at the NOP scoping session at the Planning Commission meeting on February 28, 2011 and written communication received during the EIR scoping period, the potential areas of controversy surrounding the project are listed in the following bullet points. These issues are evaluated in Chapter IV of the EIR.

- land use compatibility
- shade and shadow
- visual character
- site access and circulation
- traffic on local roads
- parking
- air pollution associated with vehicles
- noise exposure
- existing public services and utility constraints
- impacts on school services

Table II-1: Project Summary

Project Land Use	Size	Description
Residential	26 residential units: • nine single-family units in the western portion of the site • 17 townhouse units in the central and eastern portions of the site.	The project site is bounded by College Avenue to the north; El Camino Real to the east; Partridge Avenue to the south; and residential uses to the west. The residential units would be two to three stories in height, contain two to four bedrooms, and would contain approximately 1,300 to 2,100 square feet of living space. All units would be for-sale, and three of the 26 units would be priced at affordable levels for low-income households.
Parking	60 garage and surface parking spaces	A total of 60 garage and surface parking spaces would be provided. There would be 52 private parking garage and driveway spaces (two for each residential unit) and eight at-grade visitor parking spaces (two of which would be compliant with the Americans with Disabilities Act). The 52 private parking spaces would consist of 34 two-car parking garage spaces and 18 tandem garage spaces.
Open Space/ Landscaping	Approximately 18,315 square feet of private open space (comprising approximately 34 percent of the site).	Approximately 18,315 square feet of open space would be developed on the site. Approximately 7,256 square feet would be private open space and approximately 11,059 square feet would be shared open space. The private open space would be clustered in the western portion of the site, mainly around the nine small-lot single-family residential units, and would serve as private yard space for these units. The common open space would include a landscaped area near the current intersection of Alto Lane and College Avenue and a landscaped area adjacent to El Camino Real that would contain a barbecue and mailboxes. The one heritage coast redwood tree on the site would be preserved in-place.
Circulation and Access	NA	Main vehicular access would occur via El Camino Real via two 26-foot-wide driveways. The existing Alto Lane right-of-way would be widened and serve as a private street through the western portion of the site and would connect to the main driveways. Access to the two single-family detached units on College and Partridge Avenues would be accessed by their respective driveways. Pedestrian access would occur via sidewalks along El Camino Real, College Avenue, and along accessible routes that would be constructed within the project site.

NA = Not Applicable

Source: LSA Associates, Inc., 2011.

2. Significant and Less-Than-Significant Impacts

Under CEQA, a significant impact on the environment is defined as: 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.[1]

As discussed in Chapter IV of this EIR, implementation of the proposed project has the potential to result in adverse environmental impacts. Impacts associated with the following environmental topics would be significant without the implementation of mitigation measures, but would be reduced to a less-than-significant level if the mitigation measures recommended in this EIR are implemented:

[1] CEQA Sections 21060.5 and 21068.

- Air Quality
- Noise
- Aesthetics

Impacts associated with the following environmental topics would be considered less than significant and would not require any mitigation measures based on the identified criteria of significance:

- Land Use and Planning Policy
- Public Services and Utilities

3. Significant Unavoidable Impacts

As discussed in Chapter IV of this EIR, impacts associated with the following topic would be significant and unavoidable:

- Transportation, Circulation and Parking

4. Alternatives to the Project

The following five alternatives to the project are considered in this EIR:

- The **No Project alternative** assumes the project site would generally remain in its exiting condition. The existing buildings, infrastructure, and fenced parking lot would remain with minimal or no changes.
- The **Baseline Zoning alternative** assumes development would occur in general conformance with the site's existing zoning regulations. Under this alternative, three residential units on the portion of the site zoned Apartment District (R-3) would be developed and approximately 23,000 square feet of commercial space would be developed on the portion of the site zoned General Commercial (applicable to El Camino Real) (C-4 (ECR)).
- The **Reduced Residential alternative** assumes the number of residential units developed on the site would be reduced to a total of 12 units (including five single-family units and seven town-house units) to avoid potentially significant traffic impacts.
- The **Mixed Used alternative** assumes the project would be developed with a mixture of residential and commercial uses in a single building. The development would include 22 multi-family residential units and approximately 13,400 square feet of commercial space. Under this alternative, the portion of the site zoned Apartment District (R-3) would be rezoned to General Commercial (applicable to El Camino Real) (C-4 (ECR)).
- The **Senior Housing alternative** assumes the project would be developed as a senior housing project with 26 residential units in a single building.

The Senior Housing alternative is identified as the environmentally superior alternative. Each alternative is described and analyzed in Chapter V of this EIR.

C. SUMMARY TABLE

Table II-2 identifies the impacts and mitigation measures for the proposed project. The information in the tables is organized to correspond with the environmental issues discussed in Chapter IV. The table is arranged in four columns: 1) impacts; 2) level of significance prior to mitigation measures; 3) mitigation measures; and 4) level of significance after mitigation. For a complete description of potential impacts and recommended mitigation measures, please refer to Chapter IV.

Table II-2: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
A. Land Use and Planning Policy			
There are no significant Land Use and Planning Policy impacts.			
B. Transportation, Circulation and Parking			
TRANS-1: In the Near Term Plus Project Condition, the project would contribute trips to University Drive between Middle Avenue and Cambridge Avenue that would exceed the City's 25-trip threshold for local roadways with ADT greater than 1,350 vehicles.	S	TRANS-1: Implement the following two-part mitigation measure: TRANS-1a: Additional roadway capacity may reduce this impact to a less- than-significant level. University Drive between Middle Avenue and Cambridge Avenue currently has one travel lane in each direction and obtaining additional roadway capacity could include constructing an additional travel lane in one or both travel directions. However, this measure would require right-of-way acquisition, which is infeasible. As such, the impact would remain significant and unavoidable. TRANS-1b: The project sponsor shall develop and implement a Transportation Demand Management (TDM) Program to encourage the use of alternative modes of transportation and reduce the daily number of vehicles generated by the project. The TDM Program shall be consistent with the City of Menlo Park TIA Guidelines. Potential TDM measures include the following: • A commute assistance kiosk; • Subsidized public transit passes; • Carpool matching assistance; • Vanpools; • Shuttle service to area transit hubs; and • Bicycle facilities. The TDM Program, which could be shared with that of other residential developments or businesses in the area, shall be reviewed and approved by the City.	SU
TRANS-2: In the Long Term Plus Project Condition, the project would contribute trips to University Drive between Middle Avenue and Cambridge Avenue that would exceed the City's 25-trip threshold for local roadways with ADT greater than 1,350 vehicles.	S	TRANS-2: Implement Mitigation Measures TRANS-1a and TRANS-1b.	SU

Table II-2 *Continued*

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
TRANS-3: In the Long Term Plus Project Condition, the project would contribute trips to Middle Avenue between University Drive and El Camino Real that would exceed the City's 50-trip threshold for local roadways with ADT greater than 9,000 vehicles.	S	TRANS-3: Implement the following two-part mitigation measure: TRANS-3a: Additional roadway capacity would reduce this impact to a less-than-significant level. Middle Avenue between University Drive and El Camino Real currently has one travel lane in each direction and obtaining additional roadway capacity would include constructing an additional travel lane in one or both travel directions. However, this measure would require right-of-way acquisition, which is infeasible. As such, the impact would remain significant and unavoidable. TRANS-3b: Implement Mitigation Measure TRANS-1b.	SU
C. Air Quality			
AIR-1: Construction of the proposed project would generate air pollutant emissions that could expose sensitive receptors to substantial pollutant concentrations.	S	AIR-1: Consistent with guidance from the BAAQMD, the following actions shall be required of construction contracts and specifications for the project: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. • Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.	LTS

Table II-2 *Continued*

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
AIR-1 *Continued*		• All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	
AIR-2: Construction of the proposed project would generate air pollutant emissions that could expose sensitive receptors to substantial toxic air contaminants.	S	AIR-2: Consistent with guidance from the BAAQMD, the following actions shall be required of construction contracts and specifications for the project: • The construction contractor shall ensure the idling time of diesel-powered construction equipment is 2 minutes or less. • The construction contractor shall utilize off-road equipment (more than 50 horsepower) used in the construction of the project (i.e., owned, leased, and subcontractor vehicles) that achieves a project wide fleet-average 20 percent nitrogen oxide reduction and 45 percent particulate matter reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options that are available. • All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of nitrogen oxides and particulate matter. • The project construction contractor shall use equipment that meets the ARB's most recent certification standard for off-road heavy duty diesel engines.	LTS

Table II-2 *Continued*

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
D. Noise			
NOISE-1: Noise levels from project construction activities could result in a substantial temporary or periodic increase in ambient noise levels in the project site vicinity above levels existing without the project.	S	NOISE-1: The following measures shall be implemented during construction of the project: (a) To minimize construction noise impacts on nearby residents and businesses, and to be consistent with Chapter 8.06 of the City's Municipal Code, standard construction activities that exceed stated noise limits shall be permitted only between the hours of 8:00 a.m. and 6:00 p.m. from Monday to Friday. (b) To reduce daytime construction-related noise impacts to the maximum feasible extent, the project sponsor shall develop a site-specific noise reduction program subject to City review and approval, which includes the following measures: • Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a day and evening contact number for the City. The signs shall be posted at all entrances to the construction site upon the commencement of construction for the purpose of informing contractors and subcontractors and all other persons at the construction site of the basic requirements of the Noise Ordinance of the Municipal Code. The sign shall be at least 5 feet above ground level and shall consist of a white background with black letters. • A pre-construction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise mitigation protocols are in place prior to the issuance of a building permit (including the establishment of construction hours, neighborhood notification, posted signs, etc.). • Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).	LTS

Table II-2 *Continued*

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
NOISE-1 *Continued*		• Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project demolition or construction activities shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on equipment with compressed-air exhaust systems shall be used; this muffler can lower noise levels, which could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible. • Stationary noise sources shall be located as far from sensitive receptors as possible and they shall be muffled and enclosed within temporary sheds; or insulation barriers or other measures shall be incorporated to the extent feasible. • No piece of powered equipment shall generate noise in excess of 85 dBA at 50 feet. Powered equipment is defined by the City to be a motorized device powered by electricity or fuel used for construction, demolition, and property or landscape maintenance or repairs. Powered equipment includes but is not limited to: parking lot sweepers, saws, sanders, motors, pumps, generators, blowers, wood chippers, vacuums, drills and nail guns (but specifically excluding internal fuel combustion engine leaf blowers). • Prior to construction, a temporary sound barrier shall be constructed along the project's western property line adjacent to the existing residential properties that border the project site. The temporary sound barrier shall extend from the project property line at College Avenue to the project property line at Partridge Avenue. This temporary sound barrier shall be constructed at the minimum height of 6 feet above the proposed finished pad elevation with a minimum surface weight of 4 pounds per square foot (or with any commercially available sound barrier material that has an equivalent noise reduction coefficient as a material with a minimum surface weight of 4 pounds per square foot) and shall be constructed so that vertical or horizontal gaps are eliminated. This temporary barrier shall remain in place through the construction phase in which heavy construction equipment, such as excavators, bulldozers, scrapers, loaders, rollers, pavers, and dump trucks are operating within 100 feet of the western project site boundary.	

Table II-2 *Continued*

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
NOISE-2: Implementation of the proposed project would expose future residents of the proposed project to noise levels that exceed the "normally acceptable" standard for new residential development established in the City's Land Use Compatibility Standards for Community Noise Environments.	S	NOISE-2a: In order to ensure that windows can remain closed for prolonged periods of time to meet the interior noise standard of 45 dBA CNEL established by the City, an alternative form of ventilation, such as air conditioning or noise-attenuated passive ventilation systems, shall be included in all proposed dwelling units. NOISE-2b: In order to meet the interior noise standard of 45 dBA CNEL established by the City, all proposed dwelling units that would be located within 45 feet of the centerline of the outermost travel lane of El Camino Real shall be constructed to have an overall minimum STC rating of STC-35, and all exterior doors and windows shall have a minimum rating of STC-33. Quality control shall be exercised in construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed.	LTS
NOISE-3: Implementation of the proposed project could expose nearby existing land uses to unacceptable noise levels in violation of the City's Noise Ordinance (Chapter 8.06).	S	NOISE-3: The project sponsor shall ensure that project plans submitted for a building permit include documentation that proposed stationary equipment shall not generate noise that exceeds 60 dBA L_{eq} during daytime hours and 50 dBA L_{eq} during nighttime hours, as measured at any point on a neighboring residential property nearest where the noise source at issue generates the highest noise level.	LTS
E. Public Services and Utilities			
There are no significant Public Services and Utilities impacts.			
F. Aesthetics			
AES-1: The proposed project could increase the amount of light and glare in Menlo Park	S	AES-1: The project applicant shall prepare a lighting plan and photometric study and submit them the City for review and approval prior to issuance of a building permit. City staff shall review the plan to ensure that any outdoor lighting for the project is oriented downwards and is designed to minimize lighting or glare off-site.	LTS

III. PROJECT DESCRIPTION

This chapter describes the project that is proposed by Matteson Development Partners, Inc. (applicant). The project would result in the demolition of the two existing one-story residential buildings (a single-family residence and a triplex) on the site, the abandonment of the public street easement for an existing right-of-way (Alto Lane) in the site, the merging of seven existing lots[1] into two lots, the creation of 26 condominium units, and development of a 26-unit residential project and associated facilities.[2] A description of the proposed project's location, background, and objectives is followed by details of the project itself, and a summary of required approvals and entitlements.

A. PROJECT SITE

The following discussion describes the geographic context of the project site and provides a brief overview of existing land uses within and around the site.

1. Location

The approximately 1.23-acre project site is located at 389 El Camino Real in the City of Menlo Park (City) in San Mateo County. The site is approximately 0.4 miles north of Sand Hill Road (a major regional route connecting El Camino Real to Interstate 280 (I-280)) and 0.5 miles south of the Menlo Park Caltrain station and downtown Menlo Park (which extends along Santa Cruz Avenue). El Camino Real is a State highway (State Route 82) that extends along a roughly north/south alignment through the San Francisco Peninsula, between San Francisco and San Jose. Figures III-1 and III-2 show the project site's local and regional location. For descriptive purposes, the site is considered to be bounded by College Avenue to the north; El Camino Real to the east; Partridge Avenue and an existing auto repair shop to the south; and residential uses to the west. Alto Lane, a right-of-way easement, currently terminates in the northwestern portion of the site. The project site is made up of seven contiguous legal parcels, which include a large vacant parking lot along the El Camino Real frontage; a residential triplex building (approximately 4,250 square feet) at 603 College Avenue; and a single-family residence (approximately 1,280 square feet) at 612 Partridge Avenue. Two of the three triplex units on the site are currently inhabited; the remaining triplex unit and the single-family residence on the site are uninhabited.

Regional vehicular access to the project site is via U.S. Highway 101 (US 101), Marsh Road or Willow Road, and El Camino Real (SR 82). The site can also be accessed via I-280 and Sand Hill Road to El Camino Real. Transit access to the project site is provided via San Mateo County Transit

[1] The seven existing lots are assigned five Assessor Parcel Numbers (APNs): 071-412-220, 071-412-230, 071-412-170, 071-412-250, and 071-412-430.

[2] The analysis in Section IV.B, Transportation, Circulation and Parking, evaluates development of a maximum of 27 residential units, which represents the number of units permitted under the State's Density Bonus Law.

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FIGURE III-1

N

0 350 700
FEET

Project Site

389 El Camino Real Project EIR
Project Vicinity and Regional Location

SOURCES: GOOGLE MAPS; LSA ASSOCIATES, INC., 2011.

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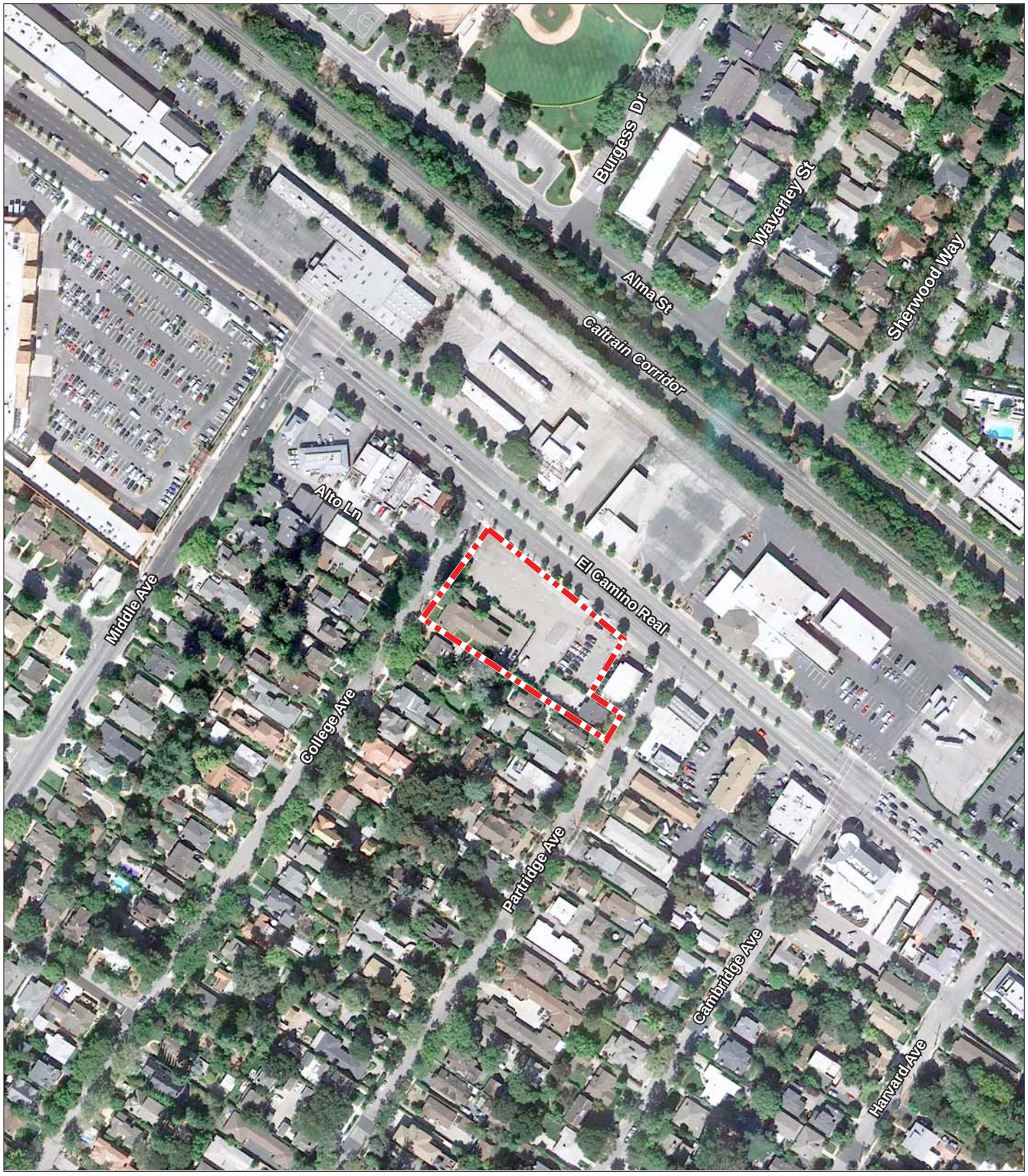

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FIGURE III-2

N

0 115 230

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Project Site

389 El Camino Real Project EIR

Aerial Photograph

SOURCE: GOOGLE EARTH, 10/2009; LSA ASSOCIATES, INC., 2011.

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District (SamTrans) buses or Caltrain, which provides regular service to Menlo Park on its San Francisco-San Jose line (with limited service farther south to Gilroy). Caltrain provides mass transit to major employment centers in San Francisco, Silicon Valley, and San Jose.

2. Site Characteristics

The project site comprises seven parcels including Alto Lane (a public right-of-way comprising approximately 0.7 acre), which are assigned five APNs: 071-412-220, 071-412-230, 071-412-170, 071-412-250, and 071-412-430. The site is generally flat and is located at an elevation of approximately 65 feet above mean sea level.

a. Land Uses and Structures. Two buildings exist on the project site:

- *612 Partridge Avenue*. The structure located at 612 Partridge Avenue (APN 071-412-250), which is in the southwestern portion of the project site, is an approximately 1,280-square-foot, one-story single-family residence built between 1910 and 1925. The residence is a square-shaped Craftsman bungalow and is of wood-frame construction on a raised concrete foundation. The structure is currently unoccupied.
- *603-607 College Avenue*. The triplex located at 603-607 College Avenue (APN 071-412-170) is located in the northwestern portion of the project site. The approximately 4,250-square-foot, one-story building is T-shaped (with the top of the "T" facing College Avenue) and is also of wood-frame construction on a raised concrete foundation. The triplex was constructed in 1948. Two of the three units are occupied.

The remaining three APNs in the project site (APNs 071-412-220, 071-412-230, and 071-412-430) comprise an empty, fenced parking lot at 389 El Camino Real (covering the eastern portion of the site). The southern portion of this parking lot was formerly the site of a car dealership. A public right-of-way (Alto Lane) comprising approximately 0.7 acre currently extends from College Avenue to approximately mid-way through the site (i.e., it does not provide access between Partridge Avenue and College Avenue). Alto Lane primarily provides access to the triplex located at 603-607 College Avenue.

According to an evaluation conducted by LSA Associates,[3] no previously recorded cultural resources were identified in or adjacent to the project site. In addition, the evaluation concludes that the existing buildings on the site lack historical significance and, therefore, do not appear eligible for listing in the California Register and do not constitute historical resources for the purposes of CEQA.

The project contains one heritage tree (a 90-foot-tall coast redwood (*Sequoia sempervirens*) located in the northwest corner of the site), as defined by the City. Approximately 10 percent of the site (generally concentrated in the northwestern corner of the site) is covered with pervious surfaces; the remainder of the site is covered with buildings or paved surfaces.

b. Surrounding Land Uses. The project site is located along El Camino Real, a major commercial corridor in the City. Many of the commercial uses along El Camino Real are oriented to automobile access, with parking adjacent to the street. However, the City has been undertaking an

[3] LSA Associates, Inc., 2009. *Memorandum: Architectural Eligibility Evaluation for the 389 El Camino Real Project, Menlo Park, San Mateo County, California (LSA #CMK1001).* May 19.

effort to enhance pedestrian access along the corridor, as individual parcels are redeveloped (it is anticipated that this effort will be codified in the El Camino Real/Downtown Specific Plan, if that plan is adopted). The site is surrounded by a mixture of uses, as summarized below:

- *North*. The site is bordered by College Avenue to the north. Beyond College Avenue is a small shopping center that directly fronts El Camino Real. Businesses in this shopping center, as of September 2011, include a yogurt shop and United Parcel Service (UPS) shipping outlet.
- *East*. The site is bordered by El Camino Real to the east. Beyond El Camino Real are commercial uses and associated surface parking lots (including the Tesla car dealership and vacant properties formerly used by car dealerships). To the east of these commercial uses are the Caltrain railroad tracks and the City's municipal complex (including Burgess Park, Menlo Park Library, City Hall, and City offices).
- *South*. Planet Auto Repair and Muffler Service, an auto body repair shop, is located to the south of the site. A gas station and additional commercial uses, generally oriented towards El Camino Real, are located south of Partridge Avenue.
- *West*. The site is bordered to the west by predominately single-family and multi-family residential uses. These residential uses are part of a district known as the Allied Arts Neighborhood.

c. Planning Designations. The majority of the project site (except for the northwestern portion of the site west of Alto Lane) is designated El Camino Real Professional/Retail Commercial in the City's General Plan. The portion of the site west of Alto Lane is designated Medium Density Residential in the General Plan. Refer to Figure IV.A-2 in Section IV.A, Land Use and Planning Policy, for a map of the General Plan and zoning designations encompassing the project site and adjacent areas.

The portion of the site corresponding to the area designated El Camino Real Professional/Retail Commercial is zoned General Commercial District (applicable to El Camino Real) (C-4(ECR)); the portion of the site corresponding to the area designated Medium Density Residential is zoned Apartment District (R-3). The site is also located within the Draft El Camino Real/Downtown Specific Plan area. The intent of the Draft Specific Plan, which is currently being reviewed, is to "preserve and enhance community life, character and vitality through public space improvements, mixed use infill projects sensitive to the small town character of Menlo Park and improved connections across El Camino Real."[4] The General Plan and zoning designations of the site, and Draft Specific Plan-related planning considerations are discussed in Section IV.A, Land Use and Planning Policy, of this EIR.

B. BACKGROUND INFORMATION

The project site was acquired by the project applicant in 2006. The site was formerly occupied by a car dealership and an Exxon Service Station, which contained three gasoline underground storage tanks (USTs), one diesel UST, one waste oil UST, and two pump islands. These features were suspected of having contaminated the site with petroleum hydrocarbons. After the station was closed, the five USTs and two pump islands were removed in 1993. Remedial activity on the site was performed and approximately 25 monitoring wells were installed at the site between 1992 and 1996.

[4] Perkins +Will, 2010. *Draft Menlo Park El Camino Real/Downtown Specific Plan.* April 7.

Other remedial efforts included soil over-excavation, pumping and treatment of ground water, soil vapor extraction, and natural attenuation. Residual petroleum hydrocarbons were detected during pre-remedial investigations; post-remediation soil sampling performed in 2005 detected reduced concentrations of petroleum hydrocarbons.

A May 12, 2006 letter from TRC Lowney to the San Mateo County Environmental Health Services Division concluded that remedial efforts at the site "appear to have successfully reduced petroleum hydrocarbon concentrations at the property to levels that would allow unrestricted reuse." In particular, post-remediation soil sampling near previously-identified contaminated areas did not detect petroleum hydrocarbons that exceed laboratory detection limits, and none of the petroleum hydrocarbons detected in ground water exceed the environmental screening levels established by the Regional Water Quality Control Board (RWQCB) for evaluating risks associated with vapor intrusion into residential structures.

C. PROJECT OBJECTIVES

The main objective of the project applicant is to develop a residential project that is economically feasible and contributes to the City's housing stock. Other project objectives are as follows:

- Redevelop an underutilized site with a mixture of attached and detached single-family units that is compatible with the surrounding neighborhood;
- Design the project in a way that is sensitive to the character of the Allied Arts neighborhood to the west;
- Encourage in-fill development in the City and allow for a more vibrant mix and density of land uses;
- Provide housing opportunities, including affordable housing, for existing and future residents of Menlo Park;
- Create development that enhances the visual character of the El Camino Real corridor;
- Locate a project in close proximity to a regional transportation corridor with good local access from major streets and freeways; and
- Locate a project in close proximity (i.e., easy access by foot and/or bike) to transit services, and other major local and regional services and employment centers, including the Safeway grocery-shopping complex, the Stanford Shopping Center, the Stanford Hospital, and the Menlo Park Caltrain station.

D. PROPOSED PROJECT

This EIR includes an evaluation of the environmental effects of the project. The following discussion provides a detailed description of the components of the project. Figure III-3 shows the site plan; Figure III-4 shows the proposed streetscapes; Figures III-5a, III-5b, III-5c, III-6a, III-6b, III-6c, III-6d, III-7a, and III-7b show the proposed project's elevations, building sections, and renderings.

The proposed project would consist of construction of the following:

- Nine small-lot, single-family residential units;
- 17 townhouse residential units;
- A total of 60 parking spaces, including 52 private garage spaces (consisting of 34 two-car (side-by-side) parking garage spaces and 18 two-car (tandem[5]) garage spaces)[6] and eight surface parking spaces; and
- Open space and landscaping.

These elements of the project are described in more detail below.

1. Residential Development

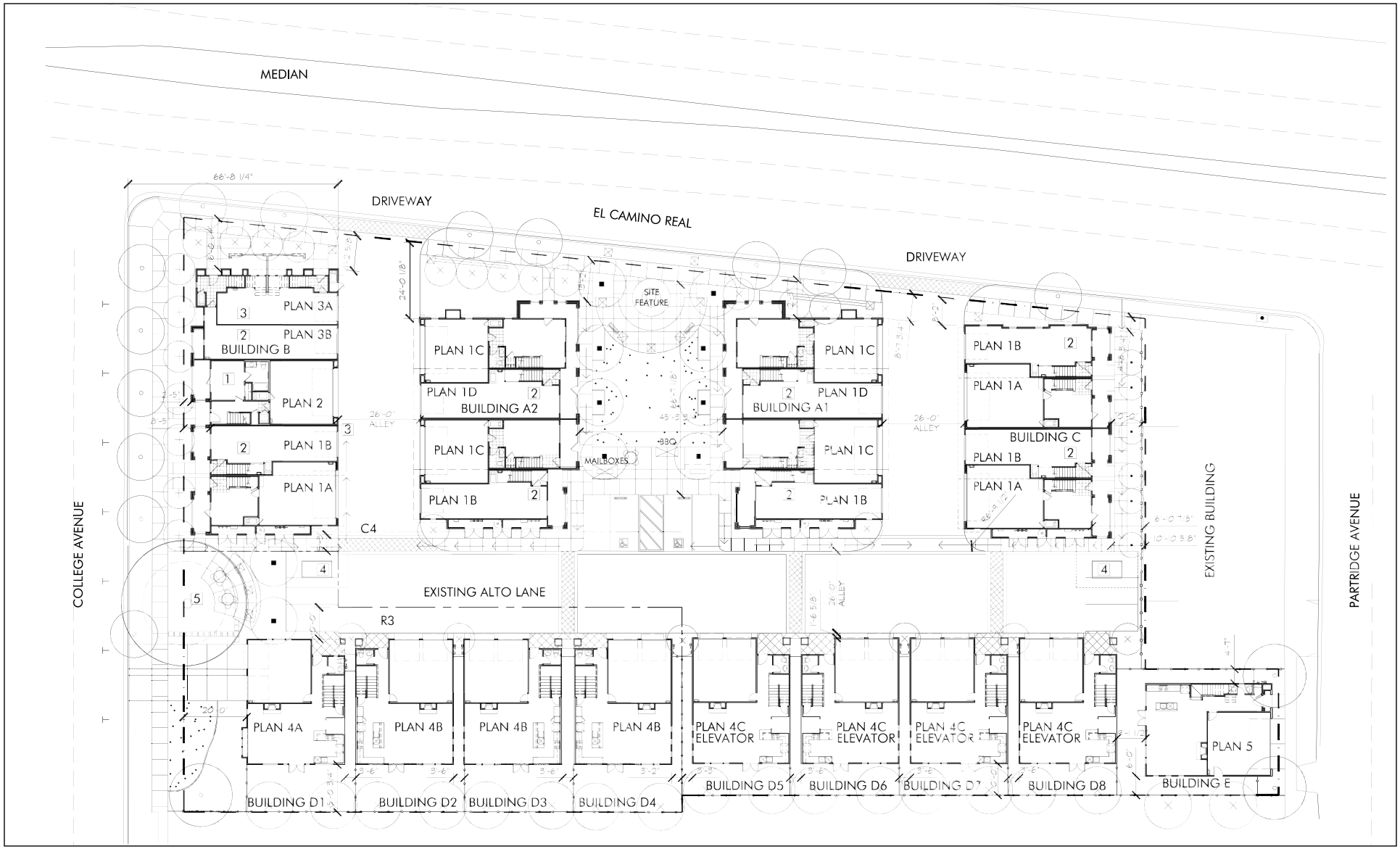
The project would develop 26 residential units on the site, including nine small-lot single-family residential units in the western portion of the site (farthest away from El Camino Real) and 17 townhouse units in the central and eastern portions of the site. The residential units would contain two to four bedrooms, and would comprise between approximately 1,300 and 2,100 square feet of interior space. Please refer to Table III-1 for a summary of the composition of residential units proposed as part of the project. The single-family residential units would be oriented in a row that is parallel to the western property line of the site. The townhouse units would be developed in four rows consisting of four to five units each, oriented perpendicular to El Camino Real.

The proposed residential structures would be two to three stories above-grade and would have a maximum height of 35 feet. All units would be for-sale, and three of the 26 units would be priced at levels that are affordable to low-income households, in accordance with the City's BMR Housing Program and the provisions of Government Code (GC) Section 65915, the State Density Bonus Law.

Under GC 65915, an applicant is entitled to bonus residential units above the permitted density if additional or more affordable below-market-rate units are constructed beyond that normally required by the jurisdiction. Under existing zoning designations, the maximum density for the project site is 21 residential units, based on a permitted density of one unit for every 3,333 square feet of land area in the R-3 zoning district (allowing for a total of three units on the portion of the site zoned R-3) and a permitted density of 18.5 dwelling units per acre in the C-4(ECR) zoning district (allowing for a total of 18 units on the portion of the site zoned C-4(ECR)). Under the City's BMR Housing Program, the project would be required to include at least 15 percent (or three) below-market-rate units to moderate-income households. Because the project would include three units affordable to low-income households (instead of moderate-income households), which exceeds the City's requirement, the project is entitled to a density bonus under GC 65915. Pursuant to GC 65915(f)(1), since 14 percent (three of 21 residential units) are designated for low-income households, the project is entitled to a 26 percent density bonus, or six additional units. This would allow a maximum of 27 units to be developed on the site. This EIR includes an analysis of the transportation-related effects of developing 27 residential units on the site, as permitted under GC 65915, in order for decision-makers to understand the impacts on the transportation system of that higher number of units. However, the primary project analyzed in this EIR includes 26 units, as described in this Project Description.

[5] When vehicles are parked nose-to-end in tandem, the first vehicle does not have independent access (and is "parked in"), and the second motor vehicle must move to provide access.

[6] In other words, each proposed residential unit would have either two side-by-side parking spaces or two tandem parking spaces. 26 units x 2 parking spaces = 52 parking spaces.



LSA

FIGURE III-3

← ACCESSIBLE ROUTE
♿ ACCESSIBLE STALL PER CBC 11.09A.5
1 ACCESSIBLE UNIT PER CBC 11.02A.3.1 EXCEPTION
2 CARRIAGE UNIT PER CBC 1107A.1.A
3 ACCESSIBLE ROUTE TO PRIVATE GARAGE PER CBC 11.09A.2.1 EXCEPTION 3
4 TRANSFORMER
5 EXISTING REDWOOD TREE

N

0 32 64
FEET

SOURCE: DAHLIN GROUP, 2011

389 El Camino Real Project EIR
Site Plan

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LSA

FIGURE III-4

NOT TO SCALE

389 El Camino Real Project EIR

Streetscapes

SOURCE: DAHLIN GROUP, DECEMBER 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_III4.ai (12/28/11)

North (Right) El Camino Real

North (Left) El Camino Real

LSA

FIGURE III-5a

NOT TO SCALE

SOURCE: DAHLIN GROUP, 2011.

389 El Camino Real Project EIR

Representative Elevations: El Camino Real

I:\CMK1001 389 El Camino Real\figures\Fig_III5a.ai (12/29/11)

BUILDING D1 - COLLEGE AVENUE

BUILDING E - PARTRIDGE AVENUE

BUILDING B - FRONT ELEVATION

LSA

FIGURE III-5b

NOT TO SCALE

389 El Camino Real Project EIR
Representative Elevations: College Avenue and Partridge Avenue

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_III5b.ai (2/15/12)

LSA

FIGURE III-5c

NOT TO SCALE

389 El Camino Real Project EIR

Representative Elevations: Alto Lane

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

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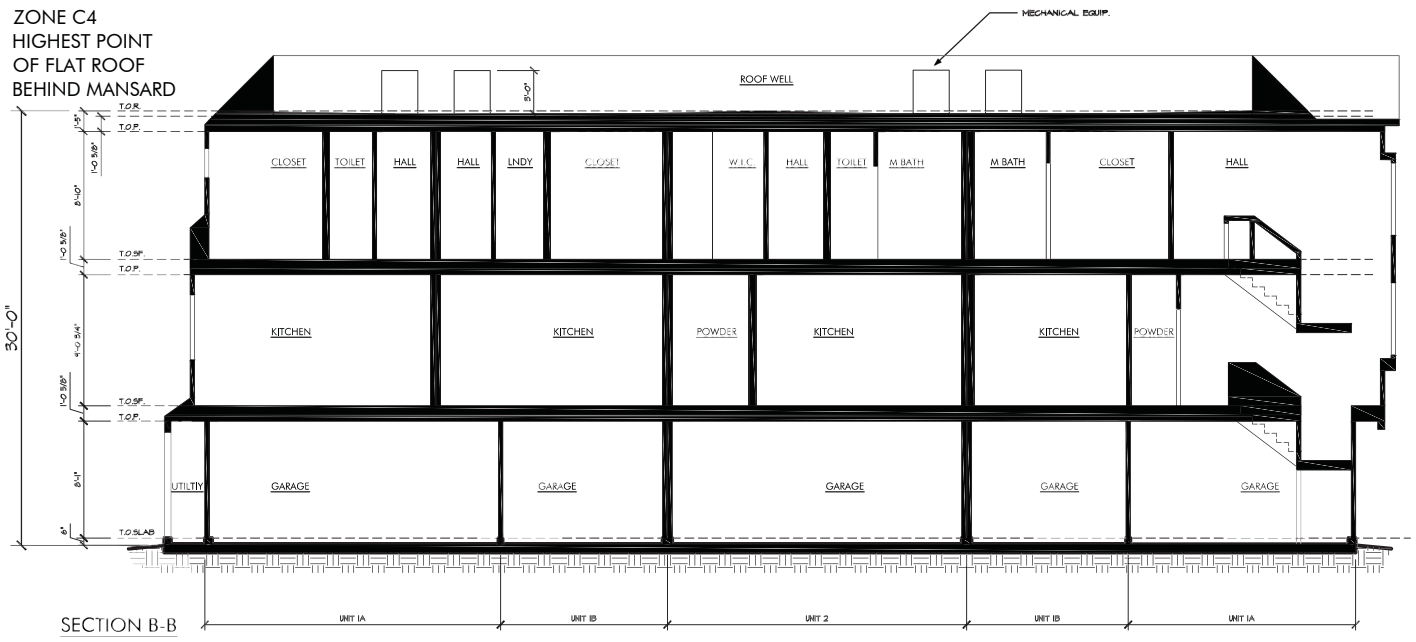


BUILDING B
REPRESENTATIVE OF TOWNHOMES
ON LOT ZONED C4 WITH
MAXIMUM ROOF HEIGHT OF 30'

LSA

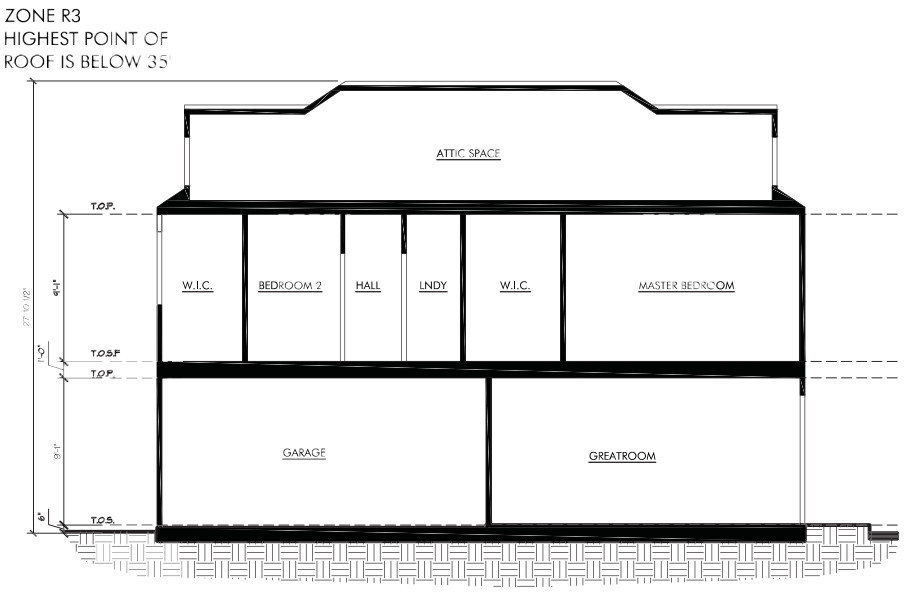
FIGURE III-6a

NOT TO SCALE

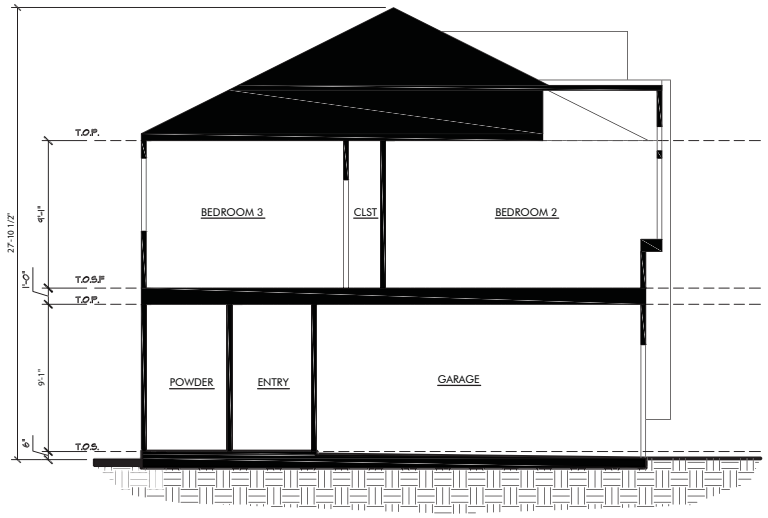
389 El Camino Real Project EIR
Representative Townhouse Sections -
College Avenue

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_III6a.ai (12/29/11)



SECTION A-A



SECTION B-B

BUILDING D1
COLLEGE AVENUE

LSA

FIGURE III-6b

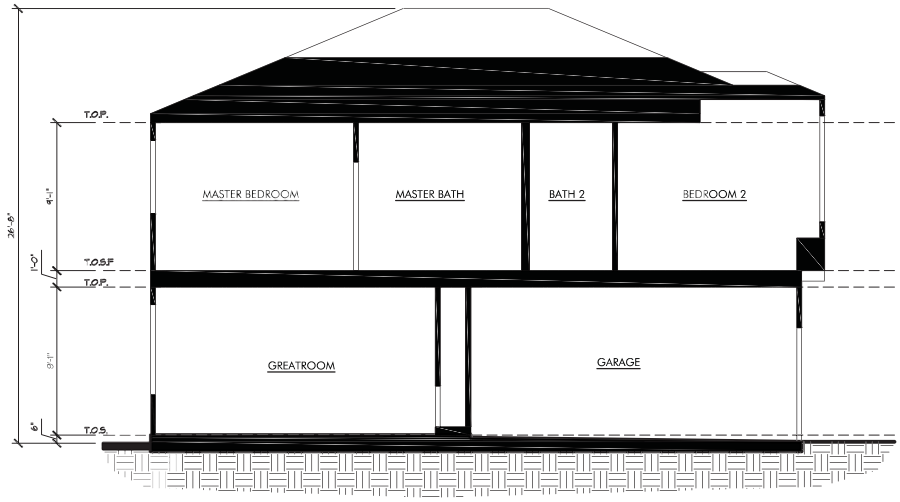
NOT TO SCALE

389 El Camino Real Project EIR
Representative Small-Lot
Single-Family Sections - College Avenue

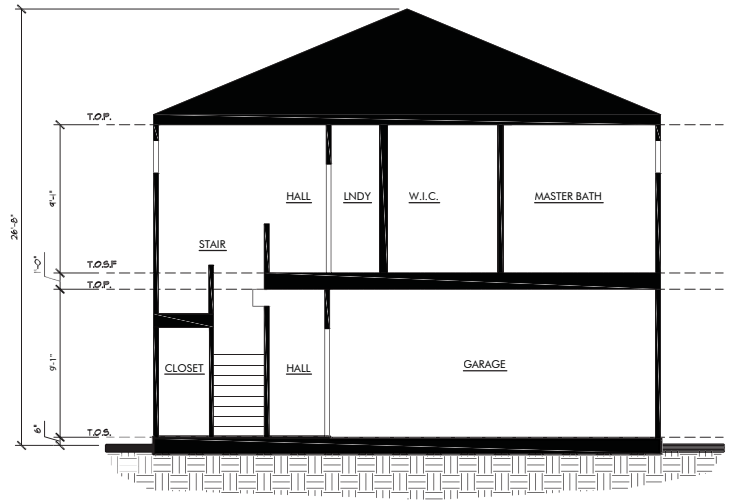
SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_III6b.ai (12/29/11)

ZONE R3
HIGHEST POINT OF
ROOF IS BELOW 35'
(30' FOR ZONE C4)



SECTION A-A



SECTION B-B

BUILDING D2
REPRESENTATIVE OF BUILDING Ds

LSA

FIGURE III-6c

NOT TO SCALE

389 El Camino Real Project EIR
Representative Townhouse Sections - Building Ds

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

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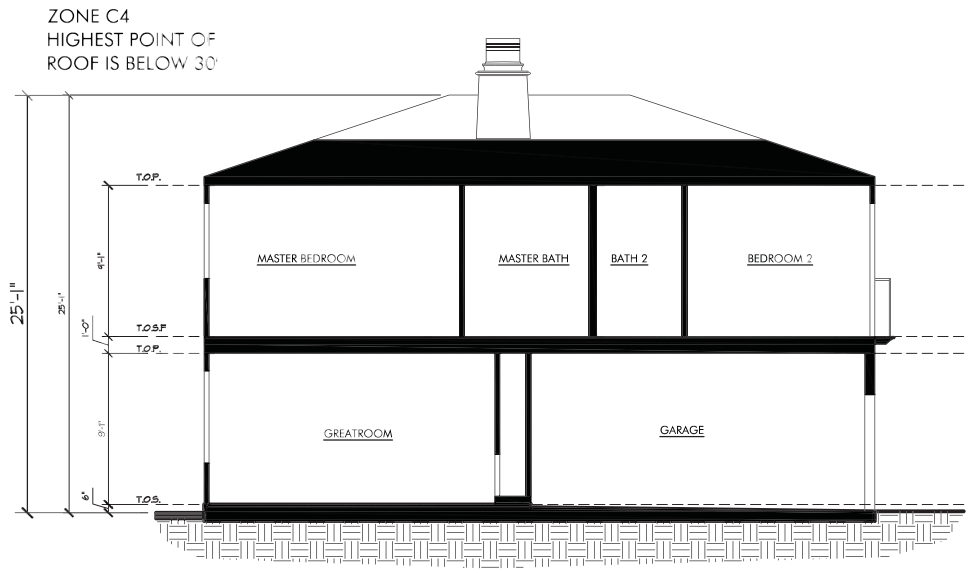
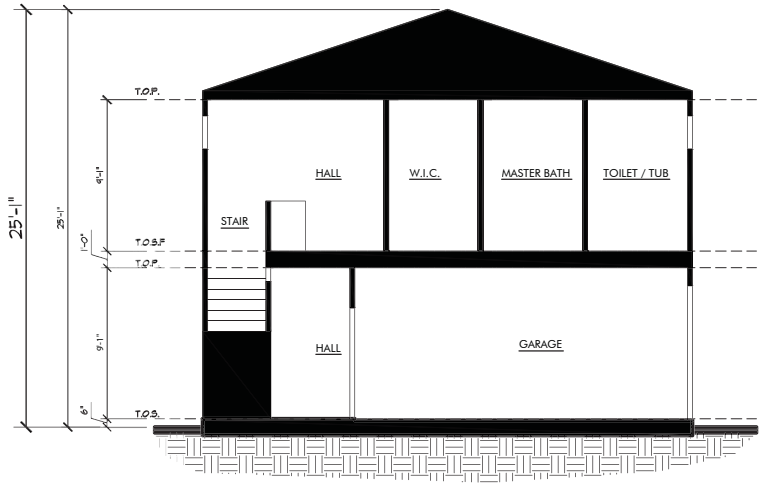


SECTION A-A



SECTION B-B

BUILDING E
PARTRIDGE AVENUE

LSA

FIGURE III-6d

NOT TO SCALE

389 El Camino Real Project EIR
Representative Small-Lot
Single-Family Sections - Partridge Avenue

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_III6d.ai (12/29/11)

Table III-1: Residential Unit Description

Number of Bedrooms	Approximate Square Footage (sq. ft.)	Total Number of Unit Type	Percent of Total (%)
4	1,934 to 2,059	9	35
3	1,465 to 2,011	15	58
2	1,316 to 1,342	2	8
TOTAL	**--**	**26**	**100**

Note: Percent unit composition rounded to the nearest percent.

Source: Dahlin Group, 2011.

2. Architecture and Materials

The project buildings were designed by the Dahlin Group, an architecture firm based in Pleasanton, CA. The design of the proposed buildings is traditional, and is characterized by decorative asphalt shingle roofing, fiber-cement finishing with wood and brick/stone accents, and a sloping roofline. Architectural features of the townhouses and single-family homes would include vinyl windows, fiber-cement columns and siding, decorative steel and wood railings, French doors, brick rowlocks, wood gates, faux stone veneer, wood trellises, metal louvered utility doors, and steel sectional doors with glass lights.

3. Open Space and Landscaping

The project landscape architect is Gates Associates, a design firm based in San Ramon, CA. The proposed project includes approximately 18,315 square feet of open space (comprising approximately 34 percent of the site). As part of the project, approximately 7,256 square feet of private open space and 11,059 square feet of shared open space would be developed on the site. The private open space would be clustered in the western portion of the site, mainly around the nine small-lot single-family residential units. The common open space would include a small landscaped area near the current intersection of Alto Lane and College Avenue and a landscaped area adjacent to El Camino Real that would contain seating, a lawn, a barbecue, and a trellis.

The proposed project would remove most of the existing on-site vegetation and several street trees adjacent to the site along El Camino Real, although the one heritage coast redwood tree on the site would be preserved in-place. Landscaping on the site would include accent plantings at residential entrywalks, hedges, and street trees along the perimeter of the site. The southern property boundary would include a trellis with vines designed to screen the project site. The project includes a range of trees, shrubs, grass, groundcover, and vines which generally have a low water demand. Representative trees include manzanita (*Arbutus marina*) and Japanese maple (*Acer palmatum 'Sango Kaku'*). Representative shrubs and perennials include cast iron plant (*Aspidistra elatior*), Japanese boxwood (*Buxus m. japonica*), and New Zealand flax (*Phormium sp.*).

4. Site Access, Circulation, and Parking

Primary vehicle access to the project site would occur via El Camino Real. One 26-foot wide driveway would be located perpendicular to El Camino Real in the northeastern portion of the site. In addition, a second 26-foot-wide driveway would be located parallel to the main driveway in the southeastern portion of the site and would also connect to El Camino Real. The existing Alto Lane right-of-way

LSA

FIGURE III-7a

NOT TO SCALE

389 El Camino Real Project EIR
Renderings

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

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LSA

FIGURE III-7b

NOT TO SCALE

389 El Camino Real Project EIR
Renderings

SOURCE: MATTESON DEVELOPMENT PARTNERS, INC.; DAHLIN GROUP, 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_III7b.ai (12/29/11)

would be widened and extended south as a private street through the western portion of the site and would connect to the two main driveways extending from El Camino Real. However, vehicles would not be able to access this private street from either College Avenue or Partridge Avenue (access would only be available via the driveway extending from El Camino Real). Access to the two single-family units on College Avenue and Partridge Avenue would occur from their respective driveways. Pedestrian access would occur via sidewalks along El Camino Real, College Avenue, and within the project site.

The proposed project includes a private parking garage for each residential unit as well as uncovered visitor parking spaces. A total of 60 parking spaces would be provided on the site, including 52 private parking garage spaces (two for each residential unit, including side-by-side two-car parking garage spaces and tandem nose-to-tail two-car parking garage spaces), and eight at-grade visitor parking spaces, of which two would be compliant with the Americans with Disabilities Act (ADA). The 52 private parking spaces would consist of 34 two-car (side-by-side) parking garage spaces and 18 two-car (tandem) garage parking spaces. With the exception of two parking garages, the garages would face the proposed driveways or the extended private street (formerly Alto Lane); the other two garages would be accessed via College Avenue or Partridge Avenue. The visitor parking spaces would be situated in the interior driveways.

As part of the proposed project, the public street easement for the approximately 0.7-acre segment of Alto Lane within the project site would be abandoned by the City and conveyed to the project applicant.

5. Utilities

The following discussion describes the utilities that would be improved or installed as part of the proposed project. The project engineer is BKF Engineers, based in Redwood City, CA.

a. Water Service. Water service within the vicinity of the project site is provided by the California Water Service Company (Cal Water). An existing 6-inch water line is located along College Avenue near the northern boundary of the project site. Potable water lines (and fire hydrants) would connect to this existing line.

b. Sanitary Sewer Service. The West Bay Sanitary Sewer District provides wastewater treatment, collection, and disposal to the City. A 24-inch sanitary sewer line is located along El Camino Real near the eastern boundary of the site; an existing 6-inch line is located along Partridge Avenue near the southern boundary of the site; and an 8-inch line is located along College Avenue near the northern boundary of the site. The proposed project would connect to these existing facilities.

c. Stormwater Drainage. Stormwater generated by paved surfaces within the site would generally flow to 24-inch and 12-inch storm drain lines extending along the abandoned Alto Lane right-of-way. Trench drains would also extend roughly on an east/west alignment along the two driveways connecting to El Camino Real. Three stormwater treatment vaults would capture and treat runoff in the site. This runoff would ultimately be transferred to a 30-inch storm drain line along El Camino Real.

d. Energy and Telecommunications. Electricity and gas service to the project site would be provided by Pacific Gas and Electric (PG&E). Existing electricity and gas lines in the vicinity of the

site would serve the project. Telecommunications and cable service would primarily be provided by AT&T and Comcast, respectively, but residents could also select from other service providers.

e. Solid Waste. Solid waste, composting, and recycling services would be provided by Recology San Mateo County. The project would include waste, recycling, and composting receptacles for use by residents.

6. Demolition and Construction Phasing

The proposed project would result in the demolition of the two existing buildings within the project site and the removal of existing vegetation, foundations, exterior concrete flatwork, pavement, and utilities. Grading activities would include the removal of existing fills from the project site to accommodate the installation of building foundations and other sub-grade improvements. All voids remaining after the completion of demolition activities would be backfilled with compacted engineered fill, as described in the geotechnical report.[7] Construction activities associated with the project are proposed to begin following project approval. Construction would take approximately 14 months.

7. Entitlements

Following is a summary of the entitlements that would be requested as part of the proposed project:

Environmental Review. The project would be analyzed for potential environmental impacts. This EIR provides this required environmental review.

Use Permit. A Use Permit would be required to construct three or more residential units in the R-3 zoning district and to construct residential units in the C-4(ECR) zoning district. In addition, the following development standard waivers would be required to develop the project:

- In the R-3 zone, waivers would be required to: 1) reduce the minimum rear setback from 15 feet to 3 feet 4 inches; 2) increase the maximum building coverage standard from 30 percent to 44 percent; 3) increase the maximum FAR (floor-area-ratio)[8] standard from 45 percent to 71 percent; 4) reduce the minimum landscape coverage standard from 50 percent to 44 percent; and 5) reduce the minimum building separation standard across the C-4(ECR)/R-3 zone boundary.
- In the C-4(ECR) zone, a waiver would be required to increase the maximum FAR from 75 percent to 87 percent.

Architectural Control. Design review would be required for the proposed residential buildings and site improvements.

Tentative Map. Seven existing parcels would be merged into two lots; the public street easement for Alto Lane would be abandoned; and 26 residential condominium units would be created.

[7] ENGEO Incorporated, 2009. *Draft Preliminary Geotechnical Assessment: 389 El Camino Real, Menlo Park, CA.* August 21.

[8] FAR is the total square footage of a building divided by the size of the development site.

Below Market Rate Housing Agreement. A BMR Housing Agreement would provide for the development of three BMR units on the project site that would be affordable to low-income households. The City's BMR Program is intended to increase the housing supply in Menlo Park that is affordable to households with very-low, low, and moderate incomes. The Housing Commission would review and make an initial recommendation regarding approval of the BMR Housing Agreement. The Planning Commission would then consider the Housing Commission's guidance and make a further recommendation regarding approval. The City Council would ultimately decide whether to approve the agreement.

Application of State Density Bonus Law. If the project applicant provides affordable housing units beyond the City's Municipal Code requirements and complies with the requirements of the State Density Bonus Law, the project applicant would be legally entitled to a density bonus and incentives pursuant to the State Density Bonus Law. The City Council would determine whether the density bonus and incentives sought by the project applicant comply with State law.

E. USES OF THIS EIR

A number of permits and approvals, including the discretionary actions listed above, would be required before development of the proposed project is able to proceed. As lead agency for the proposed project, the City would be responsible for the majority of approvals required for development. Other agencies also may have some authority related to the project and its approvals. A list of the permits and approvals that may be required by the City and other agencies is provided in Table III-2. This EIR is intended to be used by the City and other agencies when deliberating on required permits and approvals.

Table III-2: Required Permits and Approvals

Lead Agency	Permit/Approval
City of Menlo Park	• Certification of EIR • Use Permit • Grading Permit • Tentative Parcel Map (Lot Merger and Major Subdivision) • Architectural Control • Abandonment of Street Easement • BMR Housing Program Agreement • Building Permit
Responsible Agencies	
San Francisco Bay Regional Water Quality Control Board (RWQCB)	• National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge

Source: LSA Associates, Inc., 2011.

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IV. SETTING, IMPACTS AND MITIGATION MEASURES

This chapter contains an analysis of each issue that has been identified through preliminary environmental analysis and the public scoping session for the project and comprises the major portion of this Draft EIR. Sections A through F of this chapter describe the environmental setting of the project as it relates to each specific environmental issue evaluated in the EIR and the impacts that are expected to result from implementation of the project. Mitigation measures to reduce potential impacts are identified, where appropriate.

A. DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment.[1] The guidelines implementing CEQA direct that this determination be based on scientific and factual data. Each impact and mitigation measure section of this chapter is prefaced by a summary of criteria of significance. These criteria have been developed using Appendix G of the *CEQA Guidelines* and applicable City policies.

B. ISSUES ADDRESSED IN THE DRAFT EIR

The following environmental topics are evaluated in discrete topical sections in this EIR

- Land Use and Planning Policy
- Transportation, Circulation and Parking
- Air Quality
- Noise
- Public Services and Utilities
- Aesthetics

C. FORMAT OF TOPICAL SECTIONS

The analysis of each environmental topic considered in this chapter comprises two primary sections: (1) setting, and (2) impacts and mitigation measures. An overview of the general organization and the information provided in the two sections is as follows:

- *Setting.* The setting section for each environmental topic provides a description of the physical setting for the project site and its surroundings at the beginning of the environmental review process (e.g., existing land uses, and traffic and noise conditions). An overview of regulatory considerations that are applicable to the specific environmental topic is also provided.

[1] Public Resources Code 21068.

- *Impacts and Mitigation Measures.* The impacts and mitigation measure section for each environmental topic presents a discussion of the impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, establishing the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts from the proposed project and mitigation measures, if required. The impacts of the proposed project are organized into separate categories based on their significance according to the criteria listed in each topical section: less-than-significant impacts (which do not require mitigation measures) and significant impacts (which require mitigation measures).

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively within each topic and begin with an acronymic reference to the impact section (e.g., LU). The following symbols are used for individual topics:

LU:	Land Use and Planning Policy
TRANS:	Transportation, Circulation and Parking
AQ:	Air Quality
NOISE:	Noise
PUB:	Public Services and Utilities
AES:	Aesthetics

Impacts are also categorized by type of impact, as follows: Less Than Significant, Significant, and Significant and Unavoidable. The following notations are provided after each identified significant impact and after specified mitigation measures for each identified significant impact (to show the significance of each impact after implementation of the associated mitigation measure(s)):

LTS:	Less Than Significant
S:	Significant
SU:	Significant and Unavoidable

A. LAND USE AND PLANNING POLICY

This section evaluates the potential land use-related effects of the proposed project. This section also contains a discussion of the consistency of the proposed project with relevant land use policies. Policy conflicts do not, in and of themselves, constitute a significant environmental impact; they are considered to be environmental impacts only when they would result in direct physical impacts. All other associated physical impacts are discussed in this EIR in specific topical sections, such as the Noise; Air Quality; and Transportation, Circulation and Parking sections.

1. Setting

The following section describes existing land uses within the project site and its vicinity, and summarizes relevant land use policies.

a. Overview. For descriptive purposes, the project site is bounded by College Avenue to the north, El Camino Real to the east, Partridge Avenue and an existing auto repair shop to the south, and residential uses to the west. Alto Lane, a right-of-way easement, currently terminates in the northwestern portion of the site. The project site is located in the City of Menlo Park in the southern part of San Mateo County. Menlo Park is located on the San Francisco Peninsula in the Mid-Peninsula region, approximately 30 miles south of San Francisco and approximately 20 miles north of San Jose. The project site is located to the south of what is typically considered downtown Menlo Park. The General Plan defines downtown as the area bounded by Alma Street, Ravenswood Avenue/Menlo Avenue, University Drive, and Oak Grove Avenue. The site is approximately 0.4 miles north of Sand Hill Road (a major regional route connecting El Camino Real to I-280) and 0.5 miles south of the Menlo Park Caltrain station and the commercial district encompassing Santa Cruz Avenue. Caltrain is the major commuter rail line serving the San Francisco Peninsula, and connects Menlo Park with San Francisco to the north, San Jose to the south, and Silicon Valley to the southeast.

b. Existing Land Uses Within the Project Site. Figure IV.A-1 shows land uses in and around the project site. The project site is approximately 1.23 acres in size and comprises seven contiguous parcels, which include a large vacant parking lot along the El Camino Real frontage, a residential triplex building at 603 College Avenue, a single-family residence at 612 Partridge Avenue, and Alto Lane (a public right-of-way easement comprising approximately 0.7 acre).

The two buildings on the project site are described below. Two of the three triplex units on the site are occupied; one triplex unit and the single-family unit on the site are unoccupied.

- *612 Partridge Avenue*. The structure located at 612 Partridge Avenue, which is in the southwestern portion of the project site, is an approximately 1,280-square-foot, one-story single-family residence built between 1910 and 1925. The residence is a square-shaped Craftsman bungalow and is of wood-frame construction on a raised concrete foundation.
- *603-607 College Avenue*. The triplex located at 603-607 College Avenue is located in the northwestern portion of the project site. The approximately 4,250-square-foot, one-story building is T-shaped (with the top of the "T" facing College Avenue) and is also of wood-frame construction on a raised concrete foundation. The triplex was constructed in 1948.

The remainder of the project site comprises a parking lot and Alto Lane. The southern portion of the parking lot formerly functioned as a car dealership. A right-of-way easement (Alto Lane) currently

extends from College Avenue to approximately mid-way through the site. Alto Lane primarily provides access to the triplex located at 603-607 College Avenue.

c. Existing Land Uses in the Vicinity of the Project Site. The following discussion details the land uses in the vicinity of the project site, which is located along the El Camino Real corridor, a major commercial district in Menlo Park. Many of the commercial uses along El Camino Real are oriented to automobile access, with parking adjacent to the street. The City is currently conducting environmental review of the Draft El Camino Real/Downtown Specific Plan (Draft Specific Plan), which is a planning document designed in part to enhance the public realm along the El Camino Real Corridor and improve the pedestrian environment of the area. (The public review period for the Draft Specific Plan Draft EIR ended in June 2011.) The project site is surrounded by a mixture of uses, as summarized below:

- *North.* The site is bordered by College Avenue to the north. Beyond College Avenue is a small shopping center that directly fronts El Camino Real. Businesses in this shopping center as of September 2011 include a yogurt shop and a United Parcel Service (UPS) shipping outlet.
- *East.* The site is bordered by El Camino Real to the east. Beyond El Camino Real are unoccupied former auto dealerships and associated surface parking lots. To the east of these commercial uses are the Caltrain railroad tracks and the City municipal complex (including Burgess Park, Menlo Park Library, City Hall, and City offices).
- *South*. Planet Auto Repair and Muffler Service, an auto body repair shop, is located to the south of the site. A gas station and additional commercial uses, generally oriented towards El Camino Real, are located south of Partridge Avenue.
- *West*. The site is bordered to the west by predominantly single-family and multi-family residential uses.

2. Applicable Policies

The main guiding documents regulating land use within and around the project site are the City of Menlo Park General Plan (including the General Plan Policy Document and Background Report), Zoning Ordinance, Subdivision Ordinance, Below Market Rate Housing Program (Ordinance 16.96), and State Density Bonus Law. As of the preparation of this EIR, the El Camino Real/Downtown Specific Plan is in draft form. The Draft Specific Plan does not apply to the proposed project because the submission of a complete application for this project occurred prior to adoption of the El Camino Real/Downtown Specific Plan. However, the consistency of the proposed project with the plan is discussed in this section for informational purposes. The consistency of the proposed project with other non-land use related policies are addressed in the appropriate topical sections of the EIR (e.g., Air Quality). Applicable land use policies from each of the documents listed above are described below.

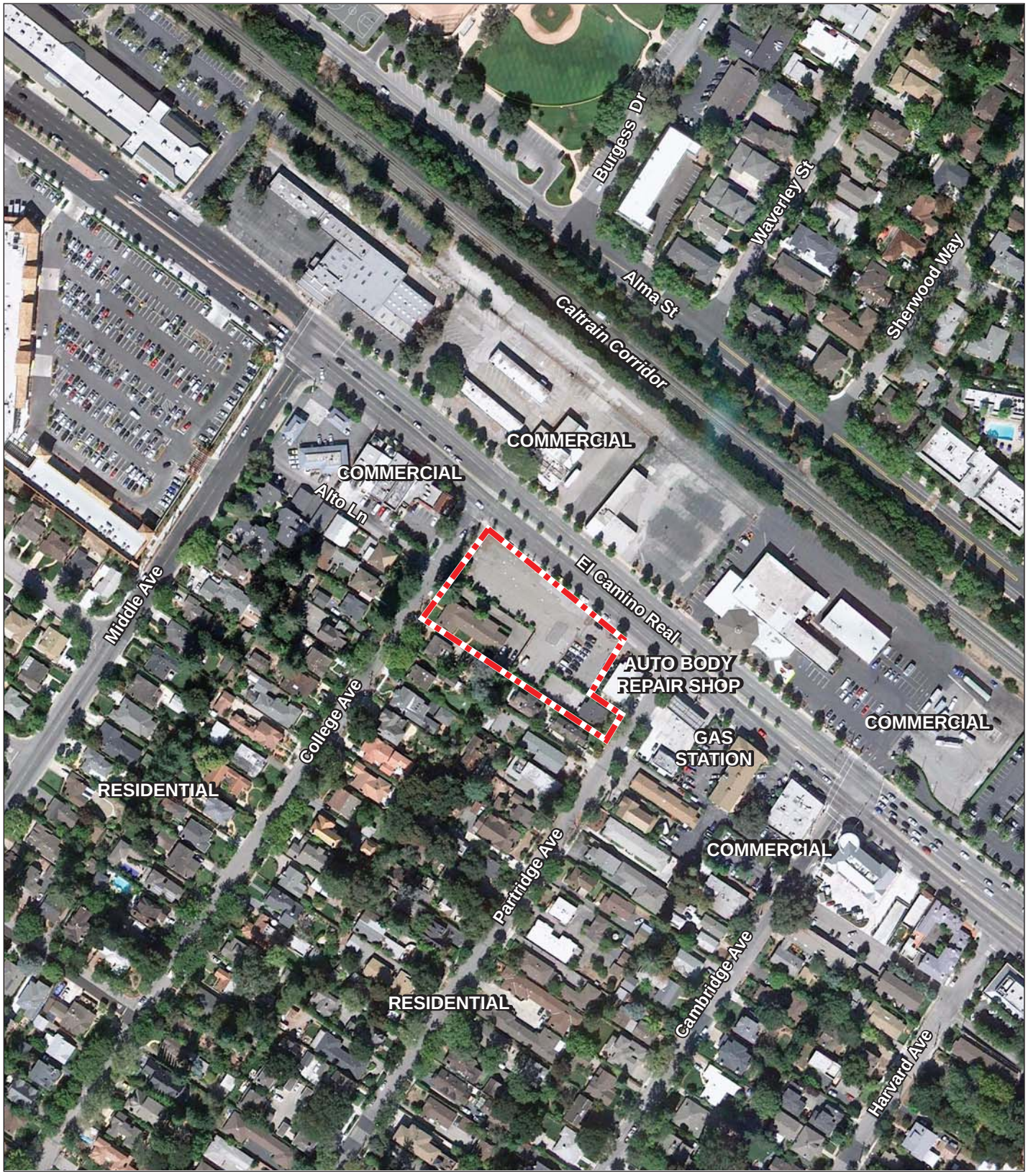

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FIGURE IV.A-1

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Project Site

389 El Camino Real Project EIR

Land Uses in the Vicinity of the Project Site

SOURCE: GOOGLE EARTH, 10/2009; LSA ASSOCIATES, INC., 2011.

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a. City of Menlo Park General Plan. The City of Menlo Park General Plan (General Plan) is a comprehensive plan to guide development and use of land in the City. The central purpose of the General Plan, as stated in the document, "is to maintain Menlo Park's special character as a residential community that includes a broad range of residential, business, and employment opportunities and to provide for the change necessary to maintain a vital community."[1] The General Plan includes policies related to: land use; circulation; open space and conservation; noise; and safety. These topics are addressed within the specific topical elements of the General Plan. The General Plan Policy Document and Background Report are relevant to land use within and in the vicinity of the project site and are summarized below.

The General Plan Policy Document[2] "includes the goals, policies, standards, implementation programs, quantified objectives, land use diagram, and circulation plan diagram that constitute the formal policy of the City of Menlo Park for land use, development, and environmental quality." The Policy Document was adopted by the City Council on December 1, 1994, and is accompanied by the Background Report, which describes existing conditions and trends for the topics covered in the General Plan.

Under the General Plan Land Use Designation Map,[3] which provides a visual representation of the land use designations and zoning districts of specific parcels, the entire project site is designated as El Camino Real Professional/Retail Commercial, with the exception of the northwestern portion of the site (the triplex located at 603-607 College Avenue), which is designated as Medium Density Residential. Figure IV.A-2 shows the General Plan land use designations within and around the project site.

According to the Policy Document, the El Camino Real Professional/Retail Commercial designation allows for the development of retail services; personal services; professional offices; executive, general and administrative offices; research and development facilities; banks, savings and loans; convalescent homes; restaurants and cafes; theaters; residential uses; public and quasi-public uses; and similar and compatible uses. The maximum floor-area-ratio (FAR)[4] for non-residential uses established under the El Camino Real Professional/Retail Commercial designation is between 40 to 75 percent. Maximum residential density is 18.5 units per net acre. The intent of this designation is to promote the conversion of El Camino Real from an automobile-oriented commercial-style strip to a more compact development pattern.

The Medium Density Residential designation allows for the development of single-family detached and attached residences, duplexes, multi-family residences, condominiums, public and quasi-public uses, and similar uses. No overall development intensity standard is specified in the General Plan, although senior residential rental uses are limited to a range of 5.1 to 18.5 units per acre.

Land use policies and their relationship to the proposed project are described in Table IV.A-5.

[1] Menlo Park, City of, 1994. *City of Menlo Park General Plan, Policy Document.* December 1.

[2] Ibid.

[3] Menlo Park, City of, 2010. Planning Division, GIS Section*. City of Menlo Park Zoning Map and General Plan Land Use Diagram.* December.

[4] FAR is the total square footage of a building divided by the size of the development site.

b. City of Menlo Park Zoning Ordinance. The City of Menlo Park Zoning Ordinance (Zoning Ordinance) implements the policies of the General Plan and certain other of the City's plans, policies, and ordinances. The Zoning Ordinance divides the City into districts, each of which is assigned different development regulations. These regulations direct the construction, nature, and spatial orientation of new development. Figure IV.A-2 shows Zoning Ordinance districts and their corresponding General Plan land use designations within and around the project site. The entire project site (except for the northwestern portion of the site west of Alto Lane) is within the General Commercial applicable to El Camino Real (C-4 (ECR)) zoning district. The northwestern portion of the site (the triplex located at 603-607 College Avenue) is within the Apartment district (R-3). The area to the north, east, and south of the site (encompassing the El Camino Real corridor) is also zoned General Commercial applicable to El Camino Real. To the west of the site, zoning designations change to emphasize residential uses, with diminishing intensity as one moves west. The Apartment (R-3) and Single Family Urban (R1U) zones border the site to the west.

The C-4 (ECR) zone permits a variety of land uses, including: cafes and restaurants, financial establishments, and professional and administrative offices. Residential uses are allowed in a C-4 (ECR) zone with a conditional use permit. Table IV.A-1 lists the development regulations in the C-4 (ECR) district. The Apartment District (R-3) zone permits single-family dwellings, duplexes, and accessory buildings. Table IV.A-2 lists the development regulations in the R-3 district.

Table IV.A-1: Development Regulations in C-4 (ECR) District

Regulation	Design Standard	Project Consistency with Zoning Ordinance
Minimum Lot Area	10,000 square feet	Yes
Minimum Lot Dimensions	75 feet width; 125 feet depth	Yes
Required Minimum Yards	None	Yes
Maximum Land Coverage	None	Yes
Minimum Landscaping	5% of building site (lots 9,000 square feet or less); 10% of building site (lots larger than 9,000 square feet)	Yes
Maximum Height	30 feet	Yes
Floor Area Ratio (FAR)	55% (75% with use permit); 40% for office	No, FAR is 87% (requested development standard waiver)
Maximum Dwelling Unit Density	18.5 dwelling units/acre	Yes (with application of State Density Bonus)
Parking	In accordance with Section 16.72.020(1), two independently accessible spaces per unit, one of which must be covered, for residential uses. In accordance with Section 16.72.040, six spaces per 1,000 square feet of gross floor area for commercial uses.	Yes (with application of State Density Bonus)

Source: Menlo Park Zoning Ordinance, 2010.

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FIGURE IV.A-2

General Plan Designation		Zoning District
Low Density Residential	R1U	Single Family Urban
Medium Density Residential	R2	Low Density
Medium Density Residential	R3	Apartment
Medium Density Residential	R3A	Garden Apartment
Medium Density Residential	R3(X)	Apartment, Conditional

General Plan Designation		Zoning District
El Camino Real Professional/ Retail Commercial	C4(ECR)	General Commercial (applicable to EC Real)
Retail/Commercial	C4(X)	General Commercial, Conditional
Planned Development	PD	Professional Retail (applicable to EC Real)
Public Facilities	PF	Public Facilities District
Project Site		

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SOURCE: GOOGLE EARTH, 10/2009; LSA ASSOCIATES, INC., 2011.

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389 El Camino Real Project EIR
Menlo Park General Plan
Designations and Zoning Districts

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Table IV.A-2: Development Regulations in R-3 District

Regulation	Design Standard	Project Consistency with Zoning Ordinance
Minimum Lot Area	7,000 square feet	Yes
Minimum Lot Dimensions	80 feet width, 100 feet depth for lots 10,000 square feet or more; 70 feet width, 100 feet depth for lots less than 10,000 square feet	Yes
Setbacks	• Front yard: 15% of total lot width at front property line; no less than 20 feet • Side yard: interior, 10 feet; corner: 15 feet from street side • Rear yard: 15% of total lot width at front property line; no less than 15 feet • Distance between buildings: ½ the sum of height; no less than 20 feet on site; 20 feet to buildings on adjacent properties	Rear Yard: No, 3 feet 4 inches (requested development standard waiver) Distance Between Buildings: No, 6 feet 5 inches (requested development standard waiver)
Maximum Land Coverage	30%	No, 44% (requested development standard waiver)
Minimum Landscaping	50% of lot area	No, 44% (requested development standard waiver)
Maximum Height	35 feet	Yes
Floor Area Ratio (FAR)	45% of total lot area	No, FAR is 71% (requested development standard waiver)
Maximum Dwelling Unit Density	In accordance with Section 16.20.030, 3,333 square feet per lot (7,000 to 19,999 square feet)	Yes (with application of State Density Bonus)
Parking	In accordance with Section 16.72.020(1), two independently accessible spaces per unit, one of which must be covered.	Yes (with application of State Density Bonus)

Source: Menlo Park Zoning Ordinance, 2010.

c. Draft El Camino Real/Downtown Specific Plan. The Draft Specific Plan builds upon the El Camino Real/Downtown Vision Plan, approved by the Menlo Park City Council on July 15, 2008. The Draft Specific Plan provides a framework for establishing: the location and character of streetscape and public space improvements; the character and intensity of commercial and residential development; and the circulation pattern (vehicular, pedestrian, bicycle, and transit) and parking strategy to support businesses and overall vitality, and enhance east-west connectivity across El Camino Real. The Draft Specific Plan includes standards and guidelines for public and private enhancements to the area, and offers strategies for financing and implementing public improvements. The Draft Specific Plan area encompasses much of the commercial district along the El Camino Real Corridor and downtown Menlo Park, and extends from Watkins Avenue on the north to San Francisquito Creek on the south. In addition, the 389 El Camino Real Project site is within the Draft Specific Plan area.

As previously described, the Draft Specific Plan is currently under review. Because the proposed project's complete application was submitted prior to adoption of the Draft Specific Plan, the proposed project is not bound by the associated development guidelines. However, the consistency of the proposed project with the Draft Specific Plan is discussed in this section for informational purposes.

Minor revisions to the General Plan and Zoning Ordinance were proposed as part of the Draft Specific Plan development process, in order to make the Draft Specific Plan fully operational. In addition, the

Draft Specific Plan assumes all relevant General Plan policies would apply to development within the Draft Specific Plan area. The intent of the Draft Specific Plan is to "preserve and enhance community life, character and vitality through public space improvements, mixed use infill projects sensitive to the small town character of Menlo Park and improved connections across El Camino Real."[5] The Draft Specific Plan seeks to encourage higher-density, transit-oriented, mixed-use development along El Camino Real by facilitating the infill development of vacant and underutilized lots. It also includes design measures to reduce the perceived mass and scale of larger buildings, create wider public sidewalks, and otherwise enhance the pedestrian environment. In addition, the Draft Specific Plan establishes an architectural review process to ensure consistency with design standards and guidelines, and strategies for financing and implementing public improvements.

The Draft Specific Plan establishes guiding principles and an urban design framework for public and private development in the Draft Specific Plan area. The guiding principles are to: enhance public space; generate vibrancy; sustain Menlo Park's village character; enhance connectivity; and promote healthy living and sustainability. These principles set the foundation for the Draft Specific Plan's urban design framework, which introduces the general approach and design themes for the Draft Specific Plan area. The urban design framework emphasizes the following themes: a distinct and connected area; an integrated corridor; a walking and connected community; place-sensitive design; and mobility options and accessibility. The urban design framework encompasses the Draft Specific Plan area's three principal sub-areas: El Camino Real, Station, and Downtown. The proposed project is located in the southern part of the El Camino Real sub-area.

The Draft Specific Plan establishes standards and guidelines for land use development. As previously described, the standards and guidelines encourage redevelopment of underutilized parcels of land, to enhance street life, encourage transit use, and increase the housing supply. These standards and guidelines also are intended to ensure that new buildings would be compatible with the existing scale and character of adjacent development, would enhance the character of streets, public spaces and overall pedestrian orientation, and would be environmentally sensitive. The Draft Specific Plan supports principles of sustainability and incorporates into its concepts and guidelines strategies reflected in the Leadership in Energy and Environmental Design (LEED) for Neighborhood Development 2009 rating system, developed by the U.S. Green Building Council.

As shown in Figures IV.A-3 and IV.A-4, the Draft Specific Plan establishes five land use designations (including one "overlay" area) and 10 zoning districts. The land use designations establish goals for land use development within certain areas. The five land use designations are summarized below in Table IV.A-3.

[5] Perkins + Will, 2010. *Draft Menlo Park El Camino Real/Downtown Specific Plan*. April 7.

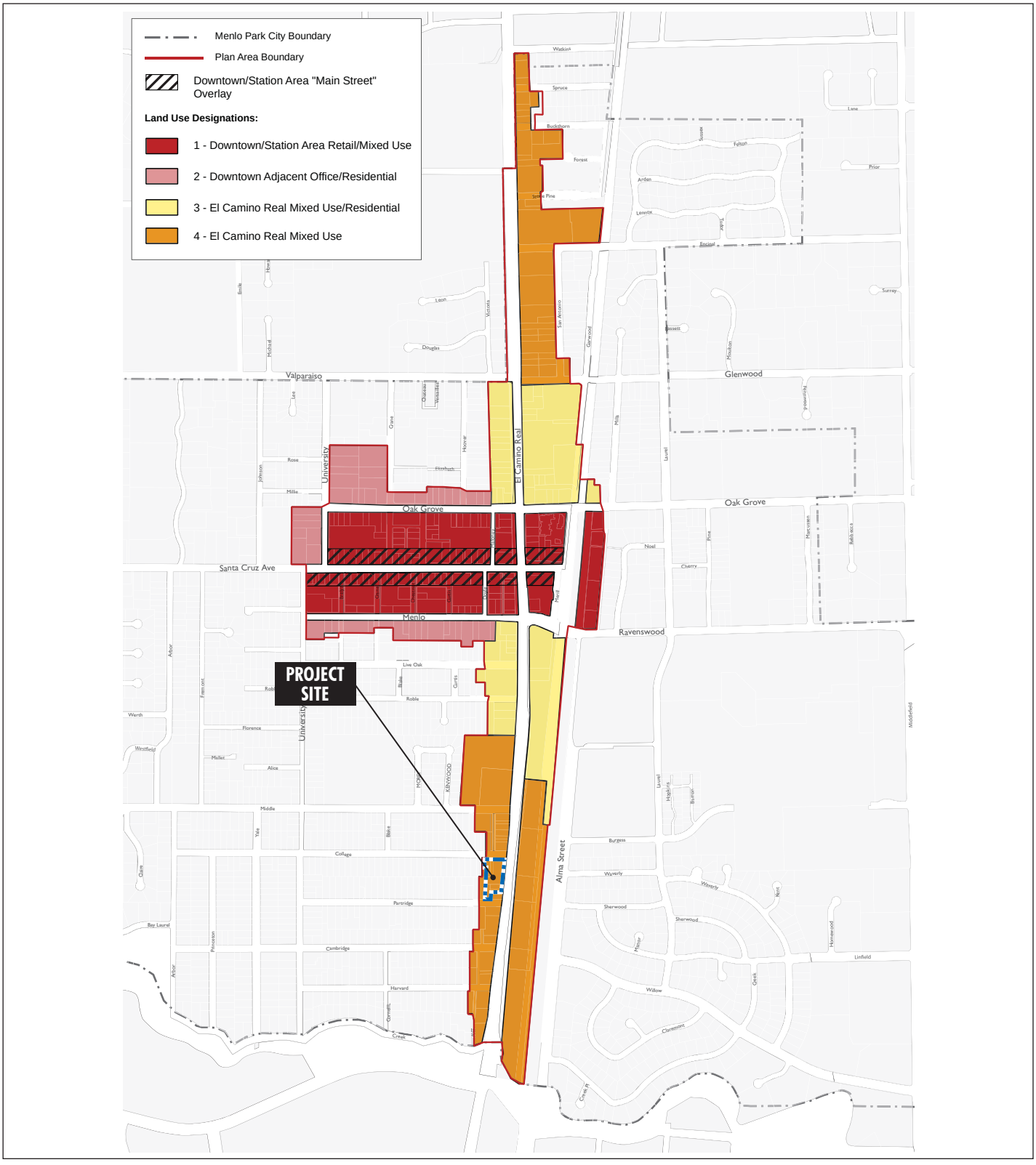

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FIGURE IV.A-3

SOURCES: PERKINS & WILL, ET AL, APRIL 2010; LSA ASSOCIATES, INC., 2011.

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Draft El Camino Real/ Downtown Specific Plan Land Use Designations

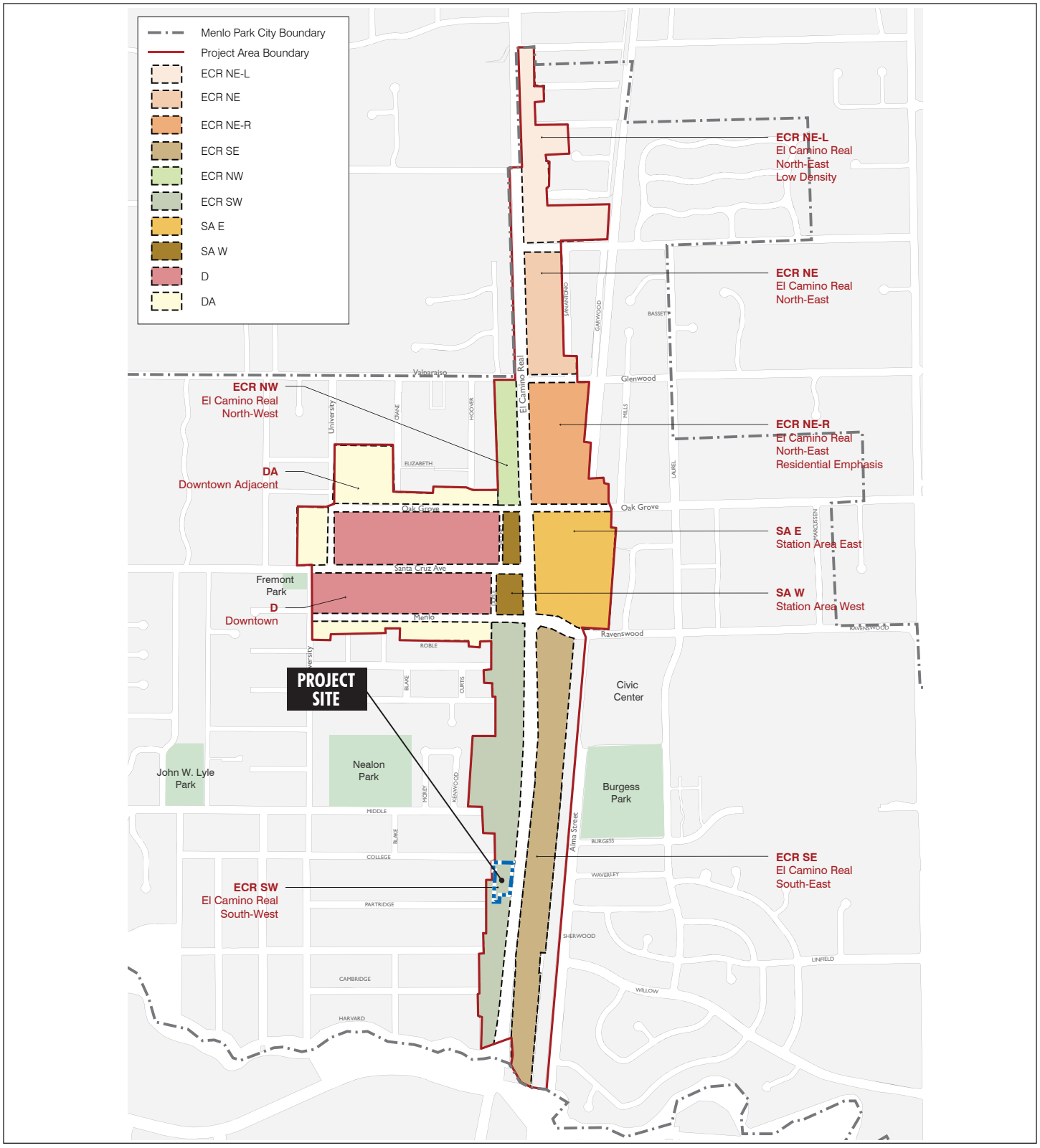

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FIGURE IV.A-4

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Project Site

389 El Camino Real Project EIR
Draft El Camino Real/
Downtown Specific Plan Zoning Districts

SOURCES: PERKINS & WILL, ET AL., APRIL 2010; LSA ASSOCIATES, INC., 2011.

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Table IV.A-3: Draft Specific Plan Land Use Designations

Land Use Designation	Description
Downtown/Station Area "Main Street" Overlay	• Enhances the retail emphasis of the Downtown/Station Area Retail/Mixed-Use designation by specifically limiting non-retail ground floor uses on Santa Cruz Avenue. • Development standards and guidelines otherwise match the underlying Downtown/Station Area Retail/Mixed-Use designation.
Downtown/Station Area Retail/Mixed Use	• Focuses on uses that enhance downtown vibrancy by building upon existing community-serving retail and personal services in the downtown area • Emphasizes retail for ground-floor uses, and allows for a mix of uses, including office and residential uses, enhancing downtown vibrancy through an increased customer base for restaurants and retail businesses • Allows for theaters (commercial recreation), hotels, and some public and semipublic uses • Size of some types of businesses are limited and allowable building heights are two to three stories for all but the area in closest proximity to the train station where heights of four to five stories are allowed • Allowed intensities in the downtown core are generally consistent with historic intensities, while higher intensities are allowed in the train station area
Downtown Adjacent Office/Residential	• Complements but does not compete with retail uses in the downtown area • Permits offices and personal services (with certain size limitations), residential uses and public and semipublic uses • Excludes retail and hotel uses • Allowable building height is two to three stories, which complements buildings in downtown and adjacent neighborhoods
El Camino Real Mixed Use/Residential	• Emphasizes residential use in close proximity (approximately 0.5 miles) to the station area and downtown, in order to support area businesses, transit use and overall downtown vibrancy • Allows for a variety of retail, office and public and semipublic uses • Maximum building heights vary from two to three stories in most locations, up to four to five stories on the east side of El Camino Real south of Ravenswood Avenue • Majority of the area allows for moderate intensities with higher intensities on the east side of El Camino Real south of Ravenswood Avenue
El Camino Real Mixed Use	• Allows for a variety of retail, office, residential, and public and semipublic uses • Building character relates to adjacent neighborhoods, with maximum building heights of two to three stories, except for buildings up to four to five stories permitted on the southeast end of El Camino Real • Allowed development intensities vary with the lowest intensity on the far northern end of El Camino Real to moderate intensities on the southwest end of El Camino Real and the highest intensities on the southeast end of El Camino Real where parcels are separated from adjacent uses by El Camino Real and the railroad right-of-way

Source: *Draft Menlo Park El Camino Real/Downtown Specific Plan,* 2010.

The zoning districts are based on the underlying land use designations and provide for a more detailed approach to land use regulation through the application of standards and guidelines that work together to establish the districts' character and identity. The 10 zoning districts include:

- El Camino Real North-East Low Density (ECR NE-L);
- El Camino Real North-East (ECR NE);
- El Camino Real North-East Residential Emphasis (ECR NE-R);
- El Camino Real South-East (ECR SE);
- El Camino Real North-West (ECR NW);
- El Camino Real South-West (ECR SW);
- Station Area East (SA E);
- Station Area West (SA W);
- Downtown (D); and
- Downtown Adjacent (DA).

The land use designation in the Draft Specific Plan for the project site is El Camino Mixed Use, and the site is located within the proposed El Camino Real South-West (ECR SW) zoning district. The ECR SW District is located on the west side of El Camino Real between Menlo Avenue and the southern city limits and is characterized by a mix of retail and service uses. The area is adjacent to multi-family and single-family residential uses and within walking distance to the train station area and downtown.

The ECR SW District is located in the El Camino Real Mixed Use/Residential and El Camino Real Mixed Use land use designations, which support a variety of retail uses, personal services, business and professional offices, and residential uses. Development regulations in the District provide for higher development intensities, with a focus on residential development, given the location of the District near the train station area and downtown. Table IV.A-4 lists the development standards and guidelines in the ECR SW district and Figure IV.A-5 illustrates standards and guidelines for the District.

Table IV.A-4: Development Standards and Guidelines in ECR SW District

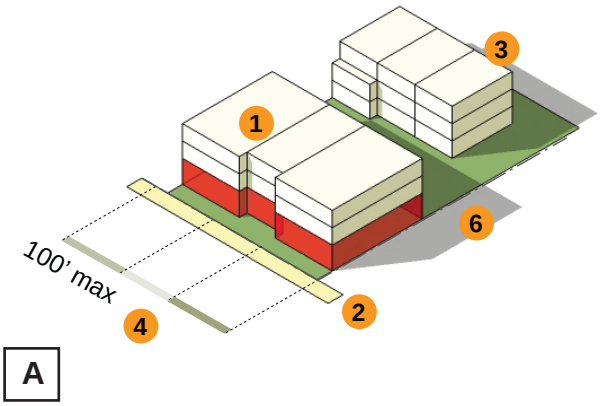
Regulation	Design Standard & Guidelines
Maximum Floor Area Ratio (FAR)	1.10 or 1.5 with Public Benefit Bonus[a]
Maximum Dwelling Unit Density	25 dwelling units/acre or 50 dwelling units/acre with Public Benefit Bonus[a]
Maximum Height	38 feet[b]
Maximum Façade Height[c]	30 feet for all sides except the interior side
Setback	• Front and corner side: 7 to 12 feet; front setback areas shall be developed with sidewalks, plazas, and/or landscaping. Parking prohibited within front setback areas. • Side, Interior: 25 feet • Rear, Minimum: 20 feet • Upper Floor: 10 feet minimum above the maximum façade height for all sides of building except interior side
Massing and Modulation	• *Building breaks* are allowed provided a single break does not exceed 50 feet in width and total of all breaks does not exceed 25% of building frontage. • *Building facades* located on streets shall not exceed more than 100 feet in length without change in visual interest through the use of recesses, projections and/or color and/or material changes; changes shall have minimum of 6 feet and projections and recesses shall have minimum depth of 4 feet • *Building Profile*: 45 degree requirement for any portion of building above the maximum façade height on rear side of building.
Open Space	30%; residential development must include minimum of 100 square feet of open space per unit as common open space or minimum of 80 square feet of open space per unit as private space. Private space must have minimum dimensions of 6 feet by 8 feet

[a] Public Benefit Bonus is the additional development permitted beyond the base intensity for a project in exchange for public benefit, such as public open space.

[b] A 38-foot height limit can accommodate a three-story residential or residential mixed-use building (e.g., residential above ground floor retail). The 38-foot height limit is generally consistent with the 35-foot height limit currently found in many of the neighborhoods adjacent to the Draft Specific Plan area.

[c] The limits on façade heights help to mitigate the visual impact of taller buildings.

Source: *Draft Menlo Park El Camino Real/Downtown Specific Plan*, 2010.



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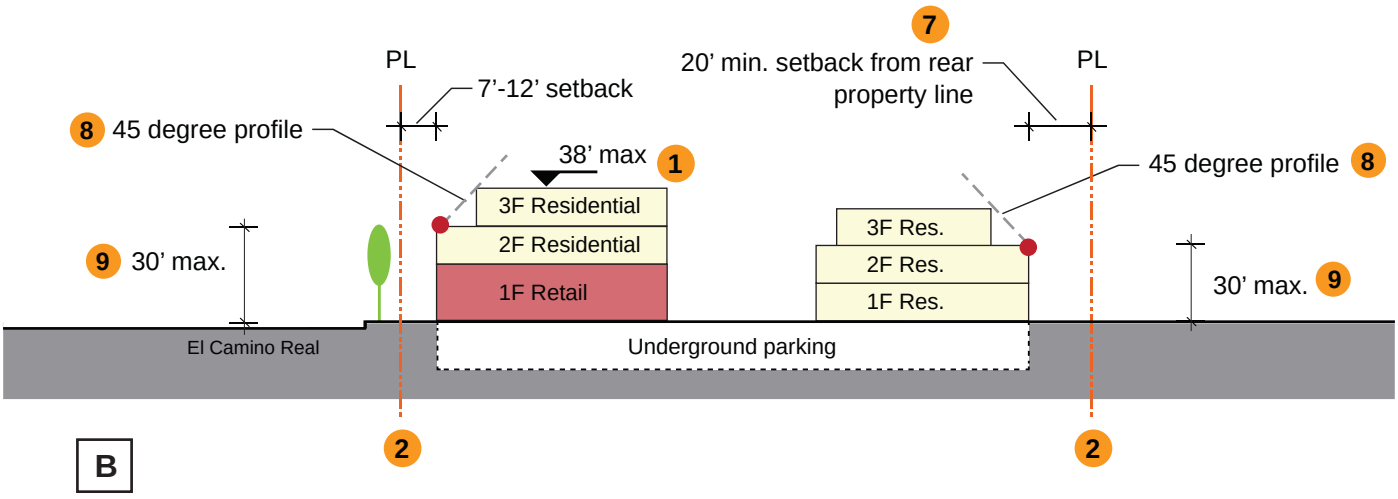

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FIGURE IV.A-5

1 **Maximum Height**
2 **Setback**
3 **Open Space Minimum**
4 **Facade Modulation**
5 **Upper-story Setback**
6 **Side Setback**
7 **Rear Setback**
8 **Building Profile**
9 **Facade Maximum Height**

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389 El Camino Real Project EIR

Draft El Camino Real/Downtown Specific Plan:
Illustrations of Standards and Guidelines for
El Camino Real South-West (ECR SW) Zoning District

SOURCE: PERKINS & WILL, APRIL 2010.

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d. City of Menlo Park Subdivision Ordinance. The Subdivision Ordinance is the policy document that regulates and controls the design and improvement of land subdivision within the City's boundaries. Cities are required to adopt an ordinance regulating the subdivision of land, pursuant to the Subdivision Map Act. The Subdivision Ordinance establishes standards for improvements that are required to be implemented when land is subdivided, the layout of lots, and minimum requirements for the various maps that accompany subdivision proposals.

e. City of Menlo Park Below Market Rate Housing Program (Municipal Code 16.96). The Below Market Rate (BMR) Housing Program is intended to increase the housing supply for households that have very low, low, and moderate incomes compared to the median household income for San Mateo County. The program requires qualifying residential and commercial developments to provide BMR housing units and/or contribute to the BMR Housing Fund.

For residential development projects of less than 20 units, the developer must provide no less than 10 percent of the units at below market rates to very low-, low- and moderate-income households. For residential development projects of 20 or more units, the developer must provide no less than 15 percent of the units at below market rates to very low-, low- and moderate-income households.

For each below-market-rate unit provided under the BMR Housing Program, a developer is permitted to build one additional market-rate unit. In addition, a developer is permitted to increase the floor area associated with the residential development project by an amount that corresponds to the increase in allowable density. Requests for density bonuses of a maximum of 15 percent are subject to approval of the Planning Commission.

The BMR Housing Fund is a separate City fund set aside for the specific purpose of assisting the development of affordable housing units and programs. The fund is primarily generated by developer payments made in lieu of providing actual BMR units. The preferred BMR Program contribution for all residential developments is on-site BMR units. If on-site BMR units are not feasible, the developer must substantiate to the City's satisfaction that the BMR units cannot be provided on- or off-site and is required to pay an in lieu fee.

f. State Density Bonus Law (Government Code Section 65915). The State Density Bonus Law mandates that local governments provide incentives to housing developers for the production of housing units affordable to lower income households. Under the State Density Bonus Law, an applicant is entitled to bonus residential units above the permitted density if additional or more affordable below-market rate units are constructed beyond those normally required by the jurisdiction.

Under the State Density Bonus Law, when a developer agrees to construct senior housing[6] or a certain percentage of the units in a housing development for very-low income households (5 percent of the total units of a housing development), low-income households (10 percent of the total units of a housing development), or moderate income households (10 percent of the total units) in a common interest development,[7] the government entity must grant the developer a density bonus, which allows

[6] Senior housing is a residential development that is developed, substantially rehabilitated, or substantially renovated for senior citizens (age 55 and over) that has at least 35 dwelling units.

[7] A common interest development is a community apartment project, a condominium project, a planned development, or a stock cooperative.

the developer to increase the density of the development by a certain percentage above the maximum allowable limit under zoning law, and grant one or more incentives[8] or concessions for the production of housing units.[9]

3. Impacts and Mitigation Measures

This subsection analyzes impacts related to land use and planning policy that could result from implementation of the proposed project. The subsection begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this subsection presents the impacts associated with the proposed project. As noted in the beginning of this section, conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves; as such, the proposed project's consistency with applicable policies focuses on whether policy conflicts could result in physical environmental impacts.

a. Criteria of Significance. These criteria are derived from *CEQA Guidelines* Environmental Checklist questions. Implementation of the proposed project would have a significant effect on land use if it would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

b. Less-Than-Significant Impacts. The following discussion addresses land use and planning policy impacts of the proposed project.

(1) Community Integrity. The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. For instance, the construction of an interstate highway though an existing community may constrain travel from one side of the community to another.

Implementation of the proposed project would result in the development of residential uses, parking, and open space within a site that is currently occupied by a parking lot, a single-family residential building, and a residential triplex building. The parking lot and single-family residential building are vacant. Two of the three units in the residential triplex building on the site are currently occupied.

[8] An incentive means any of the following: a reduction in site development standards or a modification of zoning code requirements or architectural design requirements that result in identifiable, financially sufficient, and actual cost reductions; approval of mixed use zoning in conjunction with a housing project; and other regulatory incentives proposed by the developer that result in identifiable, financially sufficient, and actual cost reductions.

[9] Menlo Park, City of, 2011. City's Attorney Office, Study Session Regarding the Application of State Density Bonus Law, Government Code Section 65915, to Housing Projects in Menlo Park. May 2.

Implementation of the proposed project would result in the demolition of the two existing buildings within the project site and the removal of existing vegetation, foundations, exterior concrete flatwork, pavement, and utilities. The two inhabited units in the triplex building would be vacated before any demolition activity takes place. The proposed project would replace the four existing residential units on the site with a total of 26 single-family and townhouse units (including three units priced at levels affordable to low-income households). The replacement of existing residential uses with new residential uses would not typically be considered the division of an established community. Although the proposed project would result in the displacement of existing residents from the site, other rental housing is available in close proximity to the site (within Menlo Park and adjacent communities).

Furthermore, the existing residential units on the site would not be considered a "community" in the traditional sense. Only two of the four residential units on the site are occupied, redevelopment of the site is anticipated in the near-term, and the small number of site inhabitants would make it difficult to develop a critical mass of shared connections necessary to create a community. Although the existing residents on the site would be considered part of a larger community, the site itself would not fit this definition. Therefore, the demolition of housing currently on the site would not divide an established community.

In addition, the project site is not used to connect different parts of an existing community. The parcels on the site are surrounded by fencing and/or landscaping such that access from one parcel to another is difficult. Therefore, the site is not used as a cut-through-route between College Avenue, Partridge Avenue, and El Camino Real, or as access to the larger community.

The proposed project would result in the abandonment of the public street easement for Alto Lane. However, Alto Lane primarily provides access to the triplex located on the project site, and does not connect College Avenue to other streets around the project site. Therefore, the abandonment of Alto Lane would not substantially impair mobility within the existing community, or between the community and outlying areas. In addition, pedestrian access would continue to occur via sidewalks along El Camino Real and College Avenue for the duration of project construction and operation. Therefore, the project would not result in the development of barriers to access that would impede circulation in the area or otherwise result in the division of an established community.

(2) Compatibility With Surrounding Land Uses. Implementation of the proposed project would not result in the development of uses that would be inherently incompatible with surrounding land uses (e.g., a power plant, factory, or other noise-, air pollution-, or hazard-generating land use in a residential area). The residential development would not interfere with the daily operations of surrounding land uses, including the residential uses to the west of the site, the commercial and residential uses to the north of the site, or the commercial uses to the east and south of the site. The project's effects on aesthetics and the availability of natural light are evaluated in Section IV.F, Aesthetics.

In addition, none of the land uses surrounding the project site are fundamentally incompatible with uses proposed for the project site. The auto repair shop and gas station to the south of the site may generate noise levels during working hours that are higher than predominantly residential areas, and may temporarily generate odors that are typical of mechanical equipment repair and fueling apparatuses (i.e., odors associated with fuel and paint). However, because the auto repair shop and gas station would be required to comply with applicable City ordinances (including the Noise Ordinance),

and other environmental regulations (including those limiting the release of hazardous materials and air contaminants), they would not be incompatible with residential uses. In addition, the southern boundary of the proposed project would include a vegetated trellis to screen the residential uses on the project site from the auto repair shop and gas station.

The project would be located along a segment of El Camino Real that the City seeks to develop into a mixed-use, pedestrian-oriented district.[10] Residential projects may benefit from being located in an area with a diversity of land uses, especially in places where there is easy access to downtown commercial districts, transit, and open space. Such characteristics would apply to the project site, which is within walking distance of downtown Menlo Park, the nearby Caltrain station, and local parks (and is located in close proximity to commercial uses that serve local residents). The exposure of project residents to air pollution and noise associated with traffic volumes on El Camino Real is addressed in Sections IV.C, Air Quality, and IV.D, Noise.

Redevelopment of the project site could benefit surrounding neighborhoods through the conversion of a parking lot into higher density residential uses that would be expected to activate street life and generate increased revenue for local businesses. Increasing pedestrian activity in the area would be one beneficial outcome. The project site, which is near downtown Menlo Park and the Caltrain station, is an appropriate location for higher-intensity land uses. Concentrating traffic-generating uses near transit nodes has the potential to minimize vehicle travel along minor roadways through established neighborhoods. The proposed project thus has the potential to enhance the physical relationship of the project site with surrounding areas. The proposed project, with a residential density of approximately 21 units per acre, would be denser than the residential neighborhood to the west of the site. However, this increased density would not make the project incompatible with surrounding residential uses because the environmental impacts generated by the increased density on adjacent areas would not be significant and adverse.

(3) Consistency With Applicable Policies. As discussed below, the proposed residential uses would be consistent with the General Plan's existing El Camino Real Professional/Retail Commercial designation and the Medium Density Residential designation. The proposed project would also be consistent with the General Commercial applicable to El Camino Real (C-4 (ECR)) and Apartment (R-3) zoning districts.

General Plan. The proposed project would generally be consistent with land use policies in the General Plan that promote urban development within the El Camino Real professional and commercial district, and seek to improve the stability and character of existing neighborhoods. Please refer to Table IV.A-5 for a summary of the project's consistency with applicable land use and planning policies in the General Plan. The project would redevelop a site currently partially occupied by a parking lot with residential uses and would increase the population along the El Camino Real corridor.

Although the project would be located in close proximity to transit, it is not designed in a way that is oriented to transit. The project consists of single-family and townhouse residential units (instead of a mixture of high-density residential and commercial uses) and would include individual private parking garages or two-car tandem parking garages with two spaces for each residential unit. From a

[10] A mixed-use development involves the use of a building, set of buildings, or neighborhood for more than one land use. A mixed-use development includes both residential and commercial uses.

design perspective, the project would not encourage the use of public transportation even though it would be located within walking distance of the Menlo Park Caltrain station and near SamTrans bus stops. The relatively large number of parking spaces on the site would tend to encourage the use of private motor vehicles for transportation instead of alternative forms of transportation, including walking, bicycling, and transit.

The proposed project would be consistent with General Plan policies supporting the development of residential uses along El Camino Real (Policies I-A-5, I-B-4, and II-B-2) and with transportation-related policies that seek to strengthen the relationship between the transportation center, downtown, and El Camino Real and place as many activities as possible near transit. Parking impacts associated with the project are discussed in Section IV.E, Transportation, Circulation and Parking.

The proposed project would contribute to the planned conversion of El Camino Real from an automobile-oriented commercial-style strip to a more compact urban/suburban-style land use pattern and would be consistent with General Plan Policy I-A-5. This policy promotes the development of housing, including housing for smaller households, in commercially-zoned areas in and near downtown Menlo Park.

Zoning Ordinance. As described in the City of Menlo Park Zoning Ordinance subsection under the setting section, above, the project site is designated as General Commercial applicable to El Camino Real (C-4 (ECR)) with the exception of the northwestern portion of the site west of Alto Lane, which is designated as Apartment District (R-3). A conditional use permit is being requested for new construction, the development of residential uses in the C-4 (ECR) zoning district, and to construct three or more residential units in the R-3 zoning district. In addition, several development waivers are being requested related to rear setbacks, building coverage, FAR, landscape coverage, and building separation. With issuance of a conditional use permit and the application of the State Density Bonus law, the project would not conflict with applicable provisions of the Zoning Ordinance such that significant environmental impacts would result.

Draft El Camino Real/Downtown Specific Plan. As of the preparation of this EIR, the Draft Specific Plan is in draft form. Therefore, the project is not bound by the development guidelines in the Draft Specific Plan. The Draft Specific Plan is scheduled to be considered for approval by the City Council in mid-2012.

The proposed project would be inconsistent with the Draft Specific Plan's land use designation for the site (Mixed-Use/Residential), since it does not include ground floor retail uses below residential uses. The project would not be consistent with the development standards and guidelines for the ECR SW zoning district, which seek to encourage the development of multi-story residential buildings with ground-floor retail uses facing El Camino Real and below-grade parking (see Figure IV.A-5 for an illustration of standards and guidelines). The proposed project, characterized by a more suburban-style urban form along El Camino Real, could impede the goals of the Draft Specific Plan as they relate to walkability and the development of a higher-density, mixed-use environment along the corridor. However, because the application for the proposed project was submitted prior to adoption of the Draft Specific Plan, it would not apply to this project and this potential future policy inconsistency would not be considered significant in environmental terms.

BMR Housing Program and State Density Bonus Law. In accordance with the City's BMR Housing Program and the State Density Bonus Law, three of the 26 residential units that would be developed as part of the proposed project would be priced at levels that are affordable to low-income households. As a result, the project is entitled to a density bonus under the State Density Bonus Law. Pursuant to GC 65915(f)(1), since 14 percent (three of 21 residential units) are designated for low-income households, the project is entitled to a 26 percent density bonus, or six additional units. This would allow a maximum of 27 units to be developed on the site. As a result, the proposed project would be consistent with the City's BMR Housing Program and the applicable provisions of the State Density Bonus Law.

(4) Habitat Conservation Plan. The City is not located within a habitat conservation plan or natural community conservation plan.

c. Significant Impacts. Implementation of the proposed project would not result in any significant land use and planning policy impacts.

Table IV.A-5: Relationship of Project to Relevant City of Menlo Park General Plan Policies

General Plan Citation	Policy Language	Project's Relationship to Policy
Policy I-A-1	New construction in existing neighborhoods shall be designed to emphasize the preservation and improvement of the stability and character of the individual neighborhood.	*Consistent.* The construction of new higher-density residential uses adjacent to an existing residential neighborhood would not compromise the stability and character of the existing neighborhood.
Policy I-A-2	New residential developments shall be designed to be compatible with Menlo Park's residential character.	*Consistent*. The general design of the project, which features buildings of two to three stories in height, common and private open space, and traditional architecture would not be incompatible with Menlo Park's residential character.
Policy I-A-3	Quality design and usable open space shall be encouraged in the design of all new residential developments.	*Not Yet Determined.* The quality of the project design is outside the purview of CEQA, but would be reviewed by the Planning Commission and City Council. Usable open space would be provided on the site.
Policy I-A-5	Development of housing, including housing for smaller house-holds, is encouraged in commercially-zoned areas in and near Downtown. Provisions for adequate off-street parking must be assured.	*Consistent.* The project would include two two-bedroom units that would be appropriate for smaller households (although other units would be larger in terms of number of bedrooms). In addition, adequate on-site parking would be provided.
Policy I-A-8	Residential developments of ten or more units shall comply with the requirements of the City's Below-Market Rate (BMR) Housing Program.	*Consistent.* The project would provide three on-site affordable housing units, in compliance with the BMR Housing Program.
Policy I-A-9	Residential developments subject to requirements of the BMR Housing Program may be permitted to increase the total density, number of units and floor area of residential projects up to a maximum of 15 percent above that otherwise permitted by the applicable zoning. The increase in the total density, number of units and floor area shall be in compliance with the BMR Housing Program.	*Consistent.* The permitted density of the project would be increased, consistent with the provisions of the BMR Housing Program and the State Density Bonus Law.
Policy I-B-4	Uses and activities shall be encouraged which will strengthen and complement the relationship between the Transportation Center and the Downtown area and nearby El Camino Real corridor.	*Consistent.* The project would increase the on-site population and would redevelop a parking lot with residential uses. Although the design of the project would not be transit-oriented, it would enhance the relationship between the Transportation Center, downtown Menlo Park, and the El Camino Real corridor.

Table IV.A-5 *Continued*

General Plan Citation	Policy Language	Project's Relationship to Policy
Policy I-G-4	Dedication of land, or payment of fees in lieu thereof, for park and recreation purposes shall be required of all new residential development.	*Not Yet Determined.* In-lieu fees for parks and recreation may be imposed on the project when development approvals are considered.
Policy I-G-10	Extensive landscaping should be included in public and private development, including greater landscaping in large parking areas. Where appropriate, the City shall encourage placement of a portion of the required parking in landscape reserve until such time as the parking is needed. Plant material selection and landscape and irrigation design shall adhere to the City's Water Efficient Landscaping Ordinance.	*Consistent.* The project would include landscaping, including small open spaces adjacent to El Camino Real and College Avenue. The project's landscaping plan would be required to comply with the City's Water Efficient Landscape Ordinance (Menlo Park Municipal Code Chapter 12.44).
Policy II-B-2	As many activities as possible should be located within easy walking distance of transit stops, and transit stops should be convenient and close to as many activities as possible.	*Consistent.* The project would cluster additional residential uses within walking distance of the Caltrain station and SamTrans bus stops.
Policy II-E-1	The City shall require all new development to incorporate safe and attractive pedestrian facilities on-site.	*Consistent.* Sidewalks would be developed throughout the project site.

Source: City of Menlo Park, 1994 and LSA Associates, Inc., 2011.

B. TRANSPORTATION, CIRCULATION AND PARKING

This section describes the existing traffic, circulation, parking, and transit conditions in the vicinity of the project site and provides an analysis of the project's potential transportation-related impacts. This section is based on the Traffic Impact Analysis prepared by DKS Associates in December 2011.[1]

1. Setting

This section describes the methods used to conduct the transportation analysis, and discusses the existing transportation system in the vicinity of the project site (including regional and local roadway networks, bicycle and pedestrian facilities, and transit service). Existing roadway operations are also summarized.

a. Methods. This analysis was prepared according to the methodology recommended in the City's Transportation Impact Analysis (TIA) Guidelines. City staff has selected four signalized intersections for analysis. These four intersections (shown on Figure IV.B-1) are ones that are most likely to be adversely affected by traffic generated by the proposed project. These intersections include:

1. El Camino Real/Menlo Avenue/Ravenswood Avenue
2. El Camino Real/Roble Avenue
3. El Camino Real/Middle Avenue
4. El Camino Real/Cambridge Avenue

The analysis of intersections focuses on the peak AM and PM commute times for a typical week. In addition, an analysis was conducted of potential impacts related to average daily traffic (ADT) added to local street segments by the project. The study segments analyzed include:

1. Middle Avenue between University Drive and El Camino Real
2. College Avenue between University Drive and El Camino Real
3. Partridge Avenue between University Drive and El Camino Real
4. Cambridge Avenue between University Drive and El Camino Real
5. University Drive between Middle Avenue and Cambridge Avenue
6. Alto Lane between Middle Avenue and College Avenue

The following conditions were evaluated as part of the analysis:

- Existing Condition. This condition represents traffic conditions in the summer of 2011, when this environmental review was initiated. Existing turning movement counts at the study intersections for the PM peak hour were obtained from the City's Circulation System Assessment Document (CSA). Signal timing parameters for the analysis are based on the analysis conducted for the CSA.
- Near Term Condition. This condition assumes full occupancy of planned/approved developments near the project site that would be completed in the near term. Near term conditions at the study intersections are based on data provided by City of Menlo Park staff in the CSA analysis. Planned or approved projects that are not included in the CSA have been provided by the City and are

[1] DKS Associates, 2011. *389 El Camino Real Project Traffic Impact Analysis.* December 15.

added to the Near Term Condition for both the peak hour analysis of the study intersections and the ADT analysis.

- Near Term Plus Project Condition. This condition represents traffic conditions that would exist in the Near Term Condition, plus the addition of project-related traffic.
- Long Term Condition. This condition represents traffic conditions that would exist in the Near Term Condition with an assumed growth rate of 1 percent per year to account for future development over a 20-year growth horizon. Similar to the Near Term Condition, this condition incorporates approved developments that were not included in the CSA.
- Long Term Plus Project Condition. This condition represents traffic conditions based on the Long Term Condition plus the addition of project-related traffic.

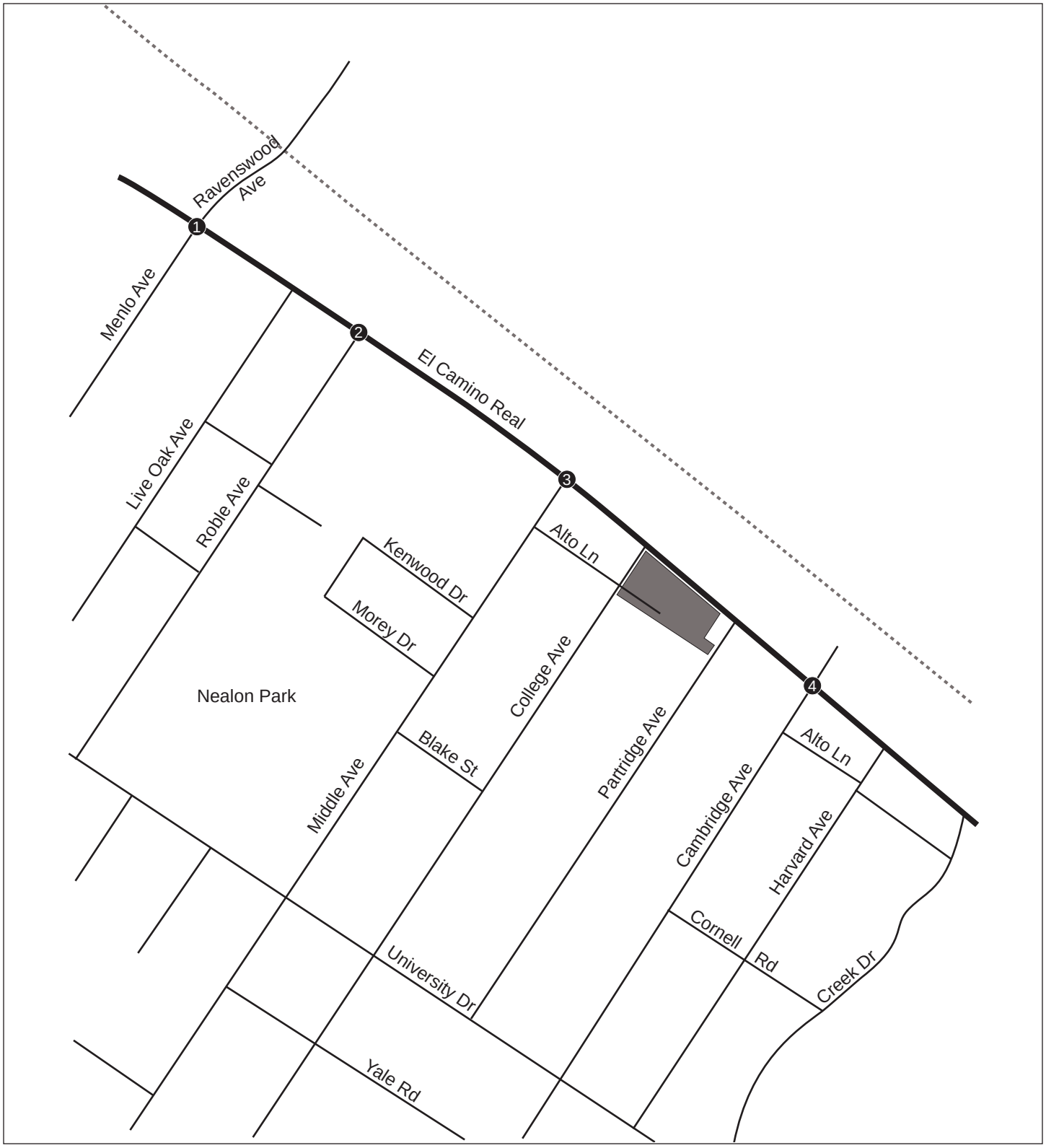
b. Existing Conditions. This section summarizes existing transportation conditions in the vicinity of the project site and includes a description of the existing project site, the roadway network, and vehicular traffic conditions within the project vicinity.

(1) Roadway Network. The existing roadway network in the vicinity of the project site is illustrated in Figure IV.B-1. El Camino Real is a primary arterial street in the vicinity of the project site. Middle Avenue between Valparaiso Avenue and El Camino Real and University Drive between Middle Avenue and Valparaiso Avenue are collector streets. Olive Street is located west of the study area and Valparaiso Avenue is located north of the study area. All other roadway segments near the project site are local streets.

El Camino Real (SR 82). El Camino Read is State Route 82 (SR 82) under the jurisdiction of the California Department of Transportation (Caltrans) and is classified as a primary arterial street with a speed limit of 35 miles per hour. It runs in a north-south direction along the eastern boundary of the project site and is divided by a short curb median with three lanes in each direction. Signalized intersections near the project site along El Camino Real occur at Menlo Avenue, Roble Avenue, Middle Avenue, and Cambridge Avenue, while unsignalized intersections occur at Live Oak Avenue, College Avenue, Partridge Avenue, Harvard Avenue, and Creek Drive. The free-flow movements of El Camino Real are not disrupted at these unsignalized intersections. Near the project site, limited on-street parking is permitted along the eastern side of the street, while it is permitted only in certain areas along the western side of the street.

Middle Avenue. Middle Avenue is a collector street between Olive Street and El Camino Real that runs in an east-west direction north of the project site. The roadway has one lane of travel in each direction and on-street parking is generally permitted but utilized at low levels. In addition, the speed limit along Middle Avenue is 30 miles per hour.

University Drive. University Drive is a north-south collector street from Olive Street to Creek Drive that runs in the north-south direction west of the project site. The roadway has one travel lane in each direction with permitted on-street parking on both sides of the street. The speed limit along University Drive is 25 miles per hour.



LSA

FIGURE IV.B-1

N

Study Intersection

Project Site

xx (xx) AM (PM) Peak Hour Volumes

NOT TO SCALE

389 El Camino Real Project EIR
Study Area

SOURCE: DKS ASSOCIATES, 2011.

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College Avenue. College Avenue is an east-west street, is classified as a local street for its entire length between Arbor Road and El Camino Real, and extends along the northern boundary of the project site. The roadway has one travel lane in each direction and on-street parking is permitted on both sides of the street. Along College Avenue, the speed limit is 25 miles per hour. Permit parking is available on College Avenue.

Partridge Avenue. Partridge Avenue is an east-west street and is classified as a local street for its length from University Drive to El Camino Real. Partridge Avenue borders the southern side of the project site and has one lane of travel in each direction. On-street parking is permitted on both sides of the street and the speed limit is 25 miles per hour. Permit parking is available on Partridge Avenue.

Cambridge *Avenue.* Cambridge Avenue is an east-west street and is classified as a local street for its entire length from Arbor Road to El Camino Real. Cambridge Avenue is a block south of the project site with permitted on-street parking on both sides of the street. Cambridge Avenue has one travel lane in each direction with a speed limit of 25 miles per hour.

Alto Lane. Alto Lane is a north-south street, is classified as a local street, and intermittently runs between Middle Avenue and Creek Drive, including a segment within the project site. On-street parking is not permitted along Alto Lane but off-street parking is available via accessory parking to private businesses. The speed limit is not posted. The segment of Alto Lane that exists on the project site is accessible through a gate off of College Avenue and dead ends approximately 170 feet south of College Avenue.

(2) Level of Service Significance Threshold. The level of service (LOS) criteria for signalized and unsignalized intersections are presented in Table IV.B-1. These range from LOS A, which indicates free-flow conditions with little or no delay, to LOS F, which indicates congested conditions with excessive delays.

Table IV.B-1: Intersection Level of Service Definitions

Level of Service	Description	Total Delay (seconds/vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Little or no delay	≤ 10.0	≤ 10.0
B	Short traffic delay	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
C	Average traffic delay	>20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
D	Long traffic delay	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
E	Very long traffic delay	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
F	Extreme traffic delay	> 80.0	> 50.0

Source: Transportation Research Board, 2000.

The City's LOS significance threshold for each study intersection is presented in Tables IV.B-2 and IV.B-3 (the significance thresholds applied to the project are discussed in more detail in Section 2, Impacts and Mitigation Measures). In addition, the total number of vehicles a roadway is expected to accommodate on a daily basis based on the roadway classification is listed in Table IV.B-3.

Table IV.B-2: Intersection Level of Service Thresholds

Study Intersection	Jurisdiction	LOS Significance Threshold	Significance Threshold for Unacceptable LOS
1. El Camino Real/Menlo Ave./Ravenswood Ave.	State	D, on local approaches[a]	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
2. El Camino Real/Roble Ave.	State	Same as above	Same as above
3. El Camino Real/Middle Ave.	State	Same as above	Same as above
4. El Camino Real/Cambridge Ave.	State	Same as above	Same as above

Source: DKS Associates, 2011.

Traffic Demand and Levels of Service. Existing Condition intersection traffic volumes have been obtained from the 2009 CSA provided by the City. These intersection volumes have been analyzed using the Traffix analysis software. Existing intersection lane geometrics are provided in Figure IV.B-2. Existing peak hour traffic volumes for the study intersections and ADT estimates for the study segments are provided in Figures IV.B-3 and IV.B-4, respectively.

Table IV.B-3: Roadway Segment Level of Service Thresholds

Study Roadway Segment	Between	Classification	Daily Capacity	Significance Threshold
1. Middle Ave.	University Dr. and El Camino Real	Collector	10,000	Impact if Average Daily Traffic (ADT) is >9,000 vehicles and project adds >50 trips, or ADT is >5,000 and project increases ADT by 12.5%, or ADT is <5,000 and project increases ADT by 25%.
2. College Ave.	University Dr. and El Camino Real	Local	1,500	Impact if Average Daily Traffic (ADT) is >1,350 vehicles and project adds >25 trips, or ADT is >750 and project increases ADT by 12.5%, or ADT is <750 and project increases ADT by 25%.
3. Partridge Ave.	University Dr. and El Camino Real	Local	1,500	Same as for Study Roadway Segment 2, above
4. Cambridge Ave.	University Dr. and El Camino Real	Local	1,500	Same as for Study Roadway Segment 2, above
5. University Dr.	Middle Ave. and Cambridge Ave.	Local	1,500	Same as for Study Roadway Segment 2, above
6. Alto Ln.	Middle Ave. and College Ave.	Local	1,500	Same as for Study Roadway Segment 2, above

Source: DKS Associates, 2011.

Existing peak hour intersection levels of service are summarized in Table IV.B-4. Detailed calculations are provided in Appendix C of the Transportation Impact Analysis (available for review at the Menlo Park Community Development Department).

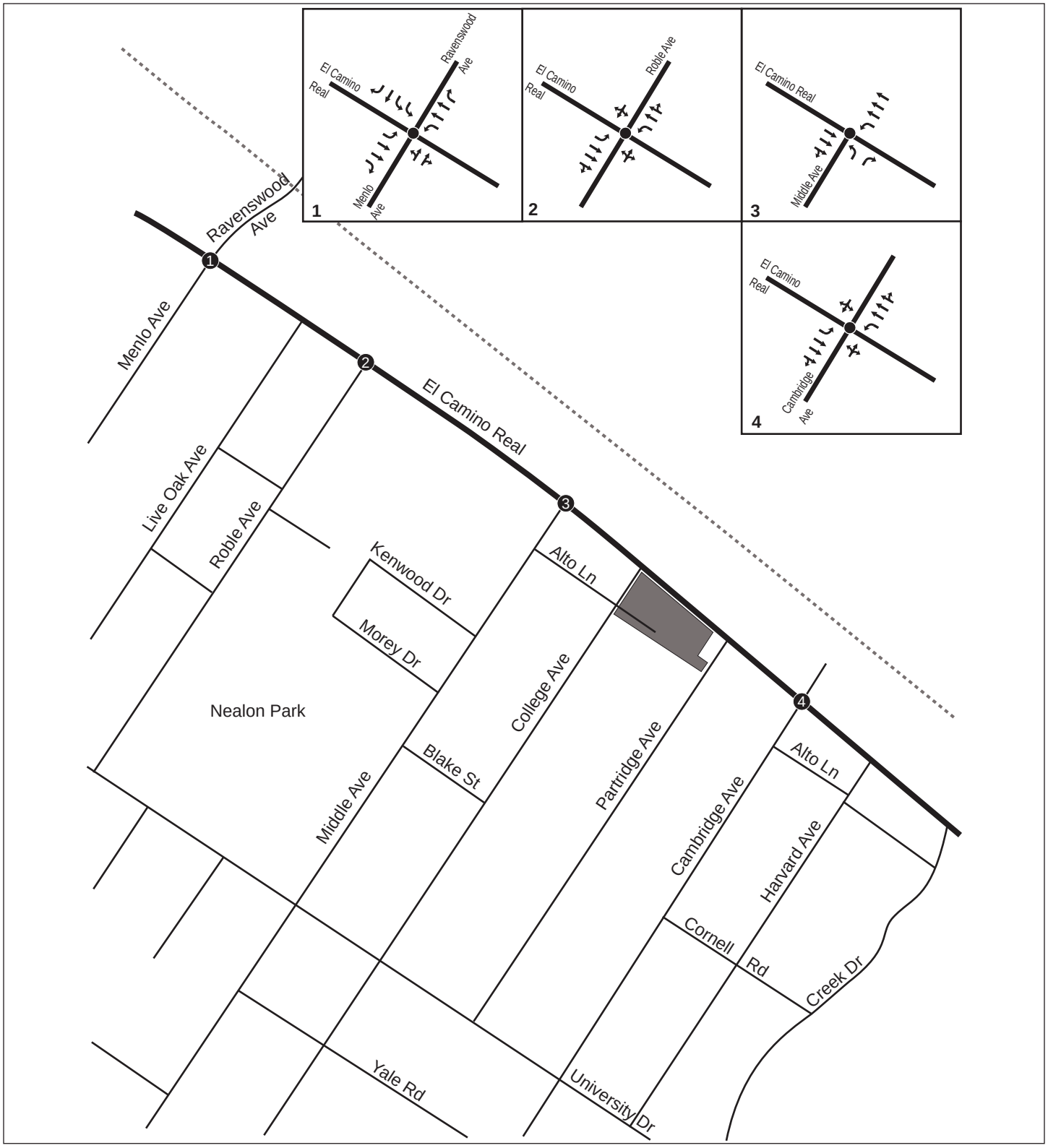

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FIGURE IV.B-2

SOURCE: DKS ASSOCIATES, 2011.

389 El Camino Real Project EIR

Existing Intersection Lane Geometry

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LSA

FIGURE IV.B-3

N

NOT TO SCALE

● Study Intersection

XX (XX) AM (PM) Peak Hour Volumes

Project Site

389 El Camino Real Project EIR

Existing Peak Hour Traffic Volumes

SOURCE: DKS ASSOCIATES, 2011.

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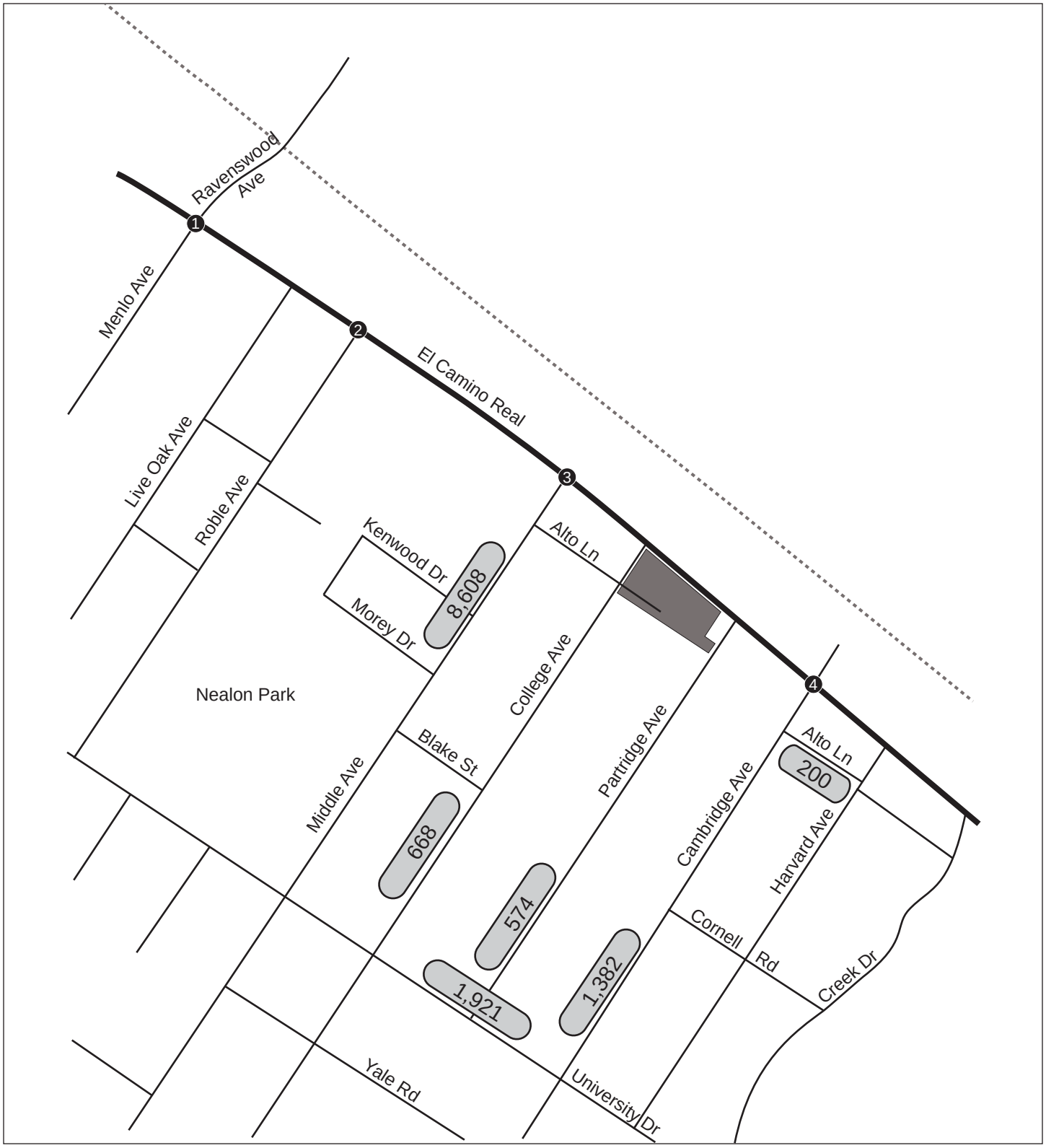

LSA

FIGURE IV.B-4

N

Study Intersection

668 Existing Average Daily Traffic

Project Site

NOT TO SCALE

389 El Camino Real Project EIR
Existing Average Daily Traffic

SOURCE: DKS ASSOCIATES, 2011.

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Table IV.B-4: Existing Levels of Service

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay[a]	LOS[b]	Delay	LOS
1. El Camino Real/Menlo Ave./Ravenswood Ave.	41.0	D	44.1	D
Critical Local Approaches[c]	**59.5/55.1**	**E/E**	**61.9/61.4**	**E/E**
2. El Camino Real/Roble Ave.	10.8	B	14.2	B
Critical Local Approaches	**57.9**/53.2	**E**/D	**67.7/56.8**	**E/E**
3. El Camino Real/Middle Ave.	35.5	D	25.3	C
Critical Local Approaches	49.7/NA[d]	D/NA	**64.2**/NA	**E**/NA
4. El Camino Real/Cambridge Ave.	13.5	B	12.3	B
Critical Local Approaches	**66.7/62.0**	**E/E**	**66.4/62.8**	**E/E**

Notes:
[a] Delay = average for signalized intersections.
[b] LOS = Level of service, represents average for signalized intersections.
[c] Average delay for eastbound/westbound critical movements for local approaches.
[d] NA denotes not applicable.

Bold delays and LOS indicate an unacceptable LOS E or F condition.

Source: DKS Associates, 2011.

Critical movements for local approaches to State-controlled intersections at all of the study intersections operate at LOS D or E during both the AM and PM peak hours. The westbound critical movement for the local approach to El Camino Real/Roble Avenue and the eastbound critical movement for the local approach to El Camino Real/Middle Avenue operate at LOS D while the other critical local approaches during the AM and PM peak hours operate at LOS E.

(3) Roadway Segment Analysis. The existing ADT for the analyzed roadways has been provided by the City for a typical weekday and is shown in Figure IV.B-4. The TIA Guidelines describe the estimated ideal capacity at 10,000 vehicles per day (vpd) for collector streets and 1,500 vpd for local streets. The Existing Condition roadway analysis is detailed in Table IV.B-5. The table indicates that all of the roadways currently operate under capacity, with the exception of University Drive between Middle Avenue and Cambridge Avenue. The highest volumes along the study roadways occur along Middle Avenue between University Drive and El Camino Real.

Table IV.B-5: Existing Average Daily Traffic Summary

	Roadway Class	Capacity	Volume
Middle Ave. (University Dr. to El Camino Real)	Collector	10,000	8,608
College Ave. (University Dr. to El Camino Real)	Local	1,500	668
Partridge Ave. (University Dr. to El Camino Real)	Local	1,500	574
Cambridge Ave. (University Dr. to El Camino Real)	Local	1,500	1,382
University Dr. (Middle to Cambridge Ave.)	Local	1,500	**1,921**
Alto Ln. (Middle to College Ave.)	Local	1,500	200

Bold numbers indicate an unacceptable condition.

Source: City of Menlo Park, 2009.

(4) Parking. Limited on-street parking is permitted along the western and eastern sides of El Camino Real, but is generally more available along the eastern side of the street. On-street parking is

also available on side streets, including Middle Avenue, College Avenue, and Partridge Avenue. However, it should be noted that daytime (defined as 7:00 a.m. to 10:00 p.m. by Chapter 8.06 of the Menlo Park Municipal Code) on-street parking in the College Avenue area is only available by permit in certain areas. Within the project site study area, these areas include the 600-800 blocks of Cambridge Avenue, the 600-800 blocks of College Avenue, the 600-800 blocks of Partridge Avenue, and the 0-200 blocks of University Drive.

On-street overnight parking is restricted by Chapter 11.24.050 of the Menlo Park Municipal Code which states that on-street parking during the overnight hours (defined as between the hours of 2:00 a.m. and 5:00 a.m.) is not permitted within a residential zone or within 300 feet of a residential zone. Annual on-street overnight parking permits are only available for certain apartment buildings within the City that lack adequate resident parking spaces and are zoned R-3. However, all Menlo Park residents are allowed to purchase up to 100 temporary one-night permits per year.

Private off-street lots in the vicinity of the project site are located along the El Camino Real corridor, adjacent to commercial land uses.

(5) Transit. The San Mateo County Transit District (SamTrans) operates 48 bus routes throughout San Mateo County that link to areas of San Francisco and Palo Alto. The express KX route runs along El Camino Real near the project site and provides service between San Francisco and Palo Alto. The local 390 route runs along El Camino Real and connects the Daly City Bay Area Rapid Transit (BART) station with Palo Alto. The 83 line runs within Menlo Park and Atherton and provides local service. The 83 line runs along University Drive, Middle Avenue, and El Camino Real near the project site and also serves the Menlo Park Caltrain Station. Local route 295 operates between San Mateo and Menlo Park and mainly serves residential neighborhoods along the El Camino corridor. The route passes approximately 0.5 mile north of the project site and serves the Menlo Park Caltrain Station.

Caltrain is a commuter rail line that operates between San Francisco and the Santa Clara Valley. On weekdays, Caltrain operates 90 daily trains which provide a mix of local, limited, and express service. The closest Caltrain stop is approximately 0.5 miles north of the project site at the Menlo Park Caltrain Station and is serviced 60 times per weekday. Transit connections with the 295, 296, 390, and KX SamTrans bus routes occur at the Menlo Park Caltrain Station.

In recent years, SamTrans and Caltrain have reduced service and operations as a result of financial constraints. The routes identified in this report are current as of June 2011 but may change as additional service changes are considered in the future. Transit routes in the vicinity of the project site are shown in Figure IV.B-5.

LSA

FIGURE IV.B-5

N

NOT TO SCALE

Study Intersection

83 Bus Route

Project Site

389 El Camino Real Project EIR

Existing Area Transit Routes

SOURCE: DKS ASSOCIATES, 2011.

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(6) Bicycle and Pedestrian Facilities. In the vicinity of the project site there are few on-street bicycle facilities. El Camino Real does not accommodate any bike paths or lanes, but bicyclists are regularly observed riding in the right lane. The closest on-street bicycle facility west of El Camino Real is a Class II[2] facility located along Santa Cruz Avenue north of the project site. Bicycle facilities are more prevalent east of El Camino Real, with Class II facilities along Willow Road and Class II and Class III facilities along Laurel Street.

Existing sidewalks around the project site are between 4 and 6 feet in width and are present along the El Camino Real, College Avenue, and Partridge Avenue site frontages. Crosswalk striping is not provided at most unsignalized intersections, but is provided at signalized intersections, including those at El Camino Real and Middle Avenue and El Camino Real and Cambridge Avenue. The nearest crosswalks traversing El Camino Real are at Middle Avenue, one block to the north of the site and Cambridge Avenue, one block to the south of the site. The sidewalks in the vicinity of the project site are generally in acceptable condition. Some sidewalk furniture is present in the area and poles, fire hydrants, street sign poles, trees, and mailboxes are also present along area sidewalks.

2. Impacts and Mitigation Measures

This section of the EIR contains the following components:

- The significance criteria used to determine whether the project's effects would be considered significant;
- A description of transportation conditions under the Near Term Condition and Long Range Condition; and
- An analysis of the impacts that would result from the project and mitigation measures to reduce these impacts.

a. Criteria of Significance. The City of Menlo Park, the County of San Mateo, and Caltrans each has transportation impact guidelines and standards of significance. The recommended checklist questions in Appendix G of the *CEQA Guidelines* are addressed through these local, regional and State guidelines. The project analysis includes City of Menlo Park and Caltrans facilities. As such, the appropriate standards of significance are applied to respective intersections and roadway segments.

Generally a project would have a significant effect on the environment if it would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips on roads, or congestion at intersections), or change the condition of an existing street (i.e., through street closures, changing direction of travel) in a manner that would substantially affect access or the traffic load and capacity of the street system. Adverse effects to surrounding pedestrian and bicycle facilities and transit system are also considered. Specifically, the following detailed significance criteria apply to intersections, roadway segments, parking, pedestrian and bicycle facilities, and transit.

[2] Class I facilities (bike paths) are completely separated, with a paved right-of-way (shared with pedestrians) which exclude general motor vehicle traffic. Class II facilities (bike lanes) include a striped lane for one-way bike travel on a roadway. Class III facilities (bike routes) are typically on streets with low traffic volumes and speeds, with features allowing for preferential bike treatment, such as stenciling.

a) Implementation of the project would have a significant impact on intersection operations if it would result in the following:

- At arterial signalized intersections in Menlo Park, the addition of project traffic causes an intersection operating at LOS D or better to operate at LOS E or F; or an increase of 23 seconds or greater in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of an arterial intersection operating at LOS E or F prior to the addition of project traffic.
- At local approaches (i.e., under the jurisdiction of the City) to State-controlled signalized intersections in Menlo Park, the addition of project traffic causes an intersection operating at LOS D or better to operate at LOS E or F; or an increase of 23 seconds or greater in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of local approaches to State-controlled signalized intersections operating at LOS E or F prior to the addition of project traffic.
- At other signalized intersections (collector or local streets), the addition of project traffic causes an intersection operating at LOS C or better to operate at LOS D, E or F; or an increase of 23 seconds or greater in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of a collector or local street intersection operating at LOS D, E or F prior to the addition of project traffic.
- At signalized intersections within the City of Palo Alto, the addition of project traffic causes a regional intersection operating at LOS E or better to operate at LOS F; or causes an intersection currently operating at LOS F to increase in critical movement delay of 4 seconds or more; and increases the critical volume-to-capacity (v/c) ratio by 0.01 or more.
- At signalized intersections within the Town of Atherton, the addition of project traffic causes an intersection operating at LOS D or better to operate at LOS E or F; or causes an intersection currently operating at LOS E to operate at LOS F; or causes an intersection currently operating at LOS F to increase delay by more than 4 seconds.
- On minor arterial streets, if the existing ADT is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000, and the project- related traffic increases the ADT by 25 percent.
- On collector streets, if the existing ADT is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000, and the project-related traffic increases the ADT by 25 percent.
- On local streets, if the existing ADT is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350, and the project-

related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750, and the project-related traffic increases the ADT by 25 percent.

- On freeway segments, the addition of project traffic causes a freeway segment to operate worse than its adopted Congestion Management Program (CMP) LOS standard, or adds traffic equivalent to 1 percent of the segment's capacity for segments violating the CMP LOS standard prior to the addition of project traffic.

b) Implementation of the project would have a significant impact on transit operations if:

- The project would generate a substantial increase in transit riders that cannot be adequately served by the existing transit services; or
- The project would generate demand for transit services in an area that is more than 0.25 miles from existing transit routes.

c) Implementation of the project would have a significant impact on pedestrian or bicycle circulation if:

- The project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system; or
- Vehicles would cross pedestrian facilities on a regular basis without adequate design and/or warning systems, causing safety hazards; or
- The project design would cause increased potential for bicycle/vehicle conflicts.

d) Implementation of the project would have a significant impact on parking if:

- The project fails to provide a sufficient quantity of parking for vehicles;
- The project increases off-site parking demand above that which is provided in the immediate project area; or
- The project fails to provide a sufficient quantity of parking for bicycles.

b. Transportation System in the Near Term Condition. This section discusses the operation of the transportation system in the Near Term Condition, without implementation of the proposed project.

A list of near term projects has been provided by the City and includes projects that are planned (i.e., for which applications have been submitted for development permits) or approved. Table IV.B-6 summarizes projects that were included in the CSA; traffic from these developments has been added to the study intersections and roadway segments for the Near Term Condition. A complete list of approved and planned projects is contained in Appendix A of the Transportation Impact Analysis.

Table IV.B-6: Near Term Developments in the Project Vicinity

Project/Land Use	Land Use	Size	Units
1906 El Camino Real	Office/Restaurant	9,825/5,742	SF/SF
1706 El Camino Real	Office/Restaurant	10,166/6,875	SF/SF
Menlo Gateway	Office	111,679	SF
	R&D	58,505	SF
	Office	694,669	SF
	Health Club	69,467	SF
	Restaurant	6,947	SF
	Retail	10,420	SF
	Hotel	230	Rms
2550 Sand Hill Road	Office	23,011	SF
Hamilton East	Residential/Residential/Light Industrial	214/8/55,861	DU/DU/SF
Menlo Business Park	R&D	145,000	SF
Facebook Campus	Office	1,476,000	SF

Note: Units are provided in terms of square feet (SF), dwelling units (DU) and Rooms (Rms).

Source: City of Menlo Park, 2011.

(1) Traffic Volumes and Levels of Service. Peak hour traffic volumes for the Near Term Condition have been provided by the City for the signalized study intersections during the AM and PM peak hours via the Near Term Condition component of the CSA Traffix Model. Figure IV.B-6 shows the Near Term Condition traffic volumes for the study intersections. No planned/programmed mitigation measures would be implemented by the time the near term developments are built and occupied.

Intersection geometrics will remain the same as under the Existing Condition. Slight changes to signal timing parameters are based on the CSA.

As shown in Table IV.B-7**,** under the Near Term Condition during the AM peak hour, the intersection of El Camino Real/Ravenswood Avenue/Menlo Avenue would remain at LOS D while at El Camino Real/Middle Avenue the LOS would improve from D in the Existing Condition to C in the Near Term Condition. In the PM peak hour, El Camino Real/Ravenswood Avenue/Menlo Ave would decline from LOS D in the Existing Condition to LOS F in the Near Term Condition. Two critical movements for local approaches to State-controlled intersections would experience a decrease in LOS: during the PM peak hour, the eastbound and westbound critical movements for the local approaches to El Camino Real/Ravenswood Avenue/Menlo Avenue would be LOS E for the Existing Condition and LOS F for the Near Term Condition. All local approaches to State-controlled intersections would operate at unacceptable LOS E or F for either the AM Peak Hour, PM Peak Hour, or both.

LSA

FIGURE IV.B-6

NOT TO SCALE

SOURCE: DKS ASSOCIATES, 2011.

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389 El Camino Real Project EIR

Near Term Peak Hour Volumes

Table IV.B-7: Near Term Condition Level of Service

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay[a]	LOS[b]	Delay	LOS
1. El Camino Real/Menlo Ave./Ravenswood Ave.	52.6	D	**82.5**	**F**
Critical Local Approaches[c]	**55.3**[e]**/72.2**	**E/E**	**113.0/112.0**	**F/F**
2. El Camino Real/Roble Ave.	11.0	B	14.4	B
Critical Local Approaches	**58.2**/53.4	**E**/D	**71.0/57.4**	**E/E**
3. El Camino Real/Middle Ave.	29.1	C	25.7	C
Critical Local Approaches	50.9/NA[d]	D/NA	**67.6**/NA	**E**/NA
4. El Camino Real/Cambridge Ave.	11.2	B	12.4	B
Critical Local Approaches	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**

Notes:

[a] Delay = average for signalized intersections.
[b] LOS = Level of service, represents average for signalized intersections.
[c] Average delay for eastbound/westbound critical movements for local approaches.
[d] NA denotes not applicable.
[e] Occasionally, adding a small amount of traffic to an intersection or approach will improve the overall average operation and level of delay if, for instance, a green signal is utilized by additional drivers.

Bold delays and LOS indicate an unacceptable LOS E or F condition.

Source: DKS Associates, 2011.

(2) Roadway Segment Analysis. The Near Term Condition ADT volumes are illustrated in Figure IV.B-7. The roadway analysis for the Near Term Condition is shown in Table IV.B-8. The Near Term Condition would add between four and 172 vehicles to the analyzed roadway segments. As shown, overall traffic volumes would continue to be below capacity for the analyzed roadways with the background roadway growth added to the existing demand, with the exception of University Drive between Middle Avenue and Cambridge Avenue.

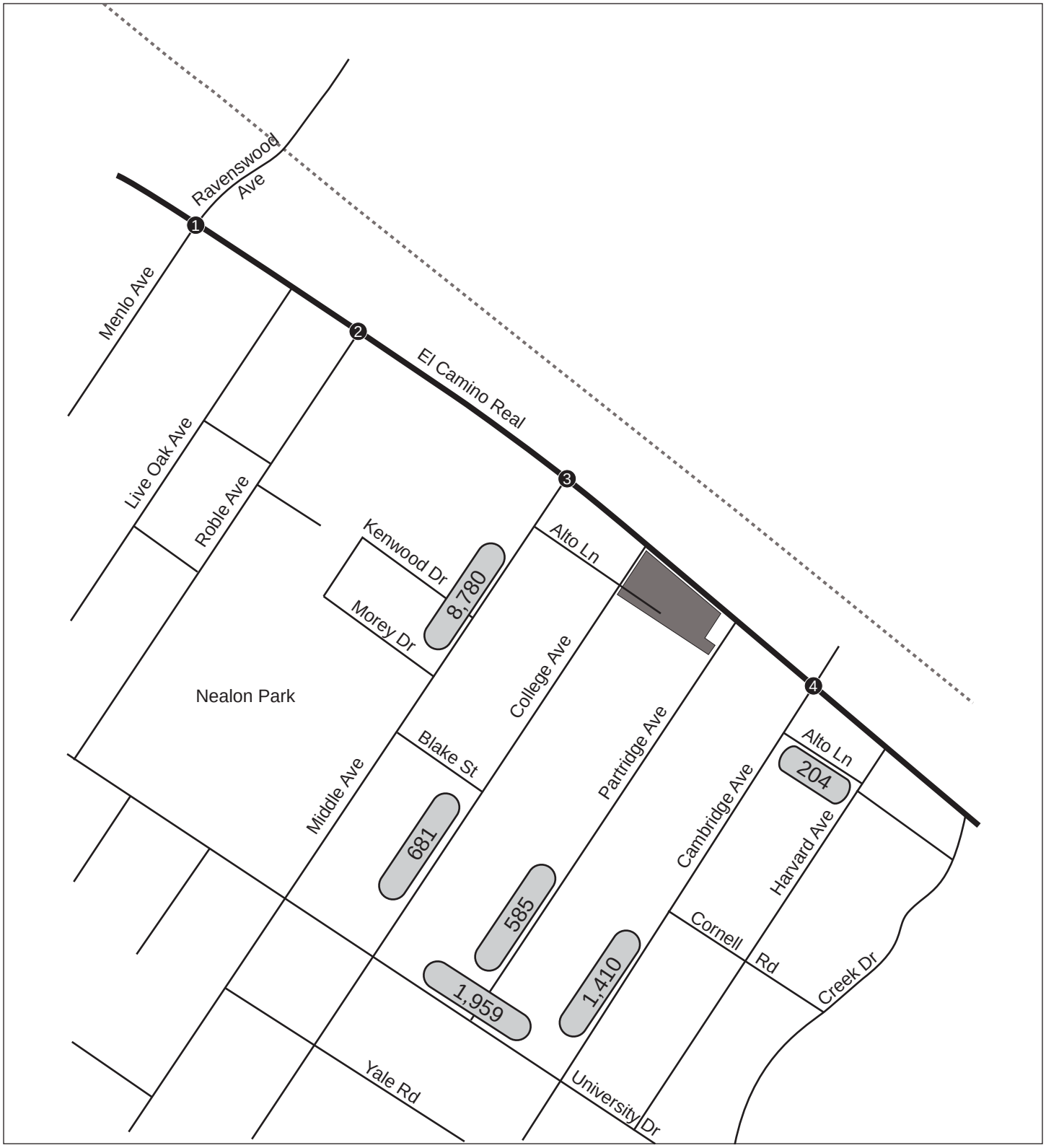
Table IV.B-8: Near Term Condition Average Daily Traffic Summary

	Roadway Class	Capacity	Existing Volume	Near Term		
				ADT	Volume Added for Near Term	% Change From Existing
Middle Ave. (University to El Camino Real)	Collector	10,000	8,608	8,780	172	2.0%
College Ave. (University to El Camino Real)	Local	1,500	668	681	13	2.0%
Partridge Ave. (University to El Camino Real)	Local	1,500	574	585	11	2.0%
Cambridge Ave. (University to El Camino Real)	Local	1,500	1,382	1,410	28	2.0%
University Dr. (Middle to Cambridge)	Local	1,500	**1,921**	**1,959**	38	2.0%
Alto Ln. (Middle to College)	Local	1,500	200	204	4	2.0%

Bold numbers indicate an unacceptable condition.

Source: City of Menlo Park, 2009.

(3) Parking. Off-street and on-street parking conditions would remain the same as under the Existing Condition (with no vehicle parking along the El Camino Real frontage of the site). No changes in parking would be expected.



LSA

FIGURE IV.B-7

N

Study Intersection

Project Site

668 Near Term Average Daily Traffic

NOT TO SCALE

389 El Camino Real Project EIR

Near Term Average Daily Traffic

SOURCE: DKS ASSOCIATES, 2011.

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(4) Transit, Bicycle, and Pedestrian Facilities. The 2005 Menlo Park comprehensive Bicycle Development Plan identifies Middle Avenue, College Avenue, and University Drive as roadways for Class II Bike Lanes. These lanes are programmed as a mid-term project, and may be implemented by the Near Term Condition.

There are no major anticipated changes to transit and pedestrian facilities in the Near Term Condition. As noted above, in recent years, SamTrans and Caltrain have reduced service and operations as a result of financial constraints. The routes identified in this report are current as of June 2011 but may change as additional service changes are considered in the future.

c. Transportation System in the Near Term Plus Project Condition. This section discusses the operation of the transportation system in the Near Term Plus Project Condition.

(1) Trip Generation and Distribution. The estimated trip generation for the proposed residential uses and for the existing residential uses has been calculated based on the trip generation rates from the *ITE Trip Generation* (8th Edition, 2008). Trip credits have been applied in order to properly account for the existing housing units on the site. The proposed project would generate approximately 13 net AM peak hour trips (4 inbound trips and 9 outbound trips) and 17 net PM peak hour trips (11 inbound trips and 6 outbound trips). The project trip generation is summarized in Table IV.B-9. Even though the official project description includes 26 residential units, the analysis in this section assumes that 27 residential units (one additional unit beyond those proposed as part of the project) would be developed because 27 units is the number of units permitted on the site under the State's Density Bonus Law, given the number of low-income units proposed as part of the project.

Table IV.B-9: Project Trip Generation

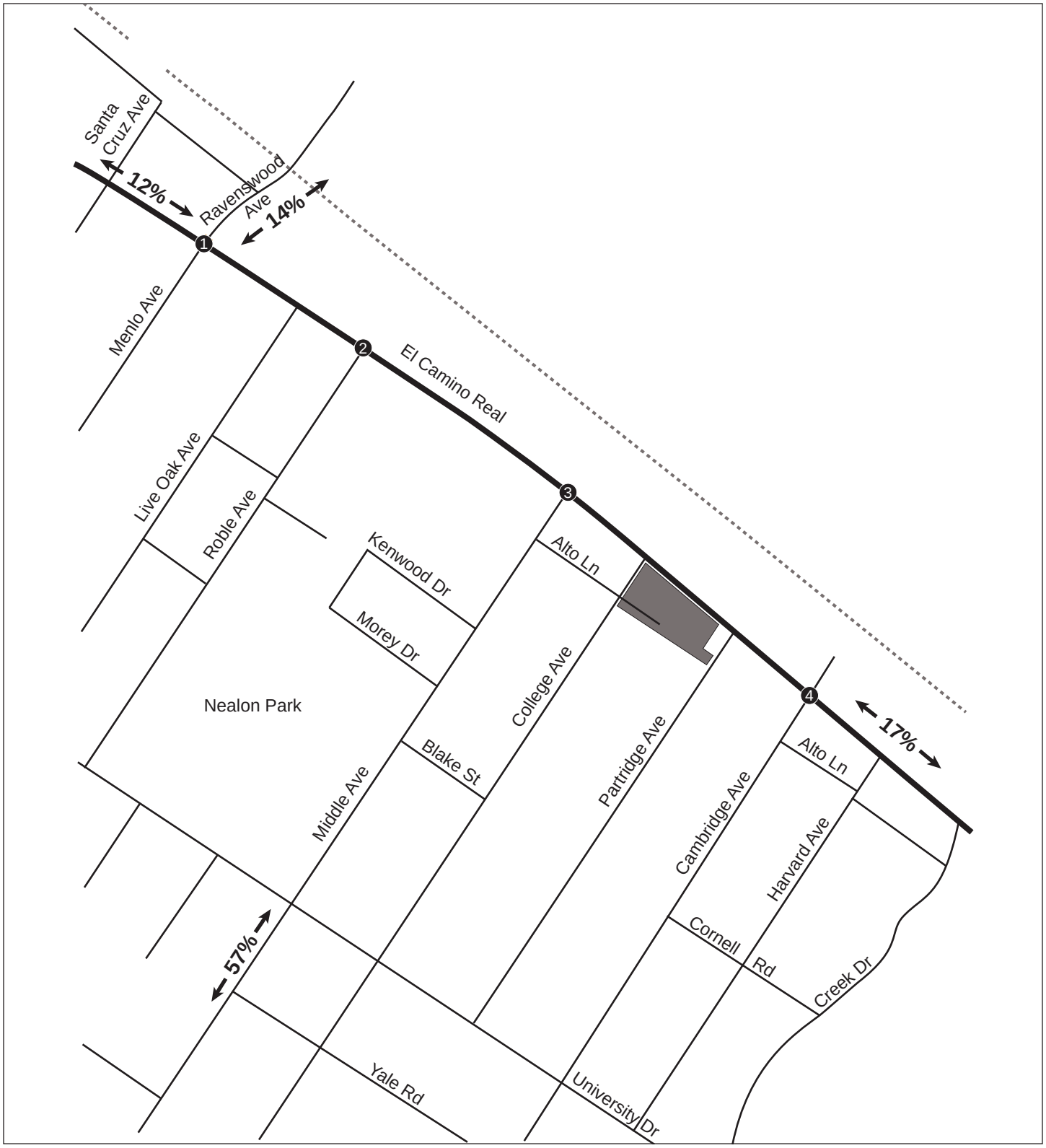
	Land Use	AM Peak Hour			PM Peak Hour			
Existing Uses	**Code**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**Daily**
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Total for Existing Uses		0	-3	-3	-2	-1	-3	-40
Proposed Uses								
Proposed Single Family Detached Housing (10)	210	2	6	8	7	4	11	96
Proposed Residential Condominium/Townhouse (17)	230	2	6	8	6	3	9	99
Total for Proposed Uses		**4**	**12**	**16**	**13**	**7**	**20**	**195**
Total Net New Trips		**4**	**9**	**13**	**11**	**6**	**17**	**155**

Note: The existing trip credit represents the residential units on the project site. Values are rounded.

Source: DKS Associates, 2011.

Trips generated by the existing land uses and proposed project are assumed to have distribution patterns consistent with the travel patterns outlined in the CSA. Figure IV.B-8 illustrates the trip distribution patterns for the existing and proposed land uses, Figure IV.B-9 illustrates the peak hour project trip assignment, and Figure IV.B-10 illustrates the average daily traffic associated with the project.

(2) Traffic Volumes and Levels of Service. Near Term Plus Project Condition peak hour traffic volumes are provided in Figure IV.B-11. An intersection level of service comparison summary between the Near Term Condition and Near Term Plus Project Condition is shown in Table IV.B-10.



LSA

FIGURE IV.B-8

NOT TO SCALE

389 El Camino Real Project EIR
Trip Distribution

SOURCE: DKS ASSOCIATES, 2011.

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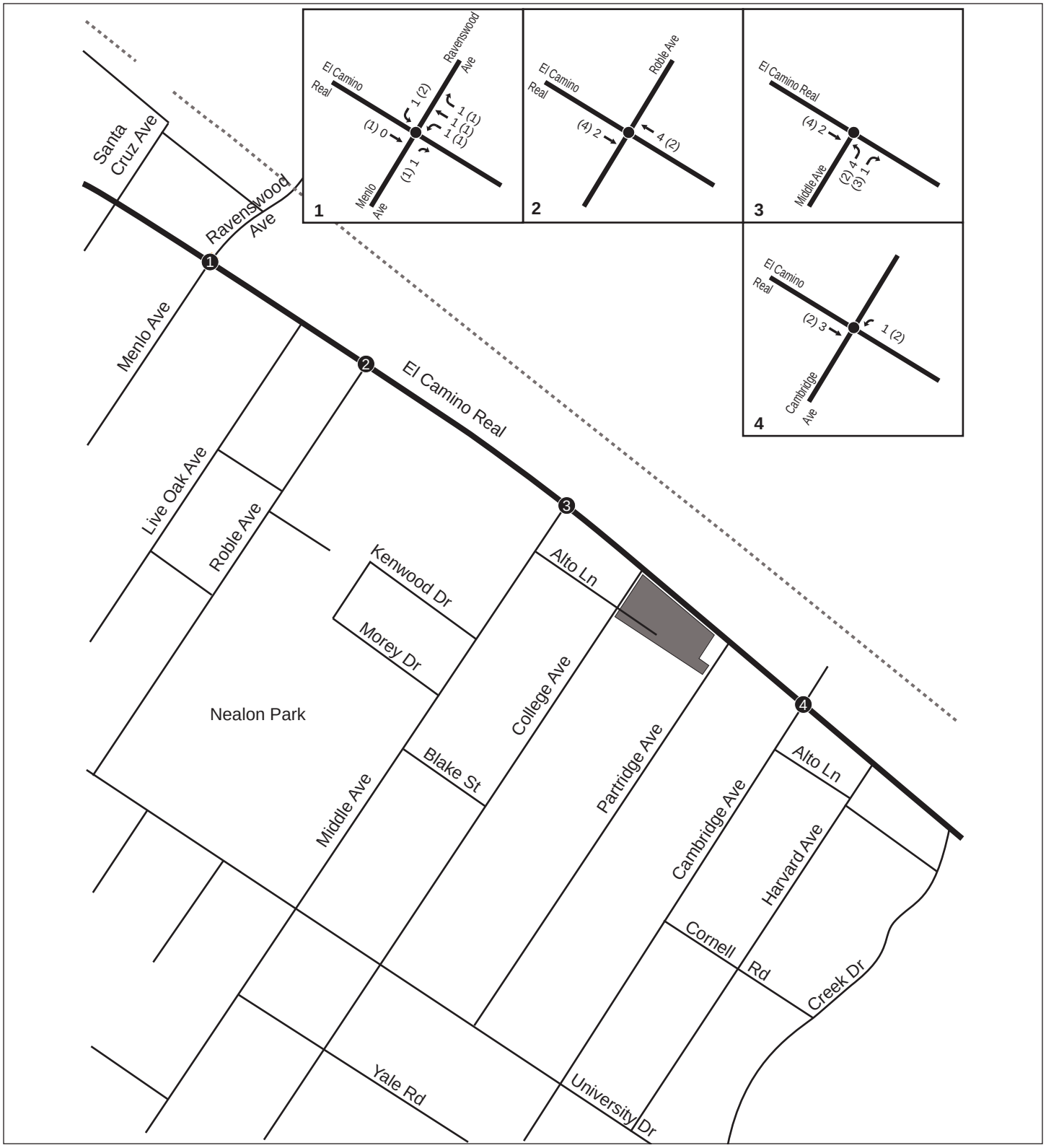

LSA

FIGURE IV.B-9

N

● Study Intersection

xx (xx) AM (PM) Peak Hour Volumes

Project Site

NOT TO SCALE

SOURCE: DKS ASSOCIATES, 2011.

389 El Camino Real Project EIR

Peak Hour Project Generated Trips

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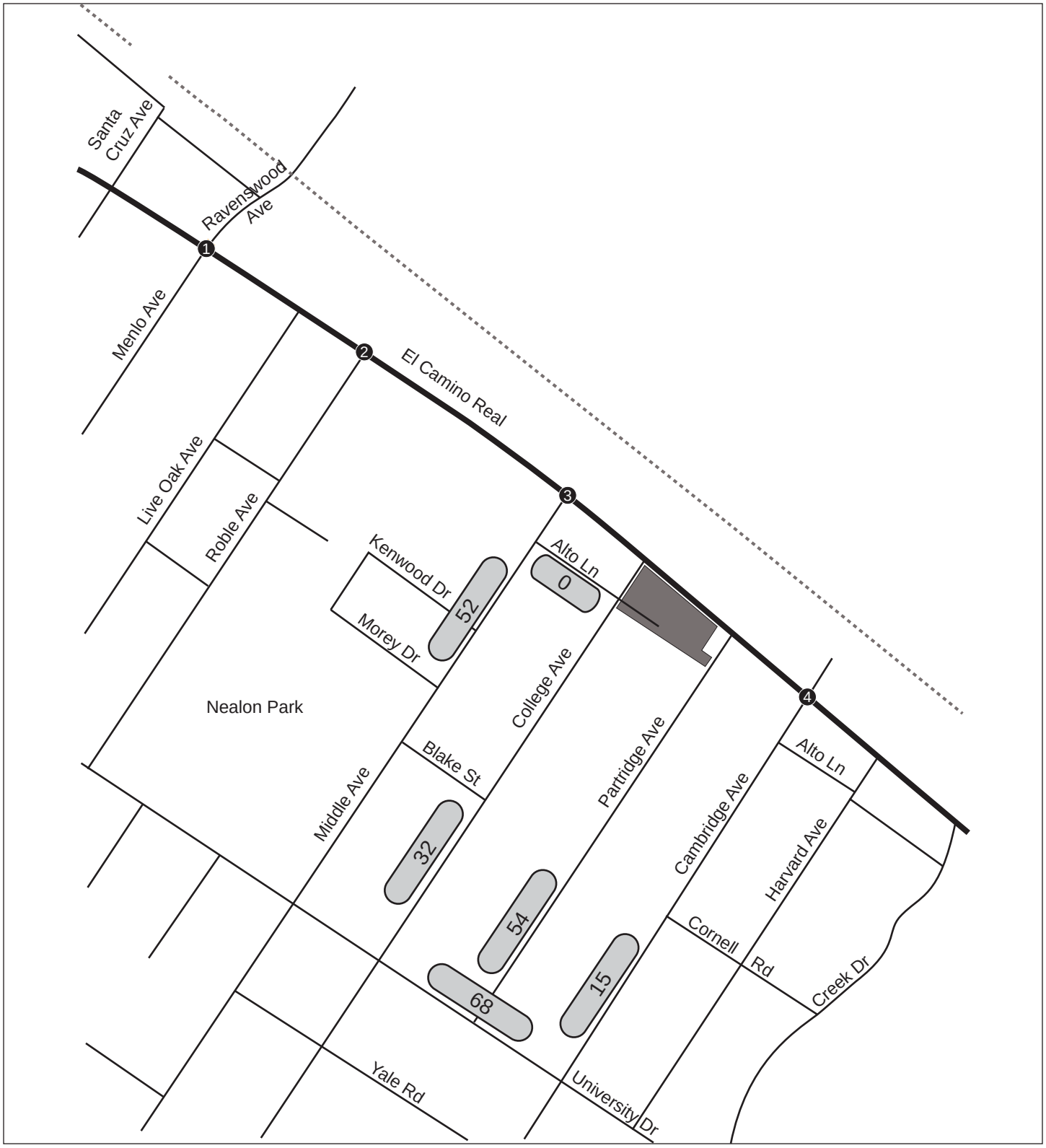

LSA

FIGURE IV.B-10

389 El Camino Real Project EIR

Project Generated Average Daily Traffic

SOURCE: DKS ASSOCIATES, 2011.

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LSA

FIGURE IV.B-11

N

NOT TO SCALE

● Study Intersection

XX (XX) AM (PM) Peak Hour Volumes

Project Site

389 El Camino Real Project EIR

Near Term Plus Project Condition

Peak Hour Volumes

SOURCE: DKS ASSOCIATES, 2011.

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As shown in the table, the project would have little effect on the average delay at the study intersections in the Near Term Condition. The increases in delay for the critical movements for local approaches to State-controlled intersections would be below the acceptable 0.8 second threshold for both the AM and PM peak hours. As such, the project would not result in any potentially significant impacts to the study area intersections in the Near Term Condition.

(3) Roadway Segment Analysis. Near Term Plus Project Condition ADT volumes for the study segments are provided in Figure IV.B-12. Table IV.B-11 compares roadway segments in the Existing Condition, Near Term Condition, and Near Term Plus Project Condition and the corresponding ADT increases. The project would generate 155 net daily trips on a typically weekday. Based on the significance criteria for collector and local streets established by the City of Menlo Park, University Drive between Middle Avenue and Cambridge Avenue would experience a potentially significant impact in the Near Term Plus Project Condition. On this segment, the project would add 68 vehicles, which is more than the 25-trip threshold for local roadways with ADT greater than 1,350 vehicles.

Impact TRANS-1: In the Near Term Plus Project Condition, the project would contribute trips to University Drive between Middle Avenue and Cambridge Avenue that would exceed the City's 25-trip threshold for local roadways with ADT greater than 1,350 vehicles. (S)

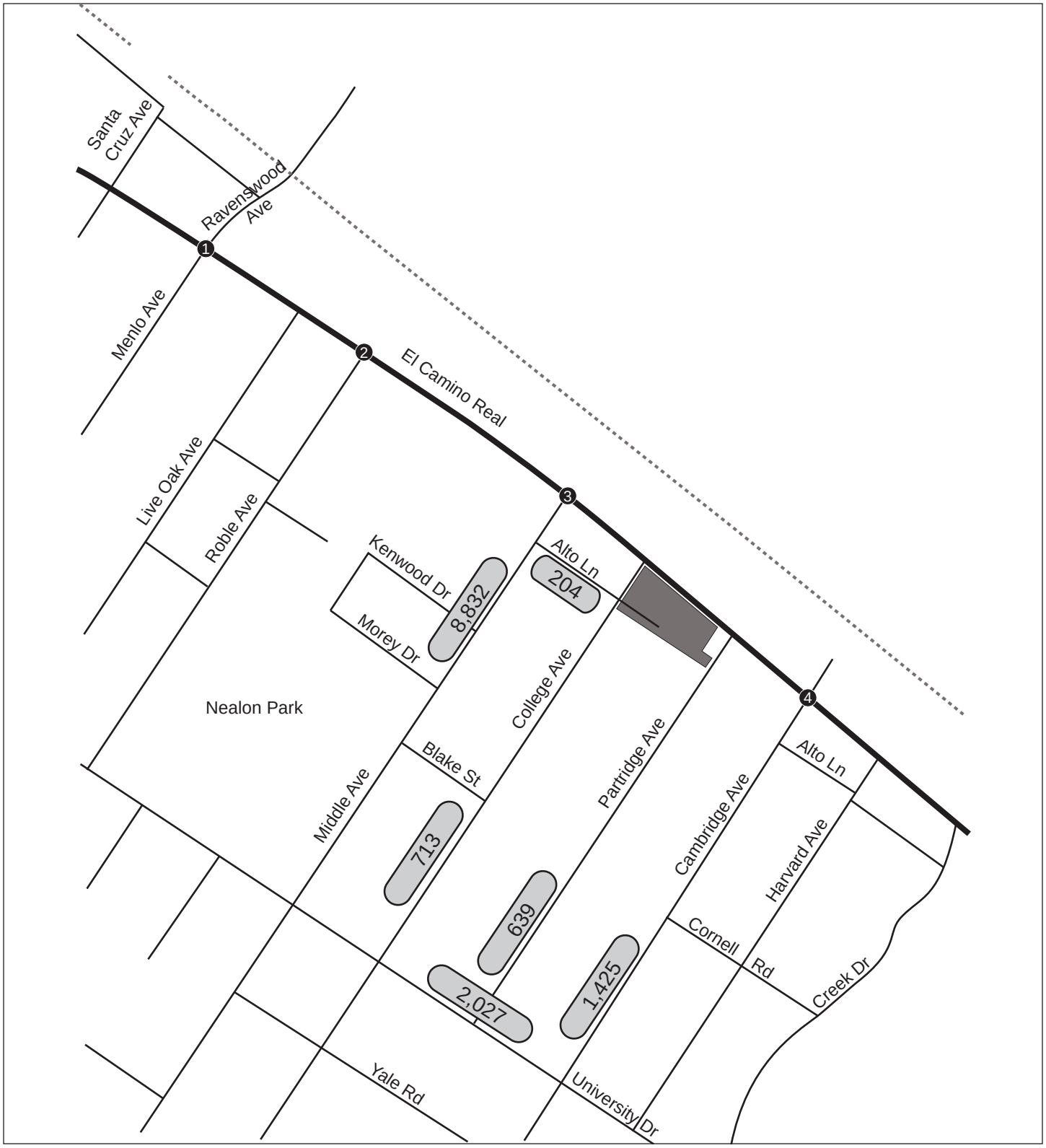
The only feasible mitigation measure for reducing this impact to a less-than-significant level would involve adding additional roadway capacity to University Drive. However, this measure would be infeasible because up to approximately 12 feet of additional right-of-way would be required along each side of the street segment in this predominantly residential area. This acquisition of right-of-way would diminish residential front yards along this segment of University Avenue and could adversely affect property owners.

In addition, the widening of roadways can result in other adverse effects that would not be acceptable to the City, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), air pollution, increases in noise associated with motor vehicles, and reductions in transit use (less congestion or reduced driving time may make driving more attractive than transit travel). These issues adversely affect quality of life in the City and conflict with policies in the General Plan and elsewhere that seek to make Menlo Park less auto-oriented.

Mitigation Measure TRANS-1b, below, which would require the preparation and implementation of a Transportation Demand Management (TDM) Program, would reduce Impact TRANS-1, but not to a less-than-significant level.

Mitigation Measure TRANS-1: Implement the following two-part mitigation measure:

Mitigation Measure TRANS-1a: Additional roadway capacity may reduce this impact to a less- than-significant level. University Drive between Middle Avenue and Cambridge Avenue currently has one travel lane in each direction and obtaining additional roadway capacity could include constructing an additional travel lane in one or both travel directions. However, this measure would require right-of-way acquisition, which is infeasible. As such, the impact would remain significant and unavoidable.



LSA

FIGURE IV.B-12

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SOURCE: DKS ASSOCIATES, 2011.

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389 El Camino Real Project EIR

Near Term Plus Project Condition

Average Daily Traffic

Table IV.B-10: Near Term Plus Project Condition Levels of Service

	Near Term Condition				Near Term Plus Project Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak	PM Peak
Study Intersection	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS	Hour	Hour
1. El Camino Real/Menlo Ave./Ravenswood Ave.	52.6	D	**82.5**	**F**	52.7	D	**82.7**	**F**	0.1	0.2
Critical Local Approaches[c]	**55.3/72.2**	**E/E**	**113.0/112.0**	**F/F**	**55.3/72.4**	**E/E**	**113.0/112.0**	**F/F**	0.0/0.2	0.0/0.0
2. El Camino Real/Roble Ave.	11.0	B	14.4	B	11.0	B	14.4	B	0.0	0.0
Critical Local Approaches	**58.2**/53.4	**E**/D	**71.0/57.4**	**E/E**	**58.2**/53.4	**E**/D	**71.1/57.4**	**E/E**	0.0/0.0	0.1/0.0
3. El Camino Real/Middle Ave.	29.1	C	25.7	C	29.2	C	25.8	C	0.1	0.1
Critical Local Approaches	50.9/NA[d]	D/NA	**67.6**/NA	**E**/NA	50.9/NA	D/NA	**67.6**/NA	**E**/NA	0/NA	0/NA
4. El Camino Real/Cambridge Ave.	11.2	B	12.4	B	11.3	B	12.5	B	0.1	0.1
Critical Local Approaches	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	0.0/0.0	0.0/0.0

Notes:

[a] Delay = average for signalized intersections.
[b] LOS = Level of service, represents average for signalized intersections.
[c] Average delay for eastbound/westbound critical movements for local approaches.
[d] NA denotes not applicable.

Bold delays and LOS indicate an unacceptable LOS E or F condition.

Source: DKS Associates, 2011.

Table IV.B-11: Near Term Condition Average Daily Traffic Summary

				Near Term Condition			Near Term Plus Project Condition			
	Roadway Class	Capacity	Existing Volume	ADT	Volume Added for Near Term	% Change From Existing	ADT	Project Volume Added for Near Term	% Change From Near Term	Potentially Significant Impact?
Middle Ave. (University to El Camino Real)	Collector	10,000	8,608	8,780	172	2.0%	8,832	52	0.6%	N
College Ave. (University to El Camino Real)	Local	1,500	668	681	13	2.0%	713	32	4.7%	N
Partridge Ave. (University to El Camino Real)	Local	1,500	574	585	11	2.0%	639	54	9.2%	N
Cambridge Ave. (University to El Camino Real)	Local	1,500	1,382	1,410	28	2.0%	1,425	15	1.1%	N
University Dr. (Middle to Cambridge)	Local	1,500	**1,921**	**1,959**	38	2.0%	2,027	68	3.5%	**Y**
Alto Ln. (Middle to College)	Local	1,500	200	204	4	2.0%	204	0	0.0%	N

City of Menlo Park Segment Criteria:

(1) Local Street. Impact if ADT is >1,350 vehicles and project adds >25 trips, or ADT is >750 and project increases ADT by 12.5%, or ADT is <750 and project increases ADT by 25%.

(2) Collector Street. Impact if ADT is >9,000 vehicles and project adds >50 trips, or ADT is >5,000 and project increases ADT by 12.5%, or ADT is <5,000 and project increases ADT by 25%.

Bold numbers indicate an unacceptable condition.

Source: DKS Associates, 2011.

Mitigation Measure TRANS-1b: The project sponsor shall develop and implement a Transportation Demand Management (TDM) Program to encourage the use of alternative modes of transportation and reduce the daily number of vehicles generated by the project. The TDM Program shall be consistent with the City of Menlo Park TIA Guidelines. Potential TDM measures include the following:

- A commute assistance kiosk;
- Subsidized public transit passes;
- Carpool matching assistance;
- Vanpools;
- Shuttle service to area transit hubs; and
- Bicycle facilities.

The TDM Program, which could be shared with that of other residential developments or businesses in the area, shall be reviewed and approved by the City. (SU)

(4) Parking. A total of 60 parking spaces would be provided on the site, including 52 private garage spaces (consisting of 34 two-car (side-by-side) parking garage spaces and 18 two-car (tandem) garage spaces) and eight surface parking spaces. Two of the eight surface parking spaces would be compliant with the Americans with Disabilities Act (ADA). All of the project-related parking demand would be accommodated on-site. As a result, no impacts related to parking would result in the Near Term Plus Project Condition. No changes in on-street parking are anticipated in this condition.

(5) Transit, Bicycle, and Pedestrian Facilities. No changes to transit, pedestrian, and bicycle operations would occur as a result of the project. The project would slightly increase demand for transit, pedestrian, and bicycle facilities, but the incremental increase in demand would not adversely affect the function of existing facilities. The project would include no bicycle parking spaces (it is expected that bicycles would be accommodated within individual residential units).

(6) Site Circulation and Emergency Access. Vehicle access to the site would be provided primarily via two driveways connecting to El Camino Real. Access to Alto Lane from College Avenue would be removed in the Near Term Plus Project Condition. The internal driveways would be approximately 26 feet in width and would provide access to the 60 on-site parking spaces (although access to the two single-family units on College Avenue and Partridge Avenue would occur from their respective driveways). Pedestrian access would occur via El Camino Real and College Avenue. Therefore, no impacts would occur in relation to site circulation or emergency access.

d. Transportation System in the Long Term Condition. This section discusses the operation of the transportation system in the Long Term Condition, without implementation of the proposed project. The Long Term Condition assumes the 1 percent annual growth rate associated with the Near Term Condition, including growth associated with implementation of the Draft El Camino Real/ Downtown Specific Plan (currently undergoing review), as detailed in Table IV.B-12. In addition, the occupancy at the existing residences on the site was assumed to remain the same as at present.

Table IV.B-12: Long Term Developments in the Project Vicinity

Project/Land Use	Land Use	Size	Units
El Camino Real/Downtown Specific Plan	Retail	91,800	SF
El Camino Real/Downtown Specific Plan	Office	240,820	SF
El Camino Real/Downtown Specific Plan	Residential	680	DU
El Camino Real/Downtown Specific Plan	Hotel	380	Rms
Facebook Campus	Office	1,476,000	SF
Stanford University Medical Campus (SUMC)	Hospital/Medical Office	854,970/24,330	SF/SF

Note: Units are provided in terms of square feet (SF), dwelling units (DU) and Rooms (Rms).
Source: City of Menlo Park, 2011.

(1) Traffic Volumes and Levels of Service. Figure IV.B-13 shows the Long Term Condition traffic volumes. The corresponding intersection LOS and delay for the Long Term Condition are shown in Table IV.B-13. For the Long Term Condition, the El Camino Real/Menlo Avenue/Ravenswood Avenue intersection would operate at LOS F for the AM and PM Peak Hours and all other intersections would operate at acceptable LOS. All of the critical movements for local approaches to State-controlled intersections would operate at LOS D or worse for both peak hours.

Table IV.B-13: Long Term Condition Levels of Service

	AM Peak Hour		PM Peak Hour	
Study Intersection	Delay[a]	LOS[b]	Delay	LOS
1. El Camino Real/Menlo Ave./Ravenswood Ave.	**104.2**	**F**	**169.8**	**F**
Critical Local Approaches[c]	**119.4/151**	**F/F**	**235.4/239**	**F/F**
2. El Camino Real/Roble Ave.	11.6	B	19.8	B
Critical Local Approaches	**64.2**/54.8	**E**/D	**104.9/59.8**	**F/E**
3. El Camino Real/Middle Ave.	35.4	D	32.5	C
Critical Local Approaches	**71.8**/NA[d]	**E**/NA	**93.9**/NA	**F**/NA
4. El Camino Real/Cambridge Ave.	12.5	B	14.3	B
Critical Local Approaches	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**

Notes:
[a] Delay = average for signalized intersections.
[b] LOS = Level of service, represents average for signalized intersections.
[c] Average delay for eastbound/westbound critical movements for local approaches.
[d] NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition.
Source: DKS Associates, 2011.

(2) Roadway Segment Analysis. For the Long Term Condition roadway analysis, background growth and proposed and planned projects would result in increases in ADT volumes. Table IV.B-14 indicates that the background growth would increase daily roadway traffic by between 42 and 1,808 vehicles in 2030. Figure IV.B-14 shows the daily ADT volumes on the study area roadway network. With these traffic increases, daily roadway traffic would still be below the overall capacity for each analyzed roadway, with the exception of Middle Avenue between University Drive and El Camino Real and Cambridge Avenue between University Drive and El Camino Real.

LSA

FIGURE IV.B-13

N

NOT TO SCALE

● Study Intersection

XX (XX) AM (PM) Peak Hour Volumes

Project Site

389 El Camino Real Project EIR

Long Term Condition Peak Hour Volumes

SOURCE: DKS ASSOCIATES, 2011.

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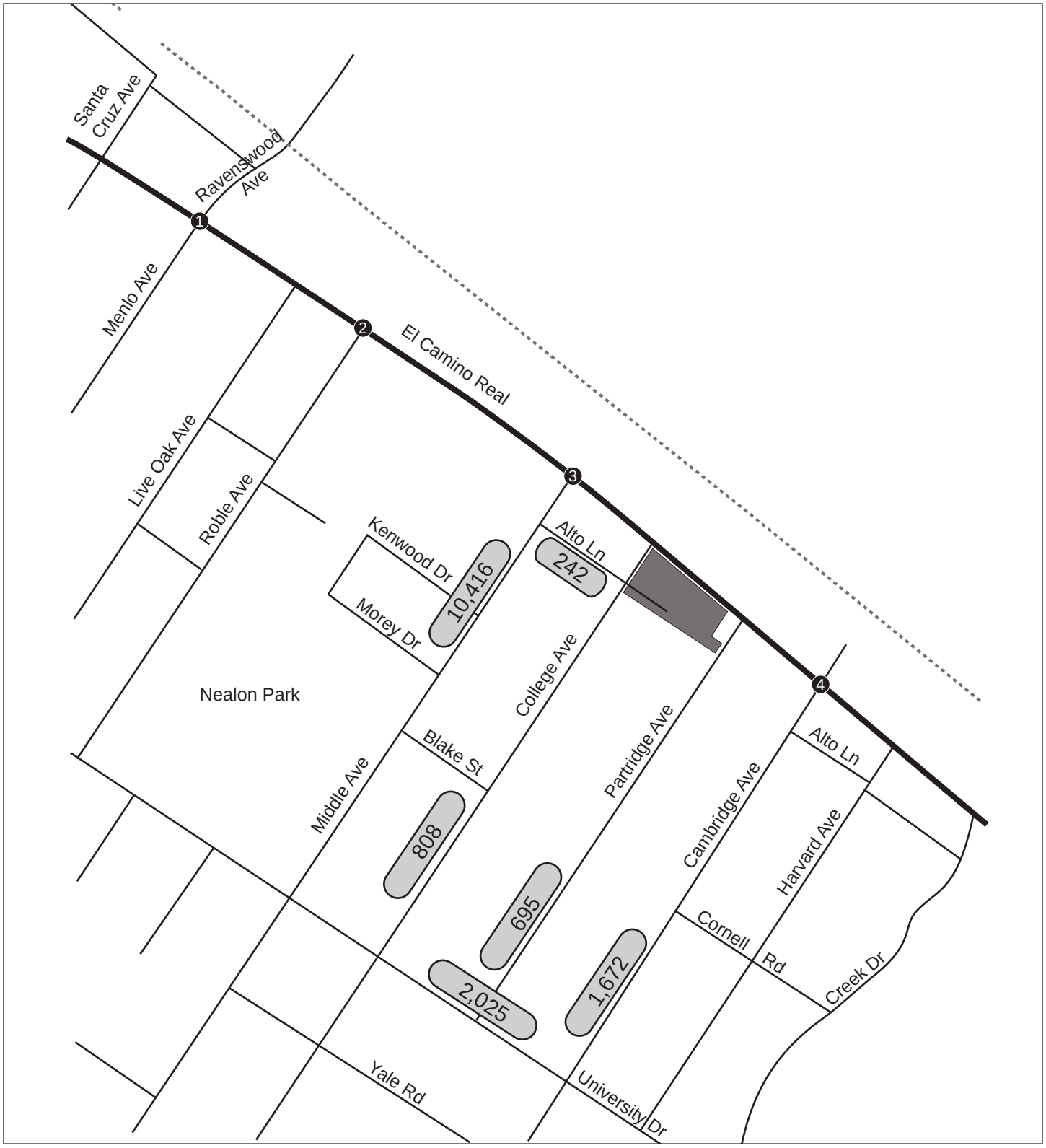

LSA

FIGURE IV.B-14

N

Study Intersection

Project Site

668 Average Daily Traffic

NOT TO SCALE

SOURCE: DKS ASSOCIATES, 2011.

389 El Camino Real Project EIR

Long Term Condition Average Daily Traffic

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Table IV.B-14: Long Term Condition Average Daily Traffic Summary

	Roadway Class	Capacity	Existing Volume	Long Term Condition		
				ADT	Volume Added for Long Term	% Change From Existing
Middle Ave. (University Dr. to El Camino Real)	Collector	10,000	8,608	10,416	1,808	21.0%
College Ave. (University Dr. to El Camino Real)	Local	1,500	668	808	140	21.0%
Partridge Ave. (University Dr. to El Camino Real)	Local	1,500	574	695	121	21.0%
Cambridge Ave. (University Dr. to El Camino Real)	Local	1,500	**1,382**	**1,672**	290	21.0%
University Dr. (Middle Ave. to Cambridge Ave.)	Local	1,500	**1,921**	**2,324**	403	21.0%
Alto Ln. (Middle Ave. to College Ave.)	Local	1,500	200	242	42	21.0%

Bold numbers indicate an unacceptable condition.
Source: City of Menlo Park, 2009.

(3) Parking. Off-street and on-street parking conditions would remain the same as under the Existing Condition and Near Term Condition. The parking supply along El Camino Real may change if the Draft El Camino Real/Downtown Specific Plan is adopted. Changes in the parking supply could include additional parking garages, sidewalk widening, and new bike lanes in downtown Menlo Park centered around Santa Cruz Avenue, approximately 0.5 mile north of the project site. However, these potential changes in parking conditions would not be likely to affect the vicinity of the project site.

(4) Transit, Bicycle, and Pedestrian Facilities. The 2005 Menlo Park Comprehensive Bicycle Development Plan identifies Middle Avenue, College Avenue, and University Drive as roadways for Class II bike lanes. These lanes were programmed as a mid-term project, and may be implemented by the Long Term Condition. In addition, a Class III bike route along El Camino Real is programmed as a long term project and may be implemented by the Long Term Condition.

Potential major changes to transit and pedestrian facilities in the Long Term Condition include the completion of the High Speed Rail project and bicycle and pedestrian crossings near the Caltrain Station and the intersection of El Camino Real and Middle Avenue. Both of these undercrossing projects do not currently have funding. The undercrossing at the Caltrain Station would be constructed in conjunction with the improvements to the station proposed as part of the High Speed Rail project. The second undercrossing at El Camino Real and Middle Avenue would be funded by the Transit Improvement Fee.

e. Transportation System in the Long Term Plus Project Condition. This section discusses the operation of the transportation system in the Long Term Plus Project Condition.

The Long Term Plus Project Condition follows similar assumptions as the Near Term Plus Project Condition, with the exception of a longer background growth period. Net trips generated by the proposed project that were detailed in the Near Term Plus Project section have been applied to the Long Term Condition volumes to determine the Long Term Plus Project Condition volumes.

(1) Traffic Volumes and Levels of Service. Figure IV.B-15 shows Long Term Plus Project Condition traffic volumes. The resulting intersection LOS and delay are presented in Table IV.B-15. The project-related traffic would not increase delay at critical movements to local approaches to

State-controlled intersections by more than the 0.8 second threshold. As a result, the project would not result in any potentially significant impacts to the study area intersections.

(2) Roadway Segment Analysis. For the roadway analysis, the number of daily trips added in the future Long Term Plus Project Condition due to the project would be the same as in the Near Term Plus Project Condition. Figure IV.B-16 shows the Long Term Plus Project Condition ADT. Table IV.B-16 shows the comparison between the Existing Condition, Long Term Condition, and Long Term Plus Project Condition, and the corresponding ADT increases.

As in the Near Term Plus Project Condition, University Drive between Middle Avenue and Cambridge Avenue would experience a potentially significant impact in the Long Term Plus Project Condition. On this segment, the project would add 68 vehicles, which is more than the 25-trip threshold for local roadways with ADT greater than 1,350 vehicles.

In addition, Middle Avenue between University Drive and El Camino Real would experience a potentially significant impact in the Long Term Plus Project Condition. On this segment, the project would add 52 vehicles, which is more than the 50-trip threshold for collector roadways with ADT great than 9,000 vehicles.

Impact TRANS-2: In the Long Term Plus Project Condition, the project would contribute trips to University Drive between Middle Avenue and Cambridge Avenue that would exceed the City's 25-trip threshold for local roadways with ADT greater than 1,350 vehicles. (S)

The only feasible mitigation measure for reducing this impact to a less-than-significant level would involve adding additional roadway capacity to University Drive. However, this measure would be infeasible because up to approximately 12 feet of additional right-of-way would be required along each side of the street segment in this predominantly residential area. This acquisition of right-of-way would diminish residential front yards along this segment of University Avenue, could adversely affect property owners, and is deemed infeasible by the City. Therefore, the impact would remain significant and unavoidable.

Mitigation Measure TRANS-2: Implement Mitigation Measures TRANS-1a and TRANS-1b. (SU)

Impact TRANS-3: In the Long Term Plus Project Condition, the project would contribute trips to Middle Avenue between University Drive and El Camino Real that would exceed the City's 50-trip threshold for local roadways with ADT greater than 9,000 vehicles. (S)

The only feasible mitigation measure for reducing this impact to a less-than-significant level would involve adding additional roadway capacity to Middle Avenue. However, this measure would be infeasible because up to approximately 12 feet of additional right-of-way would be required along each side of the street segment in this predominantly residential area. This acquisition of right-of-way would diminish residential front yards along this segment of Middle Avenue and could adversely affect property owners. In addition, Nealon Park would diminish in size. Therefore, the impact would remain significant and unavoidable.

LSA

FIGURE IV.B-15

N

NOT TO SCALE

● Study Intersection

XX (XX) AM (PM) Peak Hour Volumes

Project Site

389 El Camino Real Project EIR

Long Term Plus Project Condition

Peak Hour Volumes

SOURCE: DKS ASSOCIATES, 2011.

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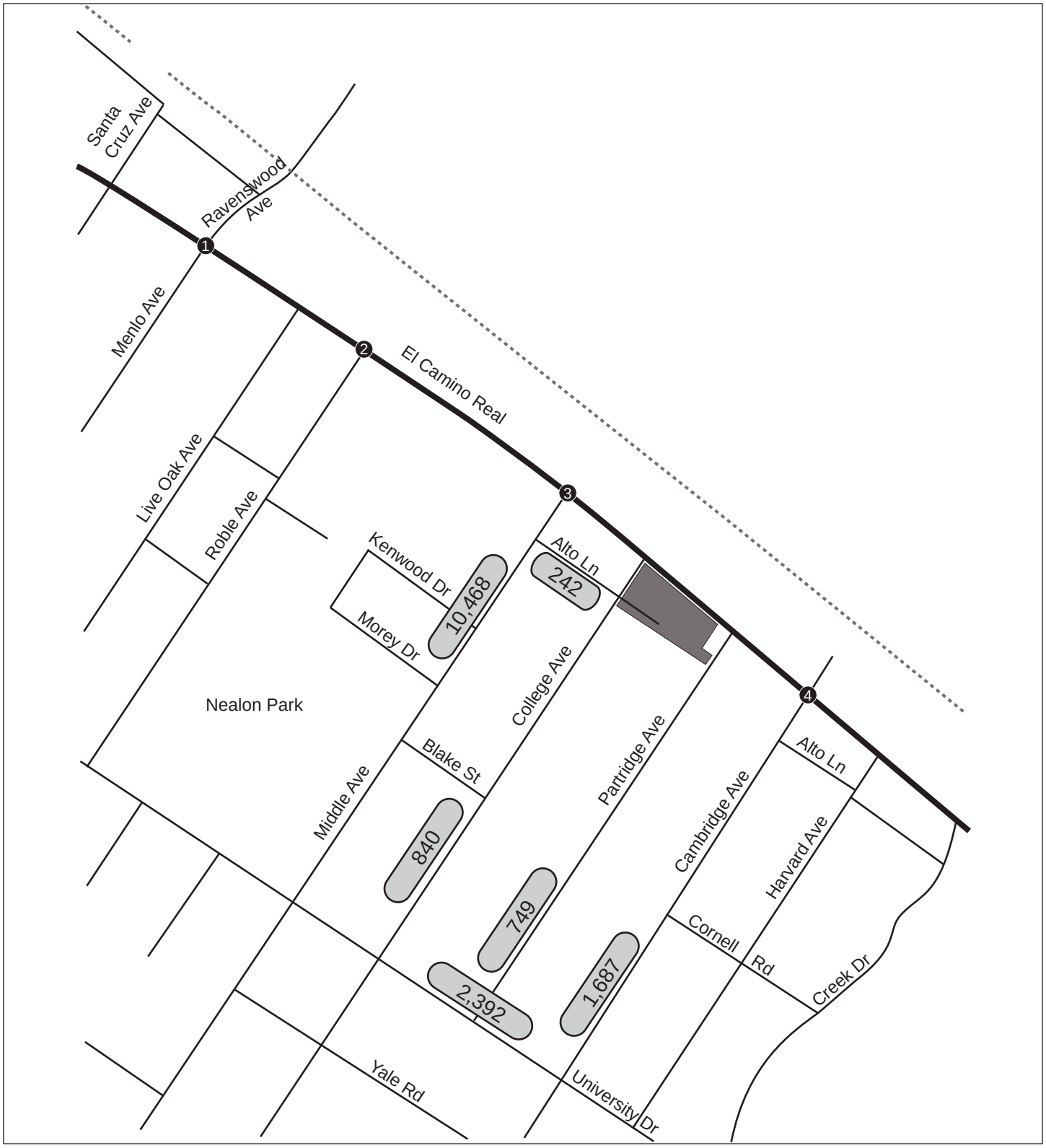

LSA

FIGURE IV.B-16

N

NOT TO SCALE

Study Intersection

Project Site

668 Average Daily Traffic

SOURCE: DKS ASSOCIATES, 2011.

389 El Camino Real Project EIR

Long Term Plus Project Condition

Average Daily Traffic

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Table IV.B-15: Long Term Plus Project Condition Levels of Service

	Long Term Condition				Long Term Plus Project Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak	PM Peak
Study Intersection	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS	Hour	Hour
1. El Camino Real/Menlo Ave./Ravenswood Ave.	**104.2**	**F**	**160.2**	**F**	**104.6**	**F**	**170.2**	**F**	0.4	0.4
Critical Local Approaches[c]	**119.4/151**	**F/F**	**217.8/222.9**	**F/F**	**120/151**	**F/F**	**236.0/240.0**	**F/F**	0.6/0.0	0.6/1.0
2. El Camino Real/Roble Ave.	11.6	B	18.6	B	11.6	B	19.8	B	0.0	0.0
Critical Local Approaches	**64.2**/54.8	**E**/D	**95.9/58.9**	**F/E**	**64.3**/54.8	**E**/D	**105.2/59.8**	**F/E**	0.1/0.0	0.3/0.0
3. El Camino Real/Middle Ave.	35.4	D	32.2	C	35.5	D	32.7	C	0.1	0.2
Critical Local Approaches	**71.8**/NA[d]	**E**/NA	**91.4**/NA	**F**/NA	**71.9**/NA	**E**/NA	**94.2**/NA	**F**/NA	0.1/NA	0.3/NA
4. El Camino Real/Cambridge Ave.	12.5	B	14.2	B	12.6	B	14.4	B	0.1	0.1
Critical Local Approaches	**69.7/62.1**	**E/E**	**68.1/63.0**	**E/E**	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	0.0/0.0	0.0/0.0

Notes:

[a] Delay = average for signalized intersections.
[b] LOS = Level of service, represents average for signalized intersections.
[c] Average delay for eastbound/westbound critical movements for local approaches.
[d] NA denotes not applicable.

Bold delays and LOS indicate an unacceptable LOS E or F condition.

Source: DKS Associates, 2011.

Table IV.B-16: Long Term Plus Project Condition Average Daily Traffic Summary

				Long Term Condition			Long Term Plus Project Condition			
	Roadway Class	Capacity	Existing Volume	ADT	Volume Added for Long Term	% Change from Existing	ADT	Project Volume Added for Long Term	% Change from Long Term	Potentially Significant Impact?
Middle Ave. (University to El Camino Real)	Collector	10,000	8,608	10,416	1,808	21.0%	10,468	52	0.5%	**Y**
College Ave. (University to El Camino Real)	Local	1,500	668	808	140	21.0%	840	32	3.6%	N
Partridge Ave. (University to El Camino Real)	Local	1,500	574	695	121	21.0%	749	54	7.2%	N
Cambridge Ave. (University to El Camino Real)	Local	1,500	1,382	1,672	290	21.0%	1,687	15	0.9%	N
University Dr. (Middle to Cambridge)	Local	1,500	**1,921**	**2,324**	403	21.0%	2,392	68	2.8%	**Y**
Alto Ln. (Middle to College)	Local	1,500	200	242	42	21.0%	242	0	0.0%	N

City of Menlo Park Segment Criteria:

(1) Local Street. Impact if ADT is >1,350 vehicles and project adds >25 trips, or ADT is >750 and project increases ADT by 12.5%, or ADT is <750 and project increases ADT by 25%.

(2) Collector Street. Impact if ADT is >9,000 vehicles and project adds >50 trips, or ADT is >5,000 and project increases ADT by 12.5%, or ADT is <5,000 and project increases ADT by 25%.

Bold numbers indicate an unacceptable condition.

Source: City of Menlo Park, 2009.

Mitigation Measure TRANS-3: Implement the following two-part mitigation measure:

Mitigation Measure TRANS-3a: Additional roadway capacity would reduce this impact to a less-than-significant level. Middle Avenue between University Drive and El Camino Real currently has one travel lane in each direction and obtaining additional roadway capacity would include constructing an additional travel lane in one or both travel directions. However, this measure would require right-of-way acquisition, which is infeasible. As such, the impact would remain significant and unavoidable.

Mitigation Measure TRANS-3b: Implement Mitigation Measure TRANS-1b. (SU)

(3) Parking, Transit, Bicycle, and Pedestrian Facilities. As described in the Near Term Plus Project Condition subsection, sufficient parking would be provided on the project site. Therefore, the project would not contribute to a shortage of parking in the area. In addition, the proposed project would contribute to increased demand for transit services, but because the increase in transit ridership would be modest, the projected long term transit system would be able to accommodate this increase in demand. In addition, the project would not conflict with bicycle facilities planned in the Long Term Condition, including a Class II bike route along El Camino Real.

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C. AIR QUALITY

This section has been prepared using methods and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).[1] In keeping with these guidelines, this chapter describes existing air quality, and the potential impacts of the proposed project on local carbon monoxide levels and regional air pollution. Mitigation measures to reduce or eliminate significant air quality impacts are identified, where appropriate.

1. Setting

The following discussion provides an overview of existing air quality conditions in the region and the Menlo Park area. Ambient standards and the regulatory framework relating to air quality are summarized. Climate, air quality conditions, and typical air pollutant types are also described below.

a. Existing Climate and Air Quality. Following is a discussion of the regional air quality, local climate, and air quality in the Menlo Park area.

(1) Local Climate and Air Quality. The project site is located in the San Francisco Bay Area Air Basin (Basin) which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment.

Menlo Park is located in the southeastern portion of the Peninsula subregion, which extends from northwest of San Jose to the Golden Gate. The Santa Cruz Mountains run up the center of the Peninsula with elevations exceeding 2,000 feet at the southern end, decreasing to 500 feet in South San Francisco. The orientation of the Santa Cruz Mountains results in variation in summertime maximum temperatures in different parts of the Peninsula. The mean maximum summer temperatures (in Fahrenheit) in Menlo Park are in the low 80's. Mean minimum temperatures during the winter months are in the high 30's to low 40's on the eastern side of the Peninsula.

Annual average wind speeds range from 5 to 10 mph throughout the Peninsula. Winds on the eastern side of the Peninsula are often high in certain areas, such as near the San Bruno Gap and the Crystal Springs Gap. The prevailing winds along the Peninsula's coast are from the west, although individual sites can show significant differences. On the east side of the mountains winds are generally from the west, although wind patterns in this area are often influenced greatly by local topographic features.

Two primary meteorological factors affect air quality in Menlo Park: wind and temperature. Winds affect the direction of transport of any air pollution emissions and the volume of air into which pollution is mixed in a given period of time. While winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

(2) Existing Air Quality. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air

[1] Bay Area Air Quality Management District, 2011. *BAAQMD CEQA Air Quality Guidelines.* May.

pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither State nor national ambient air quality standards for the following chemicals have been violated in recent decades: nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and vinyl chloride. Those exceedances of air quality standards that do occur primarily happen during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Ozone levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by air quality agencies. The reduction of peak concentrations represents progress in improving public health; however, the Bay Area still exceeds the State 1-hour and 8-hour ozone standards, and the coarse particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) standards.

No exceedances of the State or federal carbon monoxide (CO) standards have been recorded at any of the region's monitoring stations since 1991. The Bay Area is currently considered a maintenance area for State and federal CO standards.

(3) Monitoring Data. The BAAQMD operates the regional air quality monitoring network that regularly measures the concentrations of the five major criteria air pollutants.

Pollutant monitoring results for the years 2008 to 2010 at the Redwood City ambient air quality monitoring station (the closest station to the project site) indicate that air quality in the vicinity of the project site is generally good. Table IV.C-1, below, summarizes the last 3 years of published data from this monitoring station.

Table IV.C-1: Redwood City Air Quality Monitoring Station Data

Pollutant	Standard	2008	2009	2010
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)		4.3	ND	ND
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.86	1.76	1.72
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)		0.082	0.087	0.113
Number of days exceeded:	State: > 0.09 ppm	0	0	2
Maximum 8-hour concentration (ppm)		0.069	0.063	0.077
Number of days exceeded:	State: > 0.07 ppm	0	0	1
	Federal: > 0.08 ppm	0	0	1
Coarse Particulates (PM_{10})*				
Maximum 24-hour concentration ($\mu g/m^3$)		55.0	41.1	44.2
Number of days exceeded:	State: > 50 $\mu g/m^3$	1	0	0
	Federal: > 150 $\mu g/m^3$	0	0	0
Annual arithmetic average concentration ($\mu g/m^3$)		23.4	20.3	19.5
Exceeded for the year:	State: > 20 $\mu g/m^3$	Yes	Yes	Yes
	Federal: > 50 $\mu g/m^3$	No	No	No

Table IV.C-1 *Continued*

Pollutant	Standard	2008	2009	2010
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hour concentration ($\mu g/m^3$)		27.9	31.7	36.5
Number of days exceeded:	Federal: > 35 $\mu g/m^3$	0	0	1
Annual arithmetic average concentration ($\mu g/m^3$)		9.0	8.7	8.7
Exceeded for the year:	State: > 12 $\mu g/m^3$	No	No	No
	Federal: > 15 $\mu g/m^3$	No	No	No
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)		0.069	0.056	0.059
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.014	0.012	0.012
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)*				
Maximum 1-hour concentration (ppm)		ND	ND	ND
Number of days exceeded:	State: > 0.25 ppm	ND	ND	ND
Maximum 3-hour concentration (ppm)		ND	ND	ND
Number of days exceeded:	Federal: > 0.5 ppm	ND	ND	ND
Maximum 24-hour concentration (ppm)		ND	0.001	0.002
Number of days exceeded:	State: > 0.04 ppm	ND	0	0
	Federal: > 0.14 ppm	ND	0	0
Annual arithmetic average concentration (ppm)		ND	ND	ND
Exceeded for the year:		ND	ND	ND

Notes:
*Data from the San Jose Air Quality Monitoring Station
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
ND = No data. There were insufficient (or no) data to determine the value.

Source: California Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA) websites, 2011.

b. Air Quality Standards, Regulatory Framework and Attainment Status. This section includes a discussion of applicable air quality regulations and standards.

(1) National and State Ambient Air Quality Standards. Both the State and federal governments have established health-based Ambient Air Quality Standards for six air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). These are the most prevalent air pollutants and have extensive documented health effects, and are commonly referred to as "criteria air pollutants." In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants are listed in Table IV.C-2.

Table IV.C-2: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e,i]	Secondary [c,f]	Method [g]
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	No Federal Standard	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3) (see footnote h)	Same as Primary Standard	Gas Phase Chemilumin-escence
	1-Hour	0.18 ppm (339 µg/m^3)		0.100 ppm (see footnote h)	None	
Lead [j]	Rolling 3-Month Average	–	Atomic Absorption	0.15 µg/m^3	Same as Primary Standard	High-Volume Sampler and Atomic Absorption
	30-day average	1.5 µg/m^3		–		
	Calendar Quarter	–		1.5 µg/m^3		
Sulfur Dioxide (SO_2)	24-Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence		–	Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m^3) (see footnote i)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3) (see footnote i)	–	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance Through Filter Tape.		**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [j]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Table notes on next page.

[a] California standards for ozone, carbon monoxide (except in the Lake Tahoe air basin), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter – PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than for ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[h] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the U.S. EPA standards are in units of parts per billion (ppb). California standards are in units of ppm. To directly compare the national standards to the California standards, the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

[i] On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. U.S. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older parasaniline methods until the new FRM has adequately permeated State monitoring networks. The U.S. EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.30 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of ppb. California standards are in units of ppm. To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[j] The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: ARB, 2010.

(2) Attainment Status Designations. The ARB is required to designate areas of the State as attainment, nonattainment or unclassified for each State standard. An "attainment" designation for an area signifies that pollutant concentrations did not violate pollutant standards. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that data do not support either an attainment or nonattainment status. The law divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "is better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified" or

"is better than national standards." In 1991, new nonattainment designations were assigned to areas for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified." Table IV.C-3 provides a summary of the attainment status for the San Francisco Bay Area with respect to national and State ambient air quality standards.

Table IV.C-3: Bay Area Attainment Status

Pollutant	Averaging Time	California Standards [a]		National Standards [b]	
		Concentration	Attainment Status	Concentration [c,j]	Attainment Status
Ozone (O_3)	8-Hour	0.070 ppm (137µg/m^3)	Nonattainment [h]	0.075 ppm	Nonattainment [d]
	1-Hour	0.09 ppm (180 µg/m^3)	Nonattainment	Not Applicable	Not Applicable [e]
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment [f]
	1-Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm (339 µg/m^3)	Attainment	0.100 ppm	Unclassified
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Not Applicable	0.053 ppm (100 µg/m^3)	Attainment
Sulfur Dioxide (SO_2)	24-Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	1-Hour	0.25 ppm (655 µg/m^3)	Attainment	Not applicable	Not applicable
	Annual Arithmetic Mean	Not Applicable	Not Applicable	0.030 ppm (80 µg/m^3)	Attainment
Particulate Matter - Coarse (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	Nonattainment [g]	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
Particulate Matter - Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	Nonattainment [g]	15 µg/m^3	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3 [i]	Nonattainment

[a] California standards for ozone, carbon monoxide (except in the Lake Tahoe air basin), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter – PM_{10}, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

[b] National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than 1. The 8-hour ozone standard is attained when the 3-year average of the fourth highest daily concentrations is 0.075 ppm (75 ppb) or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially-designed clusters of sites falls below the standard.

Table notes continued on next page.

[c] National air quality standards are set by U.S. EPA at levels determined to be protective of public health with an adequate margin of safety.
[d] In June 2004, the Bay Area was designated as a marginal nonattainment area for the national 8-hour ozone standard. U.S. EPA lowered the national 8-hour ozone standard from 0.80 to 0.75 PPM (i.e., 75 ppb), effective May 27, 2008.
[e] The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.
[f] In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
[g] In June 2002, ARB established new annual standards for $PM_{2.5}$ and PM_{10}.
[h] The 8-hour California ozone standard was approved by the ARB on April 28, 2005, and became effective on May 17, 2006.
[i] U.S EPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. The U.S. EPA designated the Bay Area as nonattainment for the 35 $\mu g/m^3$ $PM_{2.5}$ standard on October 8, 2009. The effective date of the designation is December 14, 2009, and the BAAQMD has 3 years to develop a plan called a State Implementation Plan (SIP) that demonstrates how the Bay Area will achieve the revised standard by 2014. The SIP for the new standard must be submitted to the U.S. EPA by December 14, 2012.
[j] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s.
ppm = parts per million
mg/m^3 = milligrams per cubic meter
$\mu g/m^3$ = micrograms per cubic meter

Source: Bay Area Air Quality Management District, Bay Area Attainment Status, 2010.

(3) Criteria Air Pollutants and Health Effects. Both State and federal governments have established health-based Ambient Air Quality Standards for six criteria air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). In addition, the State has established standards for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. CAAQS and NAAQS for criteria air pollutants are listed in Table IV.C-2. Ambient air quality data from nearby air monitoring stations are shown in Table IV.C-1, while health effects are summarized in Table IV.C-4. As shown in Table IV.C-4, long term exposure to elevated levels of criteria pollutants could result in adverse health effects. However, emission thresholds established by an air district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and may adversely affect or delay the projected attainment target year for certain criteria pollutants.

Because of the conservative nature of the thresholds and the basin-wide context of individual project emissions, there is no direct correlation between a single project and localized health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_x) and reactive organic gases (ROG).

Overall, the potential for an individual project to significantly degrade regional air quality or contribute to a significant health risk is small, even if the emission thresholds are exceeded by that project. Because of the overall improvement trend in air quality in the air basin, it is unlikely that regional air quality would worsen or that the overall health risk would increase compared to current conditions, as a result of emissions from an individual project.

Types of air pollution and their health effects, and other air pollution-related considerations, are described in Table IV.C-4 and in more detail below.

Table IV.C-4: Health Effects and Sources of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust • Natural events, such as decomposition of organic matter	• Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust • High temperature stationary combustion • Atmospheric reactions	• Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardiopulmonary function • Plant leaf injury
Lead (Pb)	• Contaminated soil	• Impairment of blood functions and nerve construction • Behavioral and hearing problems in children
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions	• Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Soiling • Reduced visibility
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores • Industrial processes	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: ARB, 2008.

Ozone. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its

precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Table IV.C-1 shows that, according to BAAQMD published data, the most stringent applicable standards (the State 1-hour standard of 9 ppm and the federal 8-hour standard of 8 ppm) were not exceeded in Redwood City between 2008 and 2010.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table IV.C-1, no exceedances of State CO standards were recorded between 2008 and 2010.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Particulate matter is categorized in two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the ARB, studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children. The ARB also reports that State-wide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California.[2] As shown in Table IV.C-1, exceedances of the State standard for PM_{10} were recorded every year between 2008 and 2010.

Nitrogen Dioxide. NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. Table IV.C-1 shows that the standard for NO_2 is being met at the Redwood City monitoring station, and pollutant trends suggest that the air basin will continue to meet these standards

[2] California Air Resources Board, 2004. *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution*. Website: www.arb.ca.gov/research/health/fs/PM-03fs.pdf. January.

for the foreseeable future. On January 22, 2010, the U.S. EPA strengthened the health-based NAAQS for NO_2.

Sulfur Dioxide. SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.[3] Table IV.C-1 shows that the standard for SO_2 is being met at the Redwood City monitoring station; pollutant trends suggest that the air basin will continue to meet standards for SO_2 for the foreseeable future.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The U.S. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the U.S. EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants. Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.[4] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. Monitoring data and emissions inventories of TACs help the BAAQMD determine health risk to Bay Area residents.

Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for slightly over 50 percent of the average calculated

[3] Bay Area Air Quality Management District, 2010, op. cit.

[4] In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

cancer risk from ambient air in the Bay Area.[5] According to the BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of Phase 2 reformulated gasoline. Due to this reduction, the calculated average cancer risk based on monitoring results has been reduced to 143 in 1,000,000; however, this risk does not include the risk resulting from exposure to diesel particulate matter or other compounds not monitored.

Diesel particulate matter, which is emitted in diesel engine exhaust, was identified as a toxic air contaminant by the ARB in 1998. Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources – primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in urban parts of the Bay Area, while construction equipment typically operates for a limited time at changeable locations. As a result, the readily identifiable locations where diesel particulate matter is emitted in the project area include high-traffic roadways and other areas with substantial truck traffic.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (approximately 500-700 cases of cancer in a population of 1,000,000) that is greater than all other measured TACs combined.[6] The ARB's Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel – a step already implemented – and cleaner-burning diesel engines. The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. ARB anticipates that by 2020, average State-wide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of the Diesel Risk Reduction Plan, meaning that the State-wide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000. It is likely that the Bay Area cancer risk from diesel particulate matter will decrease by a similar factor by 2020.

Odors. Odors are also an important element of local air quality conditions. Specific activities allowed within each land use category can raise concerns related to odors on the part of nearby neighbors. Major sources of odors include restaurants and manufacturing plants. Other odor producers include the industrial facilities within the region. BAAQMD Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. This regulation limits the "discharge of any odorous substance which causes the ambient air at or beyond the property line…to be odorous and to remain odorous after dilution with four parts of odor-free air." The BAAQMD must receive odor complaints from 10 or more complainants within a 90-day period in order for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the BAAQMD if a test panel of people can detect an odor in samples collected periodically from the source. While sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally produced odors often exceeds regulatory thresholds.

[5] Bay Area Air Quality Management District, 2007. *Toxic Air Contaminant Control Program Annual Report 2003 Volume 1.* August.

[6] Ibid.

Sensitive Receptors. Occupants of facilities such as schools, day care centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise. Residents surrounding the project site would be considered sensitive receptors.

High Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways and human health studies have consistently demonstrated that children living within 100 to 200 meters of freeways or busy roadways have reduced lung function and higher rates of respiratory disease.[7] At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics. Four epidemiological studies on roadways and health impacts conducted in California populations are described below.

- In Oakland, California, children at schools in proximity to high volume roadways experienced more asthma and bronchitis symptoms.[8]
- In a low-income population of children in San Diego, children with asthma living within 550 feet of high traffic volumes were more likely than those residing near lower traffic volumes to have more medical care visits for asthma.[9]
- In a study of Southern California school children, residence location within 75 meters (246 feet) of a major road was associated with an increased risk of asthma.[10]
- In a study conducted in 12 Southern California communities, children who lived within 500 feet of a freeway had reduced growth in lung capacity compared to those living greater than 1,500 feet from a freeway.[11]

Federal and State regulations control air pollutants at the regional level by limiting vehicle and stationary source emissions. However, air quality regulations have not limited the use of vehicles

[7] Delfino, RJ., 2002. Epidemiologic Evidence for Asthma and Exposure to Air Toxics: Linkages Between Occupational, Indoor, and Community Air Pollution Research. *Environmental Health Perspectives.*

[8] Kim, J., et al., 2004. Traffic-Related Air Pollution and Respiratory Health: East Bay Children's Respiratory Health Study. *American Journal of Respiratory and Critical Care Medicine.*

[9] English, P., et al., 1999. Examining Associations Between Childhood Asthma and Traffic Flow Using a Geographic Information System. *Environmental Health Perspectives.*

[10] McConnell, R., et al., 2006. Traffic, Susceptibility, and Childhood Asthma. *Environmental Health Perspectives.*

[11] Gauderman, W. J. The Effect of Air Pollution on Lung Development From 10 to 18 Years of Age. *New England Journal of Medicine.* September 2004 and March 2005.

and generally have not protected sensitive land uses from air pollution "hot spots" associated with proximity to transportation facilities. Because of the robust evidence relating proximity to roadways and a range of non-cancer and cancer health effects, the ARB created guidance for avoiding air quality conflicts in land use planning in its Air Quality and Land Use Handbook: A Community Health Perspective.[12] In its guidance, the ARB advises that new sensitive uses (e.g., residences, schools, day care centers, playgrounds, and hospitals) not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day, or within 1,000 feet of a distribution center (warehouse) that accommodates more than 100 trucks or more than 90 refrigerator trucks per day.

ARB guidance suggests that the use of these guidelines should be customized for individual land use decisions, and take into account the context of development projects. The Air Quality and Land Use Handbook specifically states that these recommendations are advisory and acknowledges that land use agencies must balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

(4) Regulatory Framework. The BAAQMD is primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development) in the San Francisco Bay Area Air Basin, as well as for monitoring ambient pollutant concentrations in the Basin. The ARB and the U.S. EPA regulate direct emissions from motor vehicles.

Federal Air Quality Regulations. At the federal level, the U.S. EPA has been charged with implementing national air quality programs. U.S. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required U.S. EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implement Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. U.S. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

State Air Quality Regulations. In 1992 and 1993, the ARB requested delegation of authority for the implementation and enforcement of specified New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants to the BAAQMD. U.S. EPA's review of the State of California's laws, rules, and regulations showed them to be adequate for the implementation and enforcement of federal standards, and the U.S. EPA granted the delegations as requested.

[12] California Environmental Protection Agency, and Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Website: www.arb.ca.gov/ch/landuse.htm.

The ARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires that all air districts in the State achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources, and provides districts with the authority to regulate indirect sources.

ARB is primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. ARB is primarily responsible for Statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for controlling sources under their jurisdiction. ARB combines this data and submits completed SIPs to U.S. EPA.

Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and establishing emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

Bay Area Air Quality Management District. The BAAQMD seeks to attain and maintain air quality conditions in the Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2010 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_x) and particulate matter.

The Bay Area 2010 Clean Air Plan, which was adopted on September 15, 2010 by the BAAQMD's board of directors:

- Updates the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Establishes emission control measures to be adopted or implemented in the 2010 to 2012 timeframe.

2. Impacts and Mitigation Measures

This section analyzes air quality impacts that could result from implementation of the proposed project. The subsection begins with the criteria of significance, which establish the thresholds for

determining whether an impact is significant. The latter part of this subsection presents the impacts associated with the proposed project, and recommends mitigation measures as appropriate.

a. Criteria of Significance. The project would result in significant air quality impacts if it would:

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Expose sensitive receptors to pollutants as defined by federal or State air quality standards.
- Create objectionable odors (defined as odors that are so strong they can be detected by the average person).
- Result in a cumulatively considerable net increase of any criteria pollutant or a precursor to that pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).
- Conflict with or obstruct implementation of an applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant.

Generally, if a project results in an increase in ROG, NO_x, or PM that exceeds the significance criteria, then it would also contribute considerably to a significant cumulative effect. For projects that would not cause an increase in ROG, NO_x, or PM emissions above levels cited below, the cumulative effect is evaluated for consistency with the regional Clean Air Plan.

The BAAQMD has further defined these criteria of significance to indicate the project would result in a significant air quality impact if it would:

- Directly violate criteria pollutant standards (e.g., PM_{10}) or contribute substantially to an existing or projected air quality violation by:
  - Contributing to CO concentrations exceeding the State ambient air quality standards;
  - Generating construction or operation emissions of Reactive Organic Gases (ROG)[13] or NO_x, greater than 10 tons per year or 54 pounds per day;
  - Generating operational-related exhaust emissions of PM_{10} greater than 15 tons per year or 82 pounds per day; or
  - Generating operational-related $PM_{2.5}$ exhaust emissions greater than 10 tons per year or 54 pounds per day.
- Frequently expose members of the public to objectionable odors. Screening distances from odor sources and odor complaint history identified by the BAAQMD apply.
- Expose sensitive receptors (such as residential areas) or the general public to toxic air contaminants in excess of the following thresholds:
  - Increased cancer risk greater than 10.0 in one million;
  - Increased non-cancer risk of greater than 1.0 on the non-hazard index (chronic or acute); or

[13] Reactive Organic Gases (ROG) are compounds that transform with heat and sunlight to form ozone smog.

- Ambient $PM_{2.5}$ increase greater than 0.3 $\mu g/m^3$ annual average.

It should be noted that the emission thresholds were established based on the attainment status of the air basin for specific criteria pollutants. Because the concentration standards were established at a level that protects public health with an adequate margin of safety according to the U.S. EPA, these emission thresholds are regarded as conservative and would tend to overstate an individual project's contribution to health risks.

b. Less-Than-Significant Impacts. The project would result in the following less-than-significant air quality impacts.

(1) Odor Emissions. During construction of the project, the various diesel-powered vehicles and equipment in use within the project site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the vicinity of the project site. Once constructed, the proposed residential uses would not be expected to generate odors. Activities associated with nearby Planet Auto have the potential to release odors; however, no odor complaints have been documented from this facility in the past 3 years by the BAAQMD. Therefore, this auto repair facility would not be considered a significant source of odors. There are no other known odor sources in the project site vicinity that would affect sensitive receptors. Project-related odor impacts would be considered a less-than-significant impact.

(2) Operational Emissions – Regional Emissions Analysis. The project would generate two types of emissions: short term construction emissions and long term air emissions such as those associated with changes in permanent usage of the project site. These long term emissions are primarily mobile source emissions that would result from vehicle trips associated with the proposed project**.** The proposed project is expected to generate approximately 195 trips per day (or 155 net trips, taking into account existing residences on the site). Area sources, such as natural gas heaters, landscape equipment, and use of consumer products, would also result in pollutant emissions.

Based on the BAAQMD screening criteria, residential projects that contain fewer than 325 dwelling units would not result in the generation of operational-related criteria air pollutants and/or precursors that exceed the thresholds of significance. As the proposed project would include 26 dwelling units, and the transportation analysis evaluated a total of 27 units,[14] the impacts to air quality from criteria air pollutant and precursor emissions would be less than significant. However, to confirm pollutant emissions associated with the proposed project, the Urban Emissions Model (URBEMIS 2007 v. 9.2.4) computer program, which is the most current air quality model available in California for estimating emissions associated with land use development projects, was used to calculate long term mobile and area source emissions. URBEMIS output sheets are included in Appendix B of this EIR.

The ROG emissions from mobile sources include emissions from different automobile operating modes, including running emissions and evaporation from engine running and resting. These emissions also include those resulting from incomplete combustion when a cold car is started. NO_x emissions comprise running exhaust and are increased during the initial engine running periods.

[14] The maximum number of units that could be developed on the site under the State Density Bonus Law.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles. Since much of the project traffic fleet would be made up of light-duty gasoline-powered vehicles (i.e., light vehicles typically driven by residents in Menlo Park), a majority of the PM_{10} emissions would result from entrainment of roadway dust from vehicle travel.

Area source emissions associated with the project would include water heating, the use of landscaping equipment, and fireplace emissions (fireplaces would be required to comply with Section 12.48 of the Municipal Code, Woodburning Appliances).

The daily emissions associated with project operational trip generation and area sources are identified in Table IV.C-5 for ROG, NO_x, PM_{10}, and $PM_{2.5}$. The results indicate the project would be well below (less than 10 percent of) the significance thresholds for any of the pollutants; therefore, the proposed project would not have a significant effect on regional air quality.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on emission or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. Because the resulting emissions would be dispersed rapidly and contribute only a small fraction of the region's air pollution, air quality in the immediate vicinity of the project site would not substantially change compared to existing conditions or the air quality monitoring data reported in Table IV.C-1.

Table IV.C-5: Project Regional Emissions

Emissions in Pounds Per Day				
	Reactive Organic Gases	**Nitrogen Oxides**	**PM_{10}**	**$PM_{2.5}$**
Area Source Emissions	5.56	0.71	2.21	2.73
Mobile Source Emissions	1.63	2.57	3.79	0.72
Total Emissions	7.19	3.28	6.00	2.85
BAAQMD Significance Threshold	**54.00**	**54.00**	**82.00**	**54.00**
Exceed?	**No**	**No**	**No**	**No**
Emissions in Tons Per Year				
Area Source Emissions	0.49	0.07	0.09	0.09
Mobile Source Emissions	0.29	0.37	0.69	0.13
Total Emissions	0.78	0.44	0.78	0.22
BAAQMD Significance Threshold	**10.00**	**10.00**	**15.00**	**10.00**
Exceed?	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., 2011.

(3) Clean Air Plan (CAP) Consistency. A key element in air quality planning is to make reasonably accurate projections of future human activities, particularly vehicle activities that are related to air pollutant emissions. The applicable air quality plan is the BAAQMD's 2010 Clean Air Plan, which was adopted on September 15, 2010. The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. Consistency with the Clean Air Plan can be determined if the project supports the goals of the Clean Air Plan, includes applicable control measures from the Clean Air Plan, and would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

The proposed project would result in short term construction-related criteria air pollutant emissions. However, these emissions would not be significant and would be limited to the project's construction period. As discussed in further detail above, the project's operational emissions would also not be significant. Therefore, the project would support the primary goals of the BAAQMD's 2010 Clean Air Plan.

The proposed project would be consistent with the type of development promoted by the Clean Air Plan's Transportation Control Measures for Local Land Use Strategies, which support and promote land use patterns, policies, and infrastructure investments that support higher density residential uses, and employment development near transit to facilitate walking, bicycling, and transit use. The proposed project would be generally consistent with this strategy, based on the proximity of the site to the Menlo Park Caltrain station, bus routes, and other urban amenities. The project would also not preclude the extension of a transit line or bike path, and would not provide excessive parking beyond applicable parking requirements.

Therefore, the proposed project would incorporate all feasible air quality plan control measures and would not hinder implementation of the 2010 Clean Air Plan. The associated impact would be less than significant.

(4) Operational Emissions – Localized CO Impacts. The BAAQMD has established a screening methodology that provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD's CEQA Guidelines, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

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

The proposed project would not conflict with the San Mateo County Transportation Authority's Congestion Management Program for designated roads or highways, a regional transportation plan, or other agency plans, as the proposed project would not cause the level of service to significantly deteriorate on any regional roadway. In addition, traffic volumes on roadways in the vicinity of the project site are less than 44,000 vehicles per hour and the project is expected to generate a maximum of less than 20 net peak hour vehicle trips. Therefore, the proposed project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour and would not result in localized CO concentrations that exceed State or federal standards. Localized CO impacts would be considered less than significant.

(5) Toxic Air Contaminants – Project Operation. Any project with the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants would be deemed to have a significant impact. This would apply to locating receptors

near existing sources of toxic air contaminants, as well as locating sources of toxic air contaminants near existing receptors. Sensitive receptors are facilities that house or attract children, the elderly, and people with illnesses or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors.

According to the BAAQMD, when siting a new receptor, an evaluation of existing sources of TACs and $PM_{2.5}$ emissions that would adversely affect individuals within a proposed project should be performed. Implementation of the proposed project would not create any new stationary sources of TACs and the proposed project is located more than 1,000 feet from the nearest Caltrain station; therefore, emissions generated by trains idling near the station would not substantially affect future residents of the site. However, a database search of the BAAQMD's Stationary Source Risk and Hazard Analysis Tool revealed that there are two existing permitted sources of TAC or $PM_{2.5}$ emissions within 1,000 feet of the project site. One source is identified as the Menlo Park Beacon located at 275 El Camino Real and the other source is the Shell Station at 495 El Camino Real. The BAAQMD identified the Menlo Park Beacon station as a source with no significant risk. The Shell Station is also a gas dispensary and the risk levels associated with this facility are shown in Table IV.C-6, below.

In addition, traffic along El Camino Real is characterized by a low percentage of diesel vehicles (3.29 percent).[15] El Camino Real carries approximately 30,000 vehicles per day.[16] An analysis of these sources and the associated health risk and $PM_{2.5}$ concentrations is shown in Table IV.C-6.

Table IV.C-6: TAC Sources in the Project Site Vicinity

Source	Lifetime Cancer Risk	Hazard Index	$PM_{2.5}$ Concentration
Shell Station[1]	3.92	0.007	NA
Menlo Park Beacon[1]	NA	NA	NA
El Camino Real[2]	6.56	NA	0.278
BAAQMD Individual Project Significance Threshold	**10.0**	**1.0**	**0.3**
Cumulative Total	10.48	0.007	0.278
BAAQMD Cumulative Significance Threshold	**100.0**	**10.0**	**0.8**
Exceed?	**No**	**No**	**No**

Notes:
1 Risk level calculated based on the data supplied by the BAAQMD.
2 Risk level and $PM_{2.5}$ concentration based on the data from the BAAQMD's *San Mateo County $PM_{2.5}$ Concentrations and Cancer Risks Generated from Surface Streets* screening table released in May 2011.
NA = According to the BAAQMD, there is no significant risk from this source.
Source: LSA Associates, Inc., 2011.

Based on the analysis of the TAC sources in the project site vicinity as shown in Table IV.C-6, future residents of the project site would not be exposed to substantial levels of TACs, and local community risk and hazards impacts associated with TACs would be less than significant.

[15] Caltrans, 2010. *2009 Annual Average Daily Truck Traffic.* December.

[16] Caltrans, 2011. *2010 All Traffic Volumes on California State Highway System.* October.

c. Significant Impacts. The proposed project would result in the following potentially significant impacts related to air quality.

Impact AIR-1: Construction of the proposed project would generate air pollutant emissions that could expose sensitive receptors to substantial pollutant concentrations. (S)

(1) Project Construction – Criteria Air Pollutants. During construction, short term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Site preparation and project construction would involve demolition of two existing structures on the project site, clearing, cut-and-fill activities, grading, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils on the site. If not properly controlled, these activities would temporarily generate PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NO_x, and VOCs. Sources of fugitive dust would include disturbed soils at the construction sites and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction sites.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM_{10}). With the implementation of standard construction measures such as frequent watering (e.g., two times per day at a minimum), fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction sites.

The proposed construction schedule for all improvements is approximately 14 months. Construction emissions were estimated for the project using the URBEMIS model as recommended by the BAAQMD. Construction-related emissions are presented in Table IV.C-7.

Table IV.C-7: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	CO	NO_x	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$	Total $PM_{2.5}$	Exhaust PM_{10}	Fugitive Dust PM_{10}	Total PM_{10}
Maximum Daily Emissions	35.7	14.7	22.0	1.2	9.4	10.4	1.3	45.0	46.1
BAAQMD Thresholds	54.0	NA	54.0	54.0	BMP	NA	82.0	BMP	NA
Exceed Threshold?	**No**	**NA**	**No**	**No**	**NA**	**NA**	**No**	**NA**	**NA**

Notes:
NA = Not Applicable; the BAAQMD does not have threshold.
BMP = Best Management Practices. If BMPs are implemented, the emissions are considered less than significant.
Source: LSA Associates, Inc., 2011.

The effects of construction activities would be increased dustfall and locally elevated levels of PM_{10} downwind of construction activity. Construction dust would be generated at levels that could create an annoyance to occupants of nearby properties. The BAAQMD requires the implementation of Best Management Practices to reduce construction impacts to a less-than-significant level. Implementation of Mitigation Measure AIR-1 would impose the BAAQMD's Best Management Practices and reduce diesel PM_{10} exhaust emissions as well as construction PM_{10} impacts.

Mitigation Measure AIR-1: Consistent with guidance from the BAAQMD, the following actions shall be required of construction contracts and specifications for the project:

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

According to the BAAQMD, projects that implement Best Management Practices result in less-than-significant impacts related to fugitive dust (PM_{10} and $PM_{2.5}$) impacts. Therefore, implementation of Mitigation Measure AIR-1 would reduce construction period fugitive dust emissions to a less-than-significant level.

Impact AIR-2: Construction of the proposed project would generate air pollutant emissions that could expose sensitive receptors to substantial toxic air contaminants. (S)

(2) Project Construction – Toxic Air Contaminants. According to the BAAQMD CEQA Air Quality Guidelines, any project that would expose persons to substantial levels of TACs resulting in: (a) a cancer risk level greater than 100 in a million; (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0; or (c) an increase of greater than 0.8 micrograms per cubic meter of annual average $PM_{2.5}$ through the siting of a new source or a new receptor would be considered to have a significant cumulative air quality impact. The use of construction equipment on the project site, such as front-end loaders, backhoes, cranes, forklifts, and trucks would result in diesel emission exhaust or diesel particulate emissions. The project site is located in an urban area in close proximity to existing residential uses.

The following discussion is based on the Health Risk Assessment (HRA) for project construction included in Appendix B. To estimate the potential cancer risk associated with construction of the proposed project from vehicle engine exhaust (including diesel particulate matter), a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis. This assessment was conducted using the ARB health risk model, Hot-Spots Analysis and Reporting Program (HARP), with the air dispersion modeling performed using the U.S. EPA dispersion model ISCST3. The model provides a detailed estimate of concentrations based on site and source geometry, source emissions strength, distance from the source to the receptor, and site-specific meteorological data.

Emission Estimates. The HRA was conducted as recommended by the California Office of Environmental Health Hazard Assessment (OEHHA) Guidelines, the ARB,[17] and the BAAQMD.[18] It consists of several steps including: determine the PM_{10} emission factor, emission rate, and concentration at locations of interest; translate the PM_{10} concentrations into health risk values; and compare the health risk values to thresholds and determine significance.

Emission factors for equipment emissions were estimated using the ARB's OFFROAD2007 and EMFAC2007 models. Both models include assumptions of technological and regulatory changes that are expected to reduce emission rates over time. The HRA only allows for a single emission rate for the entire 70-year health risk evaluation period. Therefore, a worst-case set of emission factors from the year 2011 was used to represent the long term 70-year evaluation period. The 70-year evaluation period reflects the average human lifespan. The OEHHA recommends that the analysis of short term

[17] California Air Resources Board, 2005. *HARP Model Documentation, Appendix K, Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Engines*. February.

[18] Bay Area Air Quality Management District, 2010. *CEQA Construction Screening Approach*, May 2010, *Health Risk Screening Analysis Guidelines*, January 2010, and *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2010.

projects such as construction projects apply an age sensitivity factor (CRAF) which weights exposures that occur early in life for prenatal, postnatal, and juvenile exposures. Following this guidance, a factor of 10 was applied in the analysis, with the results reflecting risk over a 70 year lifetime from exposure to the short term construction emissions, including potential early-in-life exposure to related pollutants.

Total project construction is anticipated to take 14 months. The PM_{10} emission rate was determined by using estimated equipment utilization, as shown in Table IV.C-8, combined with the OFFROAD2007 and EMFAC2007 emissions factors (included in Appendix B).

Table IV.C-8: Equipment Usage and Diesel Particulate Emissions

			CARB OffRoad Emission Factors		Average Emission
	# of	Hours	Diesel Emission Factors (lbs/hour)		Rates (lbs/day)
Demolition	**Units**	**Per Day**	**PM_{10}**		**PM_{10}**
Bulldozer	2	5	1.29E-01		0.64
Bobcat Loader	1	7	4.77E-02		0.33
Industrial Saw	1	6	6.83E-02		0.41
Generator Set	1	7	6.60E-02		0.46
	# of Units	**Miles Per Day**	**EMFAC2007: 2011 Factors Emission Factors (gms/mi)**	**Speed (mph)**	
Mechanic Truck	1	10	0.04	25	0.00088
Fuel Truck	1	10	0.04	25	0.00088
Foreman Truck	1	10	0.04	25	0.00088
Water Truck	1	10	0.061	15	0.0013
			Gasoline Emission Factors (gms/mi)		
Worker Commute	40	50	0.02	50	0.088
				Total Demolition	**1.9**
			CARB OffRoad Emission Factors		**Average Emission**
	# of	**Hours**	**Diesel Emission Factors (lbs/hr)**		**Rates (lbs/day)**
Construction	**Units**	**Per Day**	**PM_{10}**		**PM_{10}**
Skip Loader	2	6	1.97E-02		0.12
Backhoe	2	6	4.77E-02		0.29
Crane	1	5	3.58E-01		1.79
Forklift	2	6	3.53E-02		0.21
Manlift	1	5	6.05E-02		0.30
Generator Set	1	7	6.60E-02		0.46
	# of Units	**Miles Per Day**	**EMFAC2007: 2011 Factors Emission Factors (gms/mi)**	**Speed (mph)**	
Mechanic Truck	1	10	0.04	25	0.00088
Fuel Truck	1	10	0.04	25	0.00088
Foreman Truck	1	10	0.04	25	0.00088
Delivery Trucks	10	30	0.035	30	0.023
			Gasoline Emission Factors (gms/mi)		
Worker Commute	40	50	0.02	50	0.088
				Total Construction	**3.3**

Table IV.C-8 *Continued*

Painting & Paving	# of Units	Hours Per Day	CARB OffRoad Emission Factors Diesel Emission Factors (lbs/hr) PM_{10}		Average Emission Rates (lbs/day) PM_{10}
Skip Loader	2	7	1.97E-02		0.14
Paving Machine	1	7	8.18E-02		0.57
Roller	1	6	6.11E-02		0.37
Vibratory Plate	1	6	1.31E-03		0.01
Striping Machines	1	6	6.41E-02		0.38
Generator Set	1	7	6.60E-02		0.46
	# of Units	**Miles Per Day**	**EMFAC2007: 2011 Factors Emission Factors (gms/mi)**	**Speed (mph)**	
Mechanic Truck	1	10	0.04	25	0.00088
Fuel Truck	1	10	0.04	25	0.00088
Foreman Truck	1	10	0.04	25	0.00088
Delivery Trucks	10	30	0.035	30	0.023
			Gasoline Emission Factors (gms/mi)		
Worker Commute	40	50	0.02	50	0.088
			Total Painting and Paving		**2**

Notes:
lbs/hr = pounds per hour
lbs/day = pounds per day
gms/mi = grams per mile
PM_{10} = particulate matter less than 10 microns in size
Source: LSA Associates, Inc., 2011.

Construction equipment would operate throughout the site. However, for the purposes of this analysis all diesel truck exhaust was modeled as if it would be generated on a single spot on the site. This technique was used because it generates health risk values that are more conservative than locating equipment emissions throughout the site. The SCREEN3 input parameters are shown in Table IV.C-9. The receptor height was set to approximate the lowest floor occupied by nearby residents (i.e., the ground floor).

Table IV.C-9: SCREEN3 Input Parameters

Source Type	=	Volume
Emission Rate (g/s)	=	1.00
Source Height (m)	=	3.00
Initial Lateral Dimension (m)	=	4.65
Initial Vertical Dimension (m)	=	4.65
Receptor Height (m)	=	2.0
Urban/Rural Option	=	Urban

Notes:
g/s = grams per second
m = meters
Source: LSA Associates, Inc., 2011.

Table IV.C-10 shows the SCREEN3 PM_{10} concentrations at a range of locations using the PM_{10} emission rates from Tables IV.C-8 and IV.C-9. The nearest sensitive receptors would be located approximately 15 feet west of the site. To a certain extent, PM_{10} concentrations increase with distance due to the nature of air dispersion and the plume effect; the peak concentration occurs at a distance of approximately 200 feet (60 meters). (The SCREEN3 model output is included in Appendix B.)

Assuming that the emissions of PM_{10} exactly represent diesel particulate matter, the peak PM_{10} concentration from Table IV.C-8 is translated to the health risk value shown in Table IV.C-10 using the OEHHA methodology as described in the following equations:

Inhalation cancer risk = (Cair * DBR * A * EF * ED * $1x10^{-6}$) / AT * Inhalation Cancer Potency Factor

where:

Cair	=	Concentration of PM_{10} in air
DBR	=	Adult daily breathing rate
A	=	Inhalation absorption factor
EF	=	Exposure frequency
ED	=	Exposure duration
AT	=	Averaging time period over which exposure is averaged in days (25,550 days for a 70-year cancer risk)
CRAF	=	Cancer Risk Adjustment Factor

Source: OEHHA Guidelines, August 2003 and BAAQMD's Recommended Methods for Screening and Modeling Local Risks and Hazards, May 2010

Modeling results were used to determine the annual average concentration of diesel particulate matter in the air during construction activities. For residential risk, the BAAQMD-recommended 80th percentile breathing rate of 302 liters/kg-day was used in the equation and the exposure frequency was assumed to be 350 days per year.[19] Exposure duration was assumed to be 14 months for construction. The inhalation absorption factor was based on the conservative assumption that all pollution would be absorbed. To determine incremental cancer risk, the estimated dose through inhalation was multiplied by the OEHHA-established cancer potency slope factor for diesel particulate matter, which is 1.1 $(mg/kg\text{-}day)^{-1}$. Results include a CRAF of 10.

Non-cancer health risk is based on a hazard index for both acute (short term) and chronic (long term) exposures. The hazard index is established by the OEHHA and is the ratio of the predicted incremental exposure concentration from project emissions to the referenced exposure level (REL) that could cause adverse health effects. The REL is the inhalation exposure concentration at which no adverse health effects would be anticipated following exposure. The OEHHA has established a diesel exhaust chronic REL of 5.0 $\mu g/m^3$. This REL represents the level below which exposure to DPM would not result in adverse health effects.

The chronic risk level is calculated as follows:

Inhalation chronic risk = Cair / Inhalation Chronic REL

where: Cair = annual concentration of DMP and Inhalation Chronic REL = 5.0

[19] Bay Area Air Quality Management District, 2010. *Air Toxics NSR Program Health Risk Screening Analysis Guidelines*. January.

Table IV.C-10: SCREEN3 Modeling Results

Distance From Source (meters)	Inhalation Cancer Risk in One Million	Inhalation Chronic Risk Factor	PM_{10} Concentrations ($\mu g/m^3$)		$PM_{2.5}$ Concentrations ($\mu g/m^3$)	
			24-Hour	Annual	24-Hour	Annual
20	8	0.025	2.7	0.049	2.5	0.046
25	12	0.036	4.0	0.072	3.6	0.066
30	15	0.046	5.0	0.092	4.6	0.084
35	17	0.053	5.8	0.11	5.3	0.097
40	19	0.058	6.3	0.12	5.8	0.11
45	20	0.061	6.7	0.12	6.1	0.11
50	21	0.065	7.1	0.13	6.5	0.12
60	22	0.068	7.5	0.14	6.9	0.13
70	22	0.068	7.4	0.14	6.8	0.12
80	21	0.065	7.1	0.13	6.5	0.12
90	21	0.066	7.2	0.13	6.6	0.12
100	21	0.065	7.1	0.13	6.6	0.12
200	16	0.050	5.5	0.10	5.0	0.091
300	13	0.041	4.5	0.083	4.2	0.077
400	10	0.032	3.5	0.064	3.2	0.058
500	8.2	0.025	2.8	0.051	2.6	0.047
BAAQMD Threshold	10	1.0	NA	NA	NA	0.300
Exceed?	Yes	No	--	--	--	No

Notes:
PM_{10} = particulate matter less than 10 microns in size
$\mu g/m^3$ = micrograms per cubic meter
$PM_{2.5}$ concentrations derived from PM_{10} concentrations using the $PM_{2.5}$ fraction of PM_{10} value of 0.92 from the ARB.
Source: LSA Associates, Inc., 2011.

Acute Emission Impacts. The only TAC expected to be emitted in any substantial quantity on the site is diesel exhaust particulates. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to the rulemaking on ARB's Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant, the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute noncancer health risk guidance value. Construction of the project would not release emissions with other acute effects. Therefore, the potential for short term acute exposure from construction emissions would be less than significant.

Carcinogenic and Chronic Impacts. The results for carcinogenic and chronic impacts are shown in Table IV.C-10. Results of the analysis indicate that the maximum exposed individual (MEI) within the project construction area would be exposed to an inhalation cancer risk 22 in 1 million, which is greater than the threshold of 10 in 1 million. The maximum chronic hazard index would be 0.068, which is below the threshold of 1.0. Table IV.C-10 also shows that the peak annual concentration of $PM_{2.5}$ from the equipment exhaust of construction operations is 0.13 $\mu g/m^3$, which is below the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

Construction of the proposed project would thus exceed the BAAQMD's significance criterion for cancer risk due to the expected inhalation cancer risk of the MEI. Therefore, the following mitigation measure would be required.

> Mitigation Measure AIR-2: Consistent with guidance from the BAAQMD, the following actions shall be required of construction contracts and specifications for the project:
>
> - The construction contractor shall ensure the idling time of diesel-powered construction equipment is 2 minutes or less.
> - The construction contractor shall utilize off-road equipment (more than 50 horsepower) used in the construction of the project (i.e., owned, leased, and subcontractor vehicles) that achieves a project wide fleet-average 20 percent nitrogen oxide reduction and 45 percent particulate matter reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options that are available.
> - All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of nitrogen oxides and particulate matter.
> - The project construction contractor shall use equipment that meets the ARB's most recent certification standard for off-road heavy duty diesel engines. (LTS)

Implementation of the above mitigation measure would reduce the construction health risk impact to 7.1 in one million, which is below the BAAQMD's toxic air contaminant threshold of 10 in one million. Table IV.C-11 shows health risks after implementation of Mitigation Measure AIR-2. With implementation of Mitigation Measure AIR-2, construction of the proposed project would not expose residents in the project vicinity to substantial toxic air contaminants.

Table IV.C-11: Mitigated Heath Risk Levels

Distance (meters)	70-Year Adult Inhalation Cancer Risk # in a million
20	2.6
25	3.8
30	4.8
35	5.6
40	6.0
45	6.4
50	6.8
60	7.1
70	7.1
80	6.8
90	6.9
100	6.8
200	5.2
300	4.3
400	3.4
500	2.7

Source: LSA Associates, 2011

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D. NOISE

This section describes the general characteristics of sound and the categories of audible noise. It then summarizes the regulatory framework related to noise at the City, State, and federal levels. Existing sources of noise near the project site are described. Impacts that may result from the proposed project are identified and mitigation measures to reduce potential impacts are recommended where appropriate.

1. Setting

This setting section begins with an introduction to several key concepts and terms that are used in evaluating noise and vibration. It then explains the various agencies that regulate the noise environment in the City and summarizes key standards that are applied to proposed development. This setting section concludes with a description of current noise sources that affect the project site and the noise conditions that are experienced in the project site vicinity.

a. Characteristics of Sound. To the human ear, sound has two key characteristics: pitch and loudness. A specific pitch can be an annoyance, while loudness can affect our ability to hear. Pitch is the number of complete vibrations or cycles per second of a wave that results in the range of tone from high to low. Loudness, which is the strength of a sound that describes a noisy or quiet environment, is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments.

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep.

Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Table IV.D-1 lists definitions of acoustical terms. Table IV.D-2 shows representative outdoor and indoor noise levels in units of dBA.

Noise impacts can be described in three categories. The first category comprises changes in noise levels of less than 1 dB, which are inaudible to the human ear. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is audible impacts, which refer to increases in noise levels noticeable to humans.

Table IV.D-1: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Sound Exposure Level, SEL	The cumulative sound exposure from a single noise event. Over a stated time period or event, the logarithm of the ratio of a given time integral of squared frequency-weighted sound pressure to the product of the reference sound pressure of 20 micropascals and the reference duration of 1 second.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: *Handbook of Acoustical Measurements and Noise Control*, Harris, C.M., 1998.

Table IV.D-2: Typical A-Weighted Sound Levels

Noise Level	Extremes	Home Appliances at 10 feet	Speech at 3 feet	Motor Vehicles at 50 feet	Railroad Operations at 100 feet	General Type of Community Environment
120	Commercial Jet Aircraft at 500 ft					
110					Horns	
				Sirens		
100						
				Diesel Truck (Not Muffled)		
90		Shop Tools	Shout	Diesel Truck (Muffled)	Locomotive at 50 mph	
80		Vacuum Cleaner	Loud Voice	Automobile at 70 mph	Rail Cars at 50 mph Locomotive Idling	Major Metropolis (Daytime)
70		Dishwasher	Normal Voice	Automobile at 40 mph		Urban (Daytime)
60		Air Conditioner	Normal Voice (Back to Listener)	Automobile at 20 mph		Suburban (Daytime)
50		Refrigerator				Rural (Daytime)
40						
30						
20						
10						
0	Threshold of Hearing					

ft = feet
mph = miles per hour
Source: Compiled by LSA Associates, Inc., 2009.

Audible increases in noise levels generally refer to a change of 3 dB or greater, since this level has been found to be barely perceptible in exterior environments. Only audible changes in existing ambient or background noise levels are considered significant.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise receptor.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. The predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours. The City uses the CNEL noise scale for long term noise impact assessments.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Another noise scale often used together with the L_{max} in noise ordinances for enforcement purposes is percentile noise levels. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

b. Fundamentals of Groundborne Vibration. Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called groundborne noise.

When assessing annoyance from groundborne noise, vibration is typically expressed as root mean square (rms) velocity in units of decibels of 1 micro-inch per second. To distinguish rms velocity vibration levels from noise levels, the unit is written as "VdB." Human perception of vibration starts at levels that are sometimes below 67 VdB. Annoyance due to vibration in residential settings starts at approximately 70 VdB. Groundborne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include trains and construction activities such as blasting, pile driving, and the operation of heavy earthmoving equipment. Construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Typical vibration source levels from construction equipment are shown in Table IV.D-3.

Factors that influence groundborne vibration and noise include the following:

- Vibration Source: Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source;
- Vibration Path: Soil type, rock layers, soil layering, depth to water table, and frost depth; and
- Vibration Receiver: Foundation type, building construction, and acoustical absorption.

Table IV.D-3: Typical Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft (in/sec)	Approximate VdB at 25 feet
Pile driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75
Vibratory roller		0.210	94
Hoe ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

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

Among these factors that influence groundborne vibration and noise, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at large distance from the source. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

c. Regulatory Framework. The following section summarizes the regulatory framework related to noise and vibration, including federal, State, and City plans, policies, and standards.

(1) U.S. Environmental Protection Agency (U.S. EPA). In 1972, Congress enacted the Noise Control Act. This act authorized the U.S. EPA to publish descriptive data on the effects of noise and establish levels of sound "requisite to protect the public welfare with an adequate margin of safety." These levels are separated into health (hearing loss levels) and welfare (annoyance levels), as shown in Table IV.D-4. The U.S. EPA cautions that these identified levels are not standards because they do not take into account the cost or feasibility of maintaining the levels. Ninety-six percent of the population would be protected against hearing loss if sound levels are less than or equal to a 24-hour L_{eq} of 70 dBA. The U.S. EPA activity and interference guidelines are designed to ensure reliable speech communication at about 5 feet in the outdoor environment. For outdoor and indoor environments, interference with activity and annoyance should not occur if levels do not exceed 55 dBA and 45 dBA, respectively.

The noise effects associated with an outdoor CNEL of 55 dBA are summarized in Table IV.D-5. At 55 dBA CNEL, there is typically no adverse community reaction and 95 percent sentence clarity (intelligibility) may be expected at 3.5 meters (11.5 feet). However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance.

For the purposes of this EIR, the U.S. EPA findings provide a more complete understanding of the issue of noise as well as a context in which to evaluate the proposed project.

(2) Federal Transit Administration (FTA). As the City does not have vibration standards for residential and commercial land uses, the vibration criteria established by the Federal Transit Administration (FTA) were used in this analysis to evaluate potential vibration impacts on adjacent land uses. The FTA's vibration impact criteria and impact assessment guidelines are published in the *Transit Noise and Vibration Impact Assessment* document.[1] The FTA guideline thresholds for construction vibration impacts for various structural categories are shown in Table IV.D-6.

Table IV.D-4: Summary of U.S. EPA Noise Levels

Effect	Level	Area
Hearing loss	$L_{eq}(24) \leq 70$ dB	All areas
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use
	$L_{eq}(24) \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{eq} \leq 45$ dB	Indoor residential areas
	$L_{eq}(24) \leq 45$ dB	Other indoor areas with human activities such as schools, etc.

Source: U.S. Environmental Protection Agency, 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March.

Table IV.D-5: Summary of Human Effects in Areas Exposed to 55 dB CNEL

Type of Effects	Magnitude of Effect
Speech—Indoors	100 percent sentence intelligibility (average) with a 5 dB margin of safety
Speech—Outdoors	100 percent sentence intelligibility (average) at 0.35 meters 99 percent sentence intelligibility (average) at 1.0 meters 95 percent sentence intelligibility (average) at 3.5 meters
Average Community Reaction	None evident; 7 dB below level of significant complaints and threats of legal action and at least 16 dB below "vigorous action"
Complaints	1 percent dependent on attitude and other non-level related factors
Annoyance	17 percent dependent on attitude and other non-level related factors
Attitude Toward Area	Noise essentially the least important of various factors

Source: U.S. Environmental Protection Agency, 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March.

Table IV.D-6: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced – Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non Engineer Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90

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

(3) State of California. The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the "State Noise Insulation Standard," it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings

[1] Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment.* May.

other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

The State has also established land use compatibility guidelines for determining acceptable noise levels for specified land uses. The City has adopted and modified the State's land use compatibility guidelines, as discussed below.

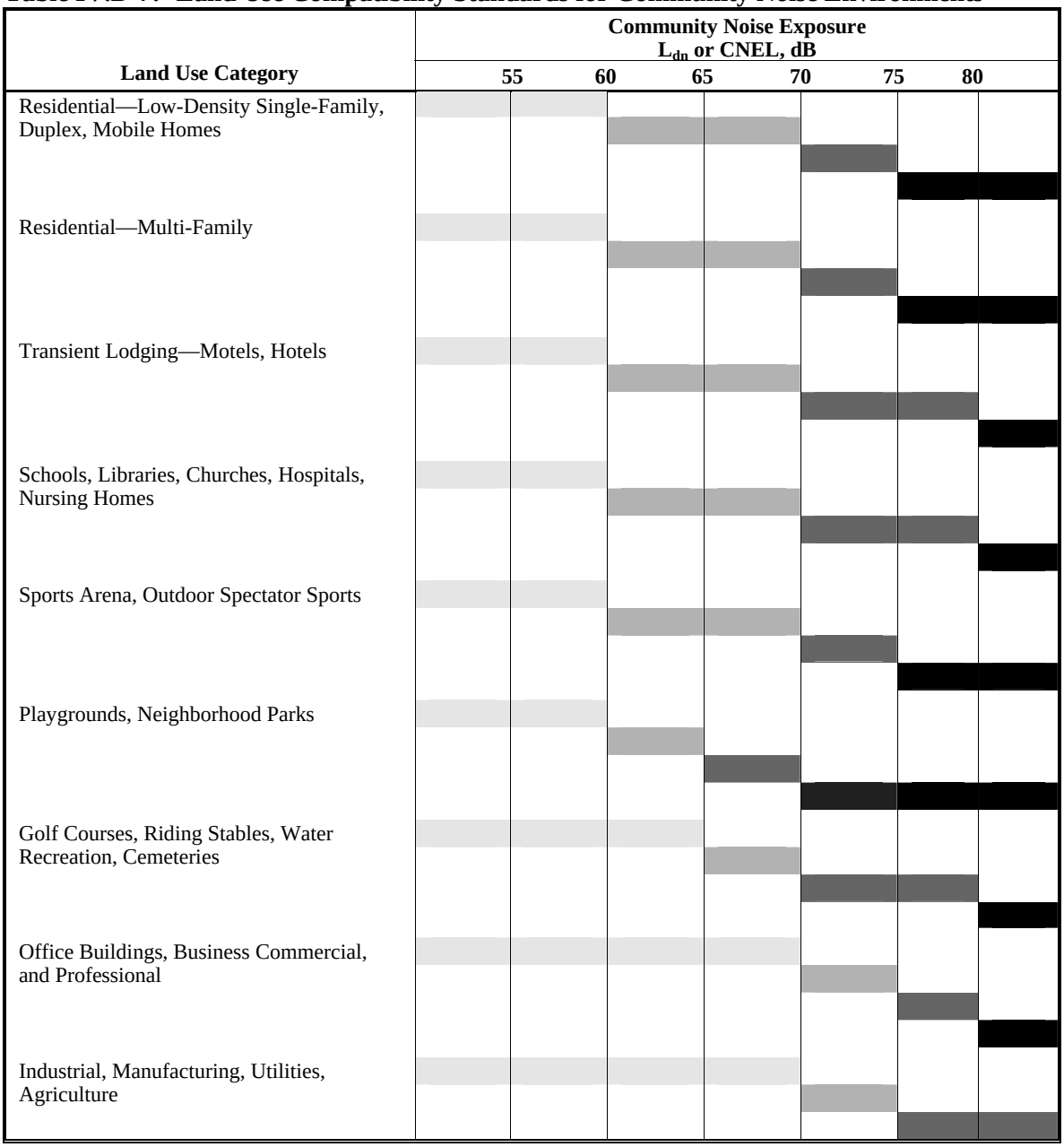
(4) City of Menlo Park. The City addresses noise in the Noise Element of the General Plan[2] and in the Noise Ordinance. The Noise Element of the General Plan adopts the Land Use Compatibility Standards for Community Noise Environments developed by the Office of Noise Control in the California Department of Health. These standards for exterior noise are summarized in Table IV.D-7. The Land Use Compatibility Standards for multi-family dwellings require the preparation of an acoustical report for dwellings proposed in areas where exterior noise levels exceed 60 dBA CNEL. The purpose of such an acoustical report is to demonstrate how the development will meet the standards for interior noise levels (45 dBA CNEL) with windows and doors closed.

The City's Noise Ordinance[3] addresses noise limits that would constitute a noise disturbance and establishes construction hour limits. These noise limits are summarized in Table IV.D-8. However, noise sources listed in Section 08.06.040 and 08.06.050 of the Noise Ordinance are exceptions and exemptions to the noise limitations set forth by Section 08.06.030. These noise sources include construction, motor vehicles operated on streets and highways, aircraft, trains, and other public transportation. Construction activities that exceed stated noise limits are permitted only between the hours of 8:00 a.m. and 6:00 p.m. on Monday through Friday. Construction by contractors is not permitted on weekends or holidays.

[2] Menlo Park, City of, 1978. *Menlo Park Noise Element of the Comprehensive Plan*. November 14.

[3] Menlo Park, City of, 2010. *Menlo Park Municipal Code, Chapter 8.06 Noise*. December 14.

Table IV.D-7: Land Use Compatibility Standards for Community Noise Environments



Source: City of Menlo Park General Plan Noise Element, 1978. November.

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development clearly should not be undertaken.

d. Existing Noise Environment. Existing noise levels in and around the project site are primarily associated with traffic on El Camino Real.

Table IV.D-8: City of Menlo Park Acceptable Noise Levels, dBA

Land Use	Time of Day	Exterior (Leq)	Interior[a] (Leq)
Residential (Single and Multi-Family)	Daytime (7 a.m. to 10 p.m.)	60	45
	Nighttime (10 p.m. to 7 a.m.)	50	35

[a] Interior noise limits apply only to sources of sound that are emitted from one multi-family unit into another.

Note: Correction for character of sound: In the event the alleged offensive noise contains a steady, audible tone, such as a whine screech, beating, pulsating, throbbing, or hum, the standards set forth in Section 8.06.030 shall be reduced by 5 dB.

Source: Menlo Park Noise Ordinance, 2004.

(1) Existing Ambient Noise Levels. An LSA noise technician conducted short term ambient noise monitoring at three locations on the project site on June 9, 2011, between the hours of 9:00 a.m. and 10:30 a.m. The noise monitoring locations are shown in Figure IV.D-1. The purpose of this noise monitoring was to document the existing noise environment and capture the noise levels associated with current operations and activities in the project site vicinity, such as traffic noise on adjacent roadways and parking lot and loading and unloading activities at nearby commercial land uses. Table IV.D-9 lists the noise levels measured during the short term 15-minute noise measurements. Maximum and minimum noise levels were recorded as well as the equivalent continuous noise level measure L_{eq}. The meteorological conditions at the time of each noise measurement are shown in Table IV.D-10. The noise monitoring results indicate that existing daytime ambient noise levels in the vicinity of the project site range from 58.6 dBA to 68.8 dBA L_{eq}.

Traffic on El Camino Real is the primary noise source affecting existing ambient noise levels in the project site vicinity. Other noise in the project site vicinity includes traffic on College Avenue and Partridge Avenue, and stationary noise from activities at the auto repair shop located adjacent to the southern boundary of the site.

Table IV.D-9: Short Term Ambient Noise Monitoring Results, dBA, June 9, 2011

Location Number	Location Description	Start Time	L_{eq} [a]	L_{max} [b]	L_{min} [c]	Primary Noise Sources
ST1	Southeast corner of project site, near Planet Auto Repair	9:20 a.m.	68.8	79.7	47.5	Traffic on El Camino Real, auto repair shop activities
ST2	Eastern property line of 624 Partridge Avenue	10:10 a.m.	65.8	81.2	49.5	Traffic on El Camino Real, yard maintenance activities
ST3	Eastern property line of 611 College Avenue	9:50 a.m.	58.6	80.0	43.6	Traffic on El Camino Real and College Avenue

[a] L_{eq} represents the average of the sound energy occurring over the 15-minute time period.
[b] L_{max} represents the highest instantaneous sound level measured during the 15-minute time period.
[c] L_{min} represents the lowest instantaneous sound level measured during the 15-minute time period.

Source: LSA Associates, Inc., June 2011.

Table IV.D-10: Meteorological Conditions During Ambient Noise Monitoring

Location Number	Maximum Wind Speed (mph)	Average Wind Speed (mph)	Temperature (°F)	Relative Humidity (%)
ST1	2	1	65	49
ST2	3	2	67	54
ST3	3	2	64	63

Source: LSA Associates, Inc., June 2011.

(2) Existing Stationary and Activity Noise Sources in the Project Site Vicinity. Existing stationary noise sources in the project site vicinity include noise generated by idling trucks during deliveries, fans, and compressor noise sources associated with heating, ventilation, and air conditioning (HVAC) systems. The auto repair shop, located adjacent to the southern boundary of the project site, is the primary stationary noise source in the project site vicinity. Activities associated with operation of the auto repair shop including the movement of vehicles in and out of the shop, and mechanical noise, such as the removal of mufflers (using metal saws), were documented through the short term noise monitoring as producing noise levels up to 80 dBA L_{max} at 30 feet from the open garage doors.

(3) Existing Vehicular Traffic. Vehicular traffic is the primary noise source in the project site vicinity. The existing traffic noise levels along select roadway segments in the study area are listed in Table IV.D-11. The highlighted rows in Table IV.D-11 indicate roadway segments adjacent to the project site. The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions along El Camino Real, Middle Avenue, College Avenue, Partridge Avenue, Cambridge Avenue, and University Drive. This model requires various data inputs, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. Traffic volumes were obtained from the traffic study prepared for the project by DKS Associates.[4] The resultant noise levels were weighted and summed over 24-hour periods to determine the CNEL values. The traffic noise model printouts are included in Appendix C.

Traffic on El Camino Real results in noise levels of 68.3 dBA CNEL at 50 feet from the centerline of the outermost travel lane. Noise levels from traffic on the other streets in the project site vicinity are all less than 54 dBA CNEL at 50 feet from the centerline of the outermost travel lane. The current site plans show a minimum setback from El Camino Real of approximately 25 feet from the centerline of the outermost travel lane. At this distance, the nearest façade of the proposed residential units would be exposed to traffic noise levels of approximately 72 dBA CNEL.

(4) Existing Rail Operations. The site is bordered by El Camino Real to the east. Beyond El Camino Real are commercial uses and associated surface parking lots. To the east of these commercial uses are the Caltrain railroad tracks. Based on the Caltrain schedule in place as of January 2011, this portion of the rail line currently carries 56 Caltrain passenger trains (31 northbound and 25 southbound trains) and one to four unscheduled freight trains per day. The closest at-grade crossing of the railroad tracks where warning horns must be sounded is located on Ravenswood Avenue, approximately 2,500 feet from the project site's northeastern boundary. Based on the FTA's transit noise calculation guidelines, these train activities would result in noise levels (taking into account train horn noise) of approximately 53 dBA CNEL, as measured at the eastern project site boundary. The model results are provided in Appendix C.

[4] DKS Associates, 2011. *389 El Camino Real Project Traffic Impact Analysis.* December 15.

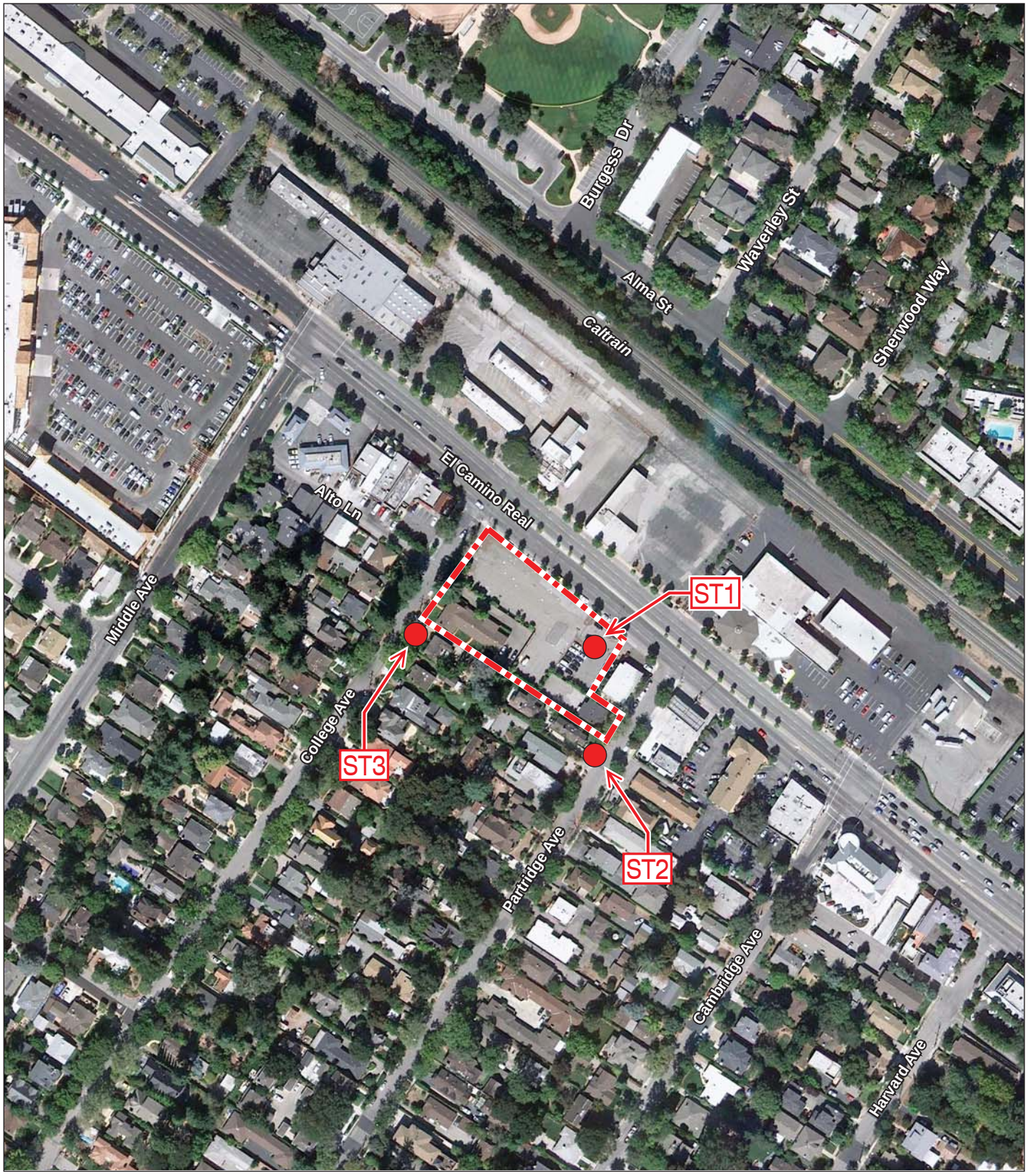


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FIGURE IV.D-1

Project Site

Noise Monitoring Locations

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SOURCE: GOOGLE EARTH, 10/2009; LSA ASSOCIATES, INC., 2011.

389 El Camino Real Project EIR

Noise Monitoring Locations

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Table IV.D-11: Existing 2011 Baseline Traffic Noise Levels

Roadway Segment	Average Daily Trips (ADT)	Center-line to 70 CNEL (Feet)	Center-line to 65 CNEL (Feet)	Center-line to 60 CNEL (Feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
El Camino Real – Menlo Ave. to Roble Ave.	36,300	62	120	251	67.9
El Camino Real – Roble Ave. to Middle Ave.	35,700	61	118	249	67.8
El Camino Real – Middle Ave. to Cambridge Ave. [a]	39,500	64	126	266	68.3
El Camino Real – Cambridge Ave. to Creek Dr.	41,200	66	130	273	68.5
Middle Ave. – University Dr. to El Camino Real	8,700	< 50 [b]	< 50	76	62.0
College Ave. – University Dr. to El Camino Real [a]	700	< 50	< 50	< 50	49.2
Partridge Ave. – University Dr. to El Camino Real [a]	600	< 50	< 50	< 50	48.5
Cambridge Ave. – University Dr. to El Camino Real	1,400	< 50	< 50	< 50	52.2
University Dr. – Middle Ave. to Cambridge Ave.	2,000	< 50	< 50	< 50	53.7

[a] Highlighted rows represent roadway segments adjacent to the project site.
[b] Traffic noise within 50 feet of roadway centerline requires site-specific analysis.
Source: LSA Associates, Inc., 2011.

2. Impacts and Mitigation Measures

This section evaluates potential noise impacts associated with the proposed project and identifies mitigation measures to address these impacts, as appropriate.

a. Significance Criteria. The following criteria are adapted from the *CEQA Guidelines*. The project would have a significant impact on the environment if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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; and
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

b. Less-Than-Significant Impacts. The following discussion describes the less-than-significant noise-related impacts of the project.

(1) Construction Vibration Impacts. Construction activities, especially those associated with the use of impact equipment such as that used in pile driving, are a known source of ground-borne noise and vibration. However, pile driving is not expected to be used in construction of the

proposed project. Typical groundborne vibration levels from heavy construction equipment in full operation, such as vibratory rollers, range up to approximately 0.21 PPV as measured at a distance of 25 feet.[5] The FTA construction vibration damage thresholds are shown in Table IV.D-6. The damage threshold for structures made of non-engineered timber and masonry buildings is 0.2 PPV.

The closest sensitive receptors to the proposed construction areas are the single-family residential units located adjacent to the western boundary of the project site, whose closest facades are approximately 15 feet from the proposed residential units. At this distance, vibration levels from project building construction activities, including the use of large bulldozers, compactors, and front-end loaders, would be approximately 0.19 PPV. Large vibratory rollers could be used in the construction of the proposed internal driveway. The nearest off-site residential buildings are located approximately 60 feet from the proposed internal roadway areas. At this distance, vibration levels from a vibratory roller operating at the edge of the proposed parking lot would be expected to range up to approximately 0.06 PPV. Therefore, due to the distance of off-site sensitive structures from the proposed construction areas, and considering the structural engineering of these existing buildings, expected vibration levels would be below the FTA's construction vibration impact threshold of 0.2 PPV for adjacent off-site land uses and would be considered less than significant.

(2) Railroad Noise and Vibration Impacts. The Caltrain rail line is located approximately 455 feet from the project site's eastern boundary. The closest at-grade crossing where warning horns must be sounded is on Ravenswood Avenue, approximately 2,500 feet from the project site's northeastern boundary. Although warning horns may be audible on the project site, at this distance noise from train activity would not expose persons on the project site to noise levels in excess of established standards. Thus, noise impacts from train activities would be less than significant for the proposed residential land use.

Train activities can also be a source of groundborne vibration. However, as the railroad tracks are located approximately 455 feet from the nearest project property line, vibration impacts from railroad activity would be less than significant.

(3) Off-Site Traffic Noise Impacts. The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. The resultant noise levels were weighted and summed over a 24-hour period in order to determine the CNEL values associated with vehicular traffic (i.e., excluding train noise). CNEL contours are derived through a modeling effort that isolates the 60, 65, and 70 dBA CNEL contours for traffic noise levels in the vicinity of the project site. The modeled existing traffic noise levels are shown in Table IV.D-11. The traffic noise levels that would occur with and without the project under near term traffic conditions (i.e., assuming full occupancy of planned/approved developments near the project site that would be completed in the near term) are shown in Table IV.D-12. The traffic noise levels that would occur with and without the project under long term (year 2030) traffic conditions (i.e., assuming traffic conditions that would exist in the near term condition with an assumed growth rate of 1 percent per year to account for future development over a 20-year growth horizon) are shown in Table IV.D-13. The grey highlighted rows shown in Tables IV.D-12 and IV.D-13 represent roadway segments adjacent to the project site.

[5] Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment.* May.

In order to analyze the worst case scenario and highest traffic volumes for each of the modeled scenarios, PM traffic volumes were used to calculate the Average Daily Traffic (ADT) volumes, as PM volumes were higher overall than the AM traffic volumes.

Tables IV.D-12 and IV.D-13 show that implementation of the proposed project would result in relatively minor changes in traffic noise levels (i.e., less than the normally perceptible change of 3 dBA in an outdoor noise environment). The largest noise increases that would be experienced with project-related traffic in the near term would occur on Partridge Avenue from University Drive to El Camino Real and on College Avenue from University Drive to El Camino Real. With implementation of the project, these segments would experience increases in noise levels over existing conditions of 0.7 dBA and 0.6 dBA, respectively.

The largest noise increases that would be experienced with project-related traffic in the long term would be on Partridge Avenue from University Drive to El Camino Real and on El Camino Real from Roble Avenue to Middle Avenue. With implementation of the proposed project, these segments would each experience increases in noise levels of 1.3 dBA over existing conditions.

As indicated above, the smallest perceptible increase in noise levels in an outdoor environment is 3 dBA. Therefore, noise level increases resulting from project-related traffic noise would not be perceptible and would be considered less-than-significant for off-site receptors (e.g., residents adjacent to the project site).

In addition, it should be noted that implementation of the proposed project would be expected to reduce traffic noise levels at the existing residential uses that are located immediately to the west of the project site. This noise reduction would be expected to occur as a result of the development of project buildings between these residential properties and El Camino Real. The development of the proposed structures would be expected to provide a minimum 5 dBA to 10 dBA reduction in traffic noise levels at the outdoor use areas of these residential properties compared to existing conditions (for properties to the west of the site that have a direct line of sight to El Camino Real).

(4) Aircraft Noise Impacts. The Palo Alto Airport, which is the closest airport to the project site, is located approximately 4.2 miles east of the site. The San Carlos airport is located approximately 7.1 miles northwest of the site. At these distances and due to the flight approach patterns for these airports, the project site is located outside the 55 dBA CNEL noise contour resulting from air traffic at these airports. The project site is not located in an airport land use plan or within 2 miles of a public or public use airport. Therefore, implementation of the proposed project would not expose persons within the project site to excessive aircraft-related noise levels. In addition, the project site is not located within the vicinity of a private airstrip. Therefore, the proposed project would not expose persons on the project site to excessive noise levels associated with a private airstrip.

c. Significant Impacts. The proposed project would result in potentially significant impacts, as discussed below.

(1) Construction-Period Impacts. Construction of the proposed project would result in one significant short term noise impact.

Impact NOISE-1: Noise levels from project construction activities could result in a substantial temporary or periodic increase in ambient noise levels in the project site vicinity above levels existing without the project. (S)

Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. The character of the noise generated on each construction site and, therefore, the noise levels surrounding the site, changes as construction progresses through its sequential phases. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

The transport of workers, construction equipment, and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because workers and construction equipment would use existing routes, noise from passing trucks (87 dBA L_{max} at 50 feet) would be similar to existing truck-generated noise. For this reason, short term intermittent noise from trucks would be minor when averaged over the 14-month construction period. In addition, noise associated with on-road vehicles is regulated by federal and State governments and is exempt from local government regulations. Therefore, short term construction-related impacts associated with worker and equipment transport to the project site would result in a less-than-significant impact on sensitive receptors along the access routes leading to the project site.

The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backhoes, bulldozers, front loaders and compacting equipment, which includes compactors, scrapers, and graders. Typical operating cycles for such construction equipment involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

Table IV.D-12: Near Term Traffic Noise Levels

Roadway Segment	Near Term Without Project		Near Term With Project			
	Average Daily Trips (ADT)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Average Daily Trips (ADT)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase From Existing Conditions (dBA)	Increase From Without Project Conditions (dBA)
El Camino Real – Menlo Ave. to Roble Ave.	38,700	68.2	38,800	68.2	0.3	0.0
El Camino Real – Roble Ave. to Middle Ave.	38,100	68.1	38,200	68.1	0.3	0.0
El Camino Real – Middle Ave. to Cambridge Ave. [a]	41,900	68.5	41,900	68.5	0.2	0.0
El Camino Real – Cambridge Ave. to Creek Dr.	43,700	68.7	43,700	68.7	0.2	0.0
Middle Ave. – University Dr. to El Camino Real	8,800	62.0	8,900	62.1	0.1	0.1
College Ave. – University Dr. to El Camino Real [a]	700	49.2	800	49.8	0.6	0.6
Partridge Ave. – University Dr. to El Camino Real [a]	600	48.5	700	49.2	0.7	0.7
Cambridge Ave. – University Dr to El Camino Real	1,500	52.5	1,500	52.5	0.3	0.0
University Dr. – Middle Ave. to Cambridge Ave.	2,000	53.7	2,100	53.9	0.2	0.2

[a] Highlighted rows represent roadway segments adjacent to the project site.

[b] Traffic noise within 50 feet of roadway centerline requires site-specific analysis.

Source: LSA Associates, Inc., 2011.

Table IV.D-13: Long Term Traffic Noise Levels

Roadway Segment	Long Term Without Project		Long Term With Project			
	Average Daily Trips (ADT)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Average Daily Trips (ADT)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase From Existing Conditions (dBA)	Increase From Without Project Conditions (dBA)
El Camino Real – Menlo Ave. to Roble Ave.	48,000	69.1	48,000	69.1	1.2	0.0
El Camino Real – Roble Ave. to Middle Ave.	47,200	69.0	47,300	69.1	1.3	0.1
El Camino Real – Middle Ave. to Cambridge Ave.	51,800	69.5	51,800	69.5	1.2	0.0
El Camino Real – Cambridge Ave. to Creek Dr.	53,900	69.6	53,900	69.6	1.1	0.0
Middle Ave. – University Dr. to El Camino Real	10,500	62.8	10,500	62.8	0.8	0.0
College Ave. – University Dr. to El Camino Real	900	50.3	900	50.3	1.1	0.0
Partridge Ave. – University Dr. to El Camino Real	700	49.2	800	49.8	1.3	0.6
Cambridge Ave. – University Dr. to El Camino Real	1,700	53.0	1,700	53.0	0.8	0.0
University Dr. – Middle Ave. to Cambridge Ave.	2,100	53.9	2,400	54.5	0.8	0.6

Source: LSA Associates, Inc., 2011.

Table IV.D-14 lists typical construction equipment noise levels recommended for use in noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor. Typical construction noise levels vary up to a maximum of 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase would affect neighboring uses, including residential uses to the west of the project site.

Table IV.D-14: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Range of Maximum Sound Levels (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile drivers	81 to 96	93
Rock drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic tools	78 to 88	85
Pumps	74 to 84	80
Scrapers	83 to 91	87
Haul trucks	83 to 94	88
Cranes	79 to 86	82
Portable generators	71 to 87	80
Rollers	75 to 82	80
Dozers	77 to 90	85
Tractors	77 to 82	80
Front-end loaders	77 to 90	86
Hydraulic backhoe	81 to 90	86
Hydraulic excavators	81 to 90	86
Graders	79 to 89	86
Air compressors	76 to 89	86
Trucks	81 to 87	86

Source: Bolt, Beranek & Newman, 1987. *Noise Control for Buildings and Manufacturing Plants.*

Demolition of existing structures on the project site and construction of the proposed project is expected to require the use of earthmovers such as bulldozers and scrapers, loaders and graders, water trucks, dump trucks, and pickup trucks. As shown in Table IV.D-14, the typical maximum noise level generated by backhoes on the project site is assumed to be 86 dBA L_{max} at 50 feet from the operating equipment. The maximum noise level generated by bulldozers is approximately 85 dBA L_{max} at 50 feet. The maximum noise level generated by water trucks and other similar trucks is approximately 86 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound sources with equal strength would increase the noise level by 3 dBA. Assuming each piece of construction equipment operates at some distance apart from the other equipment, the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area.

Pile driving can be another major source of construction noise, but would not be used as part of the project.

The closest noise sensitive land uses to the project construction areas are the single-family residential land uses located adjacent to the project site's western boundary. The nearest façade of these properties is located approximately 15 feet from the proposed project buildings. If multiple pieces of earth-moving equipment were to operate simultaneously in close proximity to one another adjacent to the project boundary, these existing single-family uses could be exposed to equipment noise levels in excess of 100 dBA L_{max} during full-power operation cycles. Operation of construction equipment would result in a substantial temporary or periodic increase in ambient noise levels in the project site vicinity above levels existing without the project. Therefore, mitigation would be required to reduce this impact.

In accordance with the City's Noise Ordinance, the project applicant would be required to ensure compliance with the City's regulations regarding permitted hours of construction and maximum permitted equipment operational noise levels. In addition, the construction of a temporary sound barrier along the western project property line would further reduce impacts from temporary construction noise at the adjacent residential land uses. This sound barrier would be expected to reduce temporary construction activity noise levels at sensitive land uses adjacent to the project site by a

minimum of 8 dBA. The location of this temporary sound barrier is shown in Figure IV.D-2. It is included below in Mitigation Measure NOISE-1 as the final element.

Implementation of the following mitigation measure would reduce the project's short term construction-period noise impacts to a less-than-significant level:

Mitigation Measure NOISE-1: The following measures shall be implemented during construction of the project:

(a) To minimize construction noise impacts on nearby residents and businesses, and to be consistent with Chapter 8.06 of the City's Municipal Code, standard construction activities that exceed stated noise limits shall be permitted only between the hours of 8:00 a.m. and 6:00 p.m. from Monday to Friday.

(b) To reduce daytime construction-related noise impacts to the maximum feasible extent, the project sponsor shall develop a site-specific noise reduction program subject to City review and approval, which includes the following measures:

- Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a day and evening contact number for the City. The signs shall be posted at all entrances to the construction site upon the commencement of construction for the purpose of informing contractors and subcontractors and all other persons at the construction site of the basic requirements of the Noise Ordinance of the Municipal Code. The sign shall be at least 5 feet above ground level and shall consist of a white background with black letters.
- A pre-construction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise mitigation protocols are in place prior to the issuance of a building permit (including the establishment of construction hours, neighborhood notification, posted signs, etc.).
- Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project demolition or construction activities shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on equipment with compressed-air exhaust systems shall be used; this muffler can lower noise levels, which could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Stationary noise sources shall be located as far from sensitive receptors as possible and they shall be muffled and enclosed within temporary sheds; or insulation barriers or other measures shall be incorporated to the extent feasible.
- No piece of powered equipment shall generate noise in excess of 85 dBA at 50 feet. Powered equipment is defined by the City to be a motorized device powered by electricity or fuel used for construction, demolition, and property or landscape maintenance or repairs. Powered equipment includes but is not limited to: parking lot sweepers, saws, sanders, motors, pumps, generators, blowers, wood chippers, vacuums, drills and nail guns (but specifically excluding internal fuel combustion engine leaf blowers).

- Prior to construction, a temporary sound barrier shall be constructed along the project's western property line adjacent to the existing residential properties that border the project site. The temporary sound barrier shall extend from the project property line at College Avenue to the project property line at Partridge Avenue. This temporary sound barrier shall be constructed at the minimum height of 6 feet above the proposed finished pad elevation with a minimum surface weight of 4 pounds per square foot (or with any commercially available sound barrier material that has an equivalent noise reduction coefficient as a material with a minimum surface weight of 4 pounds per square foot) and shall be constructed so that vertical or horizontal gaps are eliminated. This temporary barrier shall remain in place through the construction phase in which heavy construction equipment, such as excavators, bulldozers, scrapers, loaders, rollers, pavers, and dump trucks are operating within 100 feet of the western project site boundary. (LTS)

(2) Operational Noise Impacts. Operational noise from stationary and traffic noise sources in the project site vicinity would result in noise levels in excess of the City's "normally acceptable" standards, as discussed below.

Impact NOISE-2: Implementation of the proposed project would expose future residents of the proposed project to noise levels that exceed the "normally acceptable" standard for new residential development established in the City's Land Use Compatibility Standards for Community Noise Environments. (S)

Traffic Noise Impacts. The results of the traffic noise modeling are shown in Tables IV.D-11 through IV.D-13. The modeled existing traffic noise levels are shown in Table IV.D-11. The near term traffic noise levels that would occur with and without the project are shown in Table IV.D-12. The long term (year 2030) traffic noise levels that would occur with and without the project are shown in Table IV.D-13.

The traffic noise modeling results show that portions of the project site would be exposed to exterior traffic noise levels that exceed the City's "normally acceptable" land use compatibility criteria of 60 dBA CNEL for new residential development. Existing traffic noise levels on the project site range up to 68.3 dBA CNEL at 50 feet from the centerline of the outermost travel lane of El Camino Real.

Noise generated by traffic along roadway segments adjacent to the project site would range up to 69.5 dBA CNEL at 50 feet from the centerline of the outermost travel lane of El Camino Real under long term traffic conditions both with and without the project.

The nearest façade of the proposed project would be located approximately 25 feet from the centerline of the outermost travel lane of El Camino Real. At this minimum building setback, long term traffic noise levels would range up to approximately 73 dBA CNEL. The City considers outdoor environments with ambient noise levels between 70 dBA and 75 dBA CNEL to be "normally unacceptable" for new residential development. The land use compatibility standards for new residential development require that an acoustical analysis demonstrate the manner by which the development will meet the standards for interior noise levels (45 dBA CNEL) with windows and doors closed. Therefore, in order to maintain acceptable interior noise levels, noise insulation features must be included in the project design.

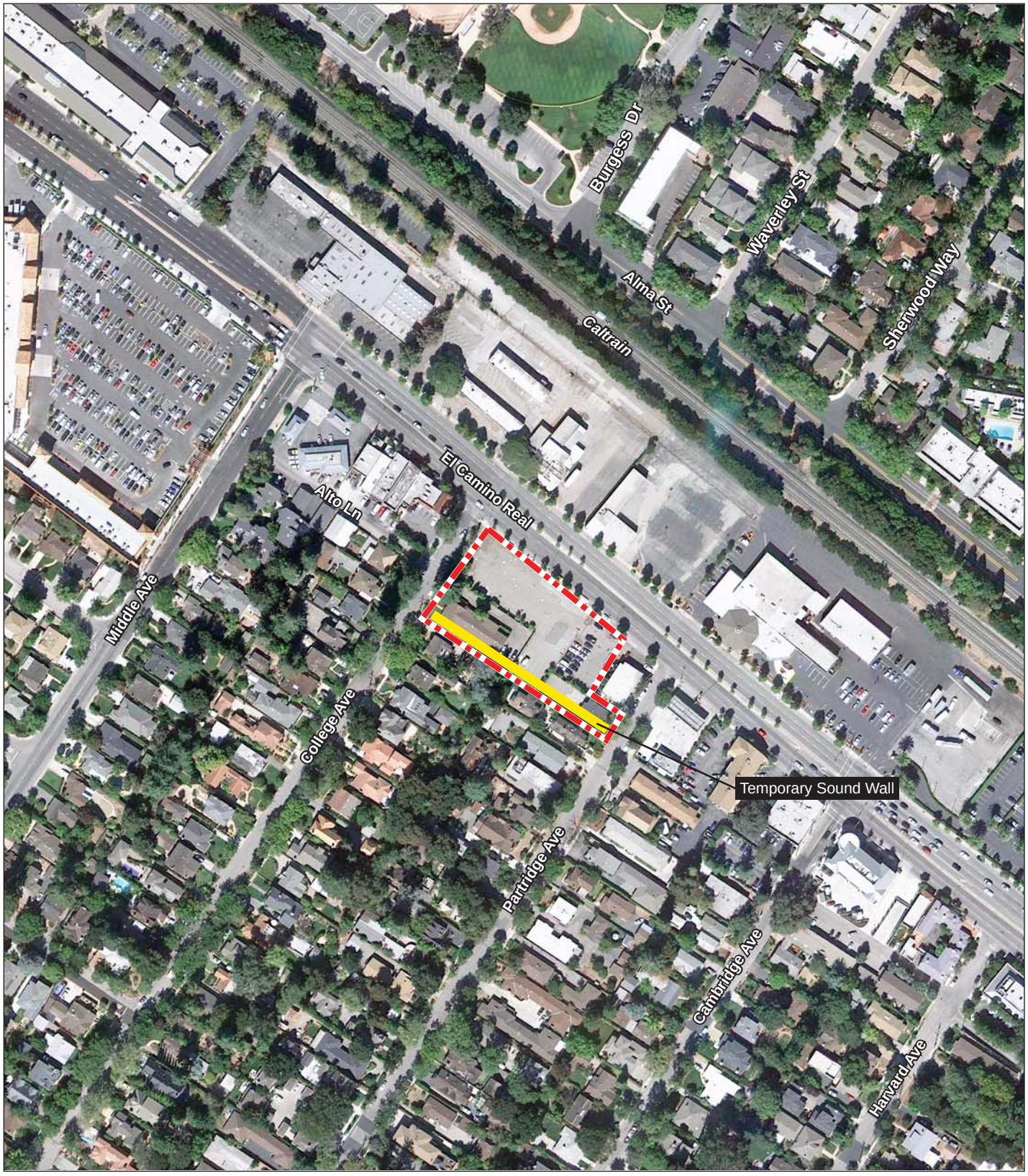

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FIGURE IV.D-2

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Project Site

Temporary Sound Wall Location

389 El Camino Real Project EIR

Temporary Sound Wall Location

SOURCE: GOOGLE EARTH, 10/2009; LSA ASSOCIATES, INC., 2011.

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Based on the U.S. EPA's Protective Noise Levels,[6] with a combination of walls, doors, and windows, standard construction for northern California residences would provide 25 dBA in exterior-to-interior noise reduction with windows closed and 15 dBA or more with windows open. With windows open, interior noise levels of the nearest proposed residential units to El Camino Real would not meet the interior noise standard of 45 dBA CNEL (i.e., 73 dBA - 15 dBA = 58 dBA). Future traffic noise levels on all areas of the site would range from 60 dBA to over 72 dBA, thus requiring implementation of an alternative form of ventilation, such as air conditioning, that would allow windows to remain closed for prolonged periods of time. However, even with implementation of an alternative form of ventilation, the nearest residential units to El Camino Real would not meet the interior noise level standard of 45 dBA CNEL (i.e., 73 dBA – 25 dBA = 48 dBA). At a distance of 45 feet from the centerline of the outermost travel lane of this segment of El Camino Real, long term traffic noise levels would attenuate to below 70 dBA CNEL. Therefore, in addition to the inclusion of an alternative form of ventilation such as air conditioning systems, the facades of all units within 45 feet of the centerline of the outermost travel lane of El Camino Real must be constructed to have an overall laboratory sound transmission class (STC)[7] rating of at least STC-35, and all exterior doors and windows must have a minimum rating of STC-33. Quality control must be exercised in construction to ensure all air gaps and penetrations of the building shell are controlled and sealed.

Therefore, implementation of the following multi-part mitigation measure requiring such design features would be required in order to reduce traffic noise levels at the proposed residential uses to a less-than-significant level:

> Mitigation Measure NOISE-2a: In order to ensure that windows can remain closed for prolonged periods of time to meet the interior noise standard of 45 dBA CNEL established by the City, an alternative form of ventilation, such as air conditioning or noise-attenuated passive ventilation systems, shall be included in all proposed dwelling units.
>
> Mitigation Measure NOISE-2b: In order to meet the interior noise standard of 45 dBA CNEL established by the City, all proposed dwelling units that would be located within 45 feet of the centerline of the outermost travel lane of El Camino Real shall be constructed to have an overall minimum STC rating of STC-35, and all exterior doors and windows shall have a minimum rating of STC-33. Quality control shall be exercised in construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed. (LTS)

Stationary Noise Impacts. Existing stationary noise sources in the project site vicinity contribute to the ambient noise environment such that portions of the project site would be exposed to exterior noise levels that exceed the City's "normally acceptable" noise standard of 60 dBA CNEL for new residential development.

Short term noise measurement ST1 was taken on the project site adjacent to the auto repair shop. The documented ambient noise levels at this location averaged 68.8 dBA L_{eq}. The documented noise sources included both traffic and stationary sources such as mechanical noise from activities at the auto repair shop. Activities associated with operation of the auto repair shop included the movement

[6] EPA 550/9-79-100, November 1978.

[7] Sound Transmission Class rates a partition's resistance to airborne sound transfer at the speech frequencies (125-4000 Hz). The higher the number, the better the resistance.

of vehicles in and out of the shop and mechanical noise such as that generated by the removal of mufflers (using metal saws), pneumatic drills, and compressors. Documented noise levels from these activities ranged up to nearly 80 dBA L_{max} at 30 feet from the open garage doors. When averaged over 24 hours, such intermittent noise levels would be expected to be less than the existing 24-hour weighted average traffic noise levels of 68.3 dBA CNEL.

With implementation of the design requirements outlined in multi-part Mitigation Measure NOISE-2, documented existing noise levels from combined traffic and stationary sources would be reduced to below the City's interior noise standard for new residential uses of 45 dBA CNEL (i.e., 68.8 dBA - 25 dBA = 43.8 dBA). Therefore, implementation of Mitigation Measure NOISE-2 would reduce potential impacts on the proposed sensitive land uses from existing stationary noise sources to a less-than-significant level.

Impact NOISE-3: Implementation of the proposed project could expose nearby existing land uses to unacceptable noise levels in violation of the City's Noise Ordinance (Chapter 8.06). (S)

Implementation of the proposed project could result in noise impacts to off-site sensitive land uses from project-related stationary noise sources. Noise generated by residential activities (e.g., gardening, children playing, barbecues) would not be expected to increase ambient noise levels, when averaged over time. Noise generated by project-related mechanical equipment such as air conditioners would be similar to noise levels existing in the vicinity of the project site and would not create a significant increase in noise levels. However, these stationary noise sources could result in exceedances of the standards contained in the City's Noise Ordinance. The Noise Ordinance (Chapter 8.06 of the City's Municipal Code) outlines noise limitations for noise sources that would affect or originate from residential land uses. This ordinance restricts all sources of noise (including fixed equipment such as air conditioners, pool filters, compressors, and industrial machinery) from exceeding 60 dBA L_{eq} during daytime hours and 50 dBA L_{eq} during nighttime hours, as measured at any point on a neighboring residential property nearest where the noise source at issue generates the highest noise level. Any plans submitted for a building permit must include documentation that proposed equipment meets this standard. Implementation of Mitigation Measure NOISE-3 would ensure that the project would comply with this Municipal Code requirement and would reduce project-related stationary noise impacts on off-site noise-sensitive land uses in the project site vicinity to a less-than-significant level.

> Mitigation Measure NOISE-3: The project sponsor shall ensure that project plans submitted for a building permit include documentation that proposed stationary equipment shall not generate noise that exceeds 60 dBA L_{eq} during daytime hours and 50 dBA L_{eq} during nighttime hours, as measured at any point on a neighboring residential property nearest where the noise source at issue generates the highest noise level. (LTS)

E. PUBLIC SERVICES AND UTILITIES

This section presents information related to public services and utilities that may be adversely affected by the proposed project, including police service, fire service, parks and recreation facilities, schools, and water supply and wastewater facilities. Service locations, capacities, and expansion possibilities are described, in addition to relevant regulations and service requirements. Impacts to public services and utilities are identified.

1. Police Services

This section includes a brief discussion of police services in and around the project site and evaluates the project's potential impacts on police services.

a. Existing Police Facilities and Staffing. The Menlo Park Police Department is located at 701 Laurel Street, approximately 0.8 miles from the project site. The Department currently has 49 sworn officers, two Community Service Officers (non-sworn), and 29 professional staff.[1] Due to staff turnover and advancement, staffing numbers will occasionally fluctuate. However, once vacancies are filled, the Department is expected to meet approved staffing levels.[2]

The project site is located within the Department's Beat One service area. Beat One covers the area within the west side of Menlo Park bounded by Valparaiso Avenue on the north, El Camino Real on the east, Sand Hill Road on the south, and Lawler Ranch Road on the west.[3] Two officers are assigned to this beat and patrol its boundaries in 12-hour shifts.

The Department has an average response time of 4 minutes, 7 minutes, and 9 minutes for Priority 1, 2, and 3 calls, respectively. Incoming calls are prioritized and responded to according to level of urgency. Priority 1 calls are defined as involving immediate danger of injury or loss of life, and Priority 2 calls are those which require an urgent response to prevent the situation from escalating to a Priority 1. Priority 3 calls are those which require a response when sworn officers are available. The primary law enforcement issues within the vicinity of the project site are related to traffic and property crimes. The Department actively combats these issues with proactive crime strategies, deploying the necessary resources to effectively enforce the laws and apprehend criminals.[4]

b. Police Services Impacts. An increase in demand for police services is not an environmental impact in and of itself. However, if the project necessitates new police facilities, the construction of such facilities could result in environmental impacts. Therefore, the project would have a significant impact on police services if it would require the construction of new facilities in order to maintain acceptable service ratios, response times, or other performance objectives for police services, and these new facilities would result in secondary environmental impacts.

(1) Less-Than-Significant Police Service Impacts. The proposed project would be expected to incrementally increase the demand for police services in the City because the project

[1] Romero, Jaime, 2011. Interim Commander-Operations Division. Menlo Park Police Department. Personal communications with LSA Associates, Inc. May 10 and 16.

[2] Ibid.

[3] Ibid. Lawler Ranch Road is located in the Town of Woodside.

[4] Ibid.

would increase the City's residential population, but this small increase in demand would be accommodated by existing Police Department facilities. Excluding unforeseen circumstances, the Menlo Park Police Department does not anticipate a significant increase in calls for service or an increase in the Department's response times as a result of the proposed project.[5] Therefore, the proposed project would result in less-than-significant impacts on police services.

(2) Significant Police Service Impacts. The proposed project would not result in a significant impact to police services within the City.

2. Fire Services

This section describes fire protection and emergency medical services in Menlo Park and evaluates the project's impacts on these services.

a. Existing Fire Facilities, Staffing, and Response Times. The Menlo Park Fire Protection District (MPFPD) provides fire protection and emergency medical services to the project site. The MPFPD covers approximately 30 square miles and serves approximately 93,000 people within the communities of Atherton, Menlo Park, East Palo Alto, and some unincorporated areas of San Mateo County.[6] The MPFPD's headquarters are located at 170 Middlefield Road. Currently, the MPFPD has 88 staff, which includes three battalion chiefs, 24 captains, 50 engineers, and 11 firefighters. Forty of the staff members are paramedics and all personnel are emergency medical technicians (EMTs).[7] The daily staffing/equipment minimum standard is 25 staff members and nine firefighting apparatuses for the MPFPD's seven stations, including one battalion chief, eight captains, and 16 firefighters/engineers, where a minimum of one paramedic staff member is required on each fire engine.[8]

Fire Station 6, Fire Station 3, and Fire Station 1, respectively would be the first, second, and third responders to a fire emergency within the project site.[9] Fire Station 6 is located at 700 Oak Grove Avenue in Menlo Park, approximately 0.6 miles from the project site and includes a Type 1 fire engine. Fire Station 3 is located at 32 Almendral Avenue in Atherton, approximately 2 miles from the project site and also includes a Type 1 fire engine. Fire Station 1 is located at 300 Middlefield Road in Menlo Park, approximately 1.5 miles from the project site and includes a Type 1 fire engine, a 100-foot aerial ladder truck, and a battalion command vehicle.[10]

The MPFPD's response time goal is between 7 and 8 minutes maximum travel time for all emergencies. The MPFPD currently achieves this performance goal 90 percent of the time. Depending on factors such as travel route, time of day, and unit availability, the average response time from Fire Station 6 is under 7 minutes.[11]

[5] Ibid.

[6] Menlo Park Fire Protection District, 2011. Fire District Information. Website: www.menlofire.org/districtinfo.html (accessed March 30).

[7] Schapelhouman, Harold, 2011. Fire Chief, Menlo Park Fire Protection District. Personal communication with LSA Associates, Inc. May 9.

[8] Ibid.

[9] Ibid.

[10] Ibid.

[11] Ibid.

The MPFPD maintains automatic aid agreements (allowing for immediate assistance) with San Mateo County and the City of Palo Alto. The MPFPD participates in the San Mateo County Automatic agreement, which includes an automatic deployment model and a central emergency dispatch center for all fire agencies in the County. This automatic aid model sends the closest available unit to respond, regardless of jurisdiction.[12] The MPFPD is currently working to expand its automatic aid agreement with the City of Palo Alto. Currently, the cities of Menlo Park and Palo Alto have automatic aid for fire engines only and mutual aid (aid upon request) for trucks and battalion chiefs.[13]

According to the MPFPD, no unusual fire hazards currently exist within the project site and its vicinity. However, since El Camino Real is a major arterial roadway, mobile hazards such as vehicles transporting hazardous and flammable materials could pose hazards to the project site.[14]

The Operation and Suppression Division of the MPFPD coordinates and manages all of the emergency operations and daily work activities for suppression personnel. Emergency Medical Services (EMS) activities include pre-hospital emergency medical services, continuing education training, quality assurance and improvement, infection control, and the paramedic preceptor program.[15] The MPFPD participates in the Community Emergency Response Team (CERT) program, which aims to improve community preparedness in the event of a disaster. The goal of the program is for emergency personnel to train neighborhood residents, community organizations, and employees at workplaces in basic emergency response skills.[16]

b. Fire Service Impacts. The creation of the need for new fire services is not an environmental impact in and of itself. However, if the project were to necessitate new fire facilities, the construction of such facilities could lead to impacts. Therefore, the project would have a significant impact on fire services if it would require the construction of new facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire services, and these new facilities would result in secondary environmental impacts.

(1) Less-Than-Significant Fire Service Impacts. The proposed project would create a small increase in demand for fire and emergency services within the City because the project would increase the City's residential population. However, the increase in demand for these services would not exceed the physical and financial capabilities of the MPFPD. The project applicant would be required to meet MPFPD standards related to fire hydrants, water fire flow requirements, spacing of hydrants, and other fire code requirements. Automatic fire sprinklers would be installed in all 26 units per the California Building Standards Code, which requires all new one- and two-family homes and townhouses to have an automatic residential fire sprinkler system.[17] The MPFPD would review the project's construction plans and inspect the construction work to ensure that the proposed project

[12] Ibid.

[13] Ibid.

[14] Ibid.

[15] Menlo Park Fire Protection District, 2011. Divisions: Operations. Website: www.menlofire.org/Operations.html (accessed March 30).

[16] Menlo Park Fire Protection District, 2011. Services: CERT. Website: www.menlofire.org/cert/CERT.html (accessed March 30).

[17] California Residential Code, 2010. Title 24, Part 2.5. Chapter 3, Part III, Section R313: Automatic Fire Sprinkler Systems.

meets State and local Fire Code requirements. The design of the project in accordance with these standards would ensure that the project would generate a less-than-significant increase in demand for fire and emergency services.

(2) Significant Fire Service Impacts. The proposed project would not result in a significant impact to fire and emergency services within the City.

3. Parks and Recreation

The following subsection describes park and recreational facilities in Menlo Park, and relevant policies, and evaluates the project's potential impact on existing facilities.

a. Existing Facilities. The City of Menlo Park Community Services Department is responsible for parks and recreational facilities in the City. The City operates 13 parks, two community centers, two swimming pools, two child care centers, and two gymnasiums.[18] There are over 236 acres of park and recreational facilities within the City.

The City-owned parks that are closest to the project site are shown in Table IV.E-1 below.

Table IV.E-1: Park Facilities Near the Project Site

Park Facility	Park Location	Distance From Project Site	Size	Main Characteristics
Nealon Park	800 Middle Avenue	0.3 mile northwest of project site	9.00 acres	• Five lighted tennis courts • Softball field • Playground • Picnic areas • Off-leash dog area
Burgess Park[a]	701 Laurel Street	0.8 mile northeast of project site	9.31 acres	• Two lighted tennis courts • Two baseball fields • Soccer Field • Children's playground, open play field
Fremont Park	Intersection of Santa Cruz Avenue and University Drive	0.8 mile northwest of project site	0.38 acre	• Lighted walkways and benches
Jack W. Lyle Park	Intersection of Middle Avenue and Fremont Street	0.6 miles northwest of project site	4.55 acres	• Open play field • Half-court basketball court • Playgrounds • Walkways and benches

[a] Adjacent facilities include the Burgess Pool, Burgess Recreation Center (as of December 2011 the Gymnastics Center is under construction), Burgess Sports Center, Burgess Skate Park, and the Arrillaga Family Gymnasium.

Source: City of Menlo Park Community Services Department, 2011.

The San Mateo County Parks and Recreation Division provides regional recreational facilities, including 17 parks, three regional trails, and numerous County and local trails encompassing 15,680

[18] Menlo Park, City of, 2011. Community Services Department. Website: www.menlopark.org/departments/dep_comservices.html (accessed March 30).

acres. These facilities are located in a diversity of natural settings including a marine reserve, a bayside recreational area, coastal mountain woodland areas, and urban sites.[19]

The following open space-related General Plan policies are applicable to the project site:

Land Use Element Policies

Policy I-H-3: Plant material selection and landscape and irrigation design for City parks and other public facilities and in private developments shall adhere to the City's Water Efficient Landscaping Ordinance.

Open Space and Conservation Policies and Goals

Goal 2. To encourage the enhancement of boulevards, plazas, and other urban open spaces in residential, commercial, and industrial neighborhoods.

Policy 2. Include landscaping and plazas on public and private lands and well-designed pedestrian facilities in areas of intensive pedestrian activity. Require greater landscaping in extensive parking areas.

b. Parks and Recreation Impacts. The project would have a significant impact on parks and recreation if it would:

- Increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Create a shortage of park facilities for new residents, such that the standard of 5 acres per 1,000 people is not met.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

(1) Less-Than-Significant Parks and Recreation Impacts. Development of the proposed project would increase the demand for park and recreation space because the increased residential population on the project site would be expected to use local parks. Based on an average household size of 2.4 persons,[20] the residential population of the site is expected to be approximately 62 persons. There are sufficient neighborhood and regional parks in close proximity to the project site to satisfy the expected resident demand. As mentioned above, Nealon Park is located less than 0.5 miles from the project site, while Burgess, Fremont, and Jack W. Lyle parks are located within 1 mile of the project site. Regional parks such as Huddart and Wunderlich County Parks are located approximately 7 miles west of the project site. Because of the modest population growth anticipated as part of the project, increased use of existing parks and recreational facilities would not result in the physical deterioration of these facilities. Increased use of parks by project residents would occur in small amounts over time and over several different facilities.

[19] San Mateo County Environmental Services Agency, 2011. Department of Parks: *Wild Place and Friendly Places.* Website: www.co.sanmateo.ca.us/portal/site/parks (accessed March 30).

[20] Association of Bay Area Governments, 2009. *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts.* ABAG information for persons per household includes data from within the City's sphere of influence.

The City of Menlo Park has established a 5 acres per 1,000 persons standard as a threshold to measure how well its citizens are provided with access to park and recreational facilities. Based on a 2010 population of 31,700, it is estimated that the City exceeds this standard, providing 7.4 acres of park-land per 1,000 persons.[21] The 62 additional residents added by the project would not substantially change the ratio of park space per 1,000 residents. In addition, the project sponsor would be required to pay an in-lieu recreation fee based on the number of net new dwelling units developed on the site.

In addition, the proposed site includes private and shared open spaces; the shared open space offers amenities such as a barbeque and seating area. The proposed project would include approximately 18,315 square feet of private and shared open space on the site. Because this open space would be developed on an already-developed site, associated environmental impacts would be limited and considered less than significant. Therefore, the proposed project would have a less-than-significant impact on parks and recreational facilities.

(2) Significant Parks and Recreation Impacts. The proposed project would not result in significant impacts to parks and recreational facilities within the City.

4. Schools

This section includes a brief discussion of schools that would serve the project and evaluates the project's potential impacts on school facilities. As the project includes residential uses, implementation of the proposed project would directly increase enrollment at local schools. However, this enrollment increase would be less than significant, as described below.

a. Existing Facilities. The project site is within the vicinity of the Menlo Park City School District and the Sequoia Union High School District. These districts are described below.

Menlo Park City School District. The Menlo Park City School District serves parts of Menlo Park, Atherton, and unincorporated San Mateo County and provides kindergarten (K) through 8th grade education. The Menlo Park City School District operates the following four schools: Laurel School (grades K-3); Oak Knoll School (grades K-5); Encinal School (grades K-5); and Hillview Middle School (grades 6-8). District-wide enrollment for the 2009-2010 school year was 2,529 students and District-wide enrollment for the 2010-2011 school year was 2,633 students.[22] The District's projected student enrollment for the 2011-2012 school year is 2,742 students. Enrollment is expected to increase by approximately 4 percent between the 2010-2011 and 2011-2012 school years.[23]

Elementary and middle school students generated by the proposed project would attend Oak Knoll Elementary School (grades K-5) and Hillview Middle School (grades 6-8). Table IV.E-2 summarizes each of the school's 2009-2011 enrollments and student capacities. Enrollments for the 2009-2010

[21] Number of acres per person is based on 2009 ABAG population estimates for Menlo Park, including the City's sphere of influence.

[22] California Department of Education, 2011. Education Demographics Unit: *DataQuest, Enrollment Report*. Enrollment by Grade for 2009-2010 and 2010-2011. Website: data1.cde.ca.gov/dataquest/ (accessed March 30).

[23] White, Diane, 2011. Chief Business Official. Menlo Park City School District. Personal communication with LSA Associates, Inc. May 11.

school year at Oak Knoll and Hillview Middle schools were 746 and 683 students, respectively.[24] Enrollments for the 2010-2011 school year at Oak Knoll Elementary and Hillview Middle schools are 739 and 697, respectively.[25] Oak Knoll Elementary is currently operating at 19 students over capacity while Hillview Middle School is operating at 23 students under capacity.

Table IV.E-2: 2009-2011 Enrollments and Capacities

School	Total Capacity (Students)	2009-2010 Enrollment (Students)	2009-2010 Over Capacity (Students)	2010-2011 Enrollment (Students)	2010-2011 Over Capacity (Students)
Oak Knoll Elementary (K-5)	720	746	26	739	19
Hillview Middle (6-8) [a]	720	683	-37	697	-23
Menlo Park-Atherton High (9-12)	2,122	1,945	-177	2,024	-98

[a] The new Hillview Middle School (planned to open for the 2012-2013 school year) would accommodate 960 to 980 students.

Source: California Department of Education, Menlo Park City School District, and Sequoia Union High School District, 2011.

Student enrollment at Oak Knoll Elementary School decreased by seven students between the 2009-2010 and 2010-2011 school years, and is projected to decrease by three students for the 2011-2012 school year. Student enrollment at Hillview Middle School increased by 14 students between the 2009-2010 and 2010-2011 school year, and is projected to increase by 80 additional students for the 2011-2012 school year.

The District has a maximum classroom student-to-teacher ratio of 22 to 1.[26] Table IV.E-3 shows the student generation rates that are used by the District for three tiers of single-family residences. These tiers are generally defined based on property characteristics, including parcel square footage, house size, amenities, and location. A student generation rate is an estimate of the average number of students that would live in each dwelling unit, and is employed to calculate anticipated student yields from new residential development.

Table IV.E-3: Menlo Park City School District Student Generation Rates

Single-Family Residence Value	Student Generation Rate Per Unit
Moderate Value	0.29
Middle Value	0.39
High Value	0.28

Source: Menlo Park City School District, 2011.

Currently, the District is at capacity; however, as described in more detail below, the redevelopment of the Hillview Middle School campus would be able to accommodate up to 260 additional students. The Menlo Park City School District faces increasing pressure to accommodate a growing student population. A 2007 assessment of the District's facilities and campuses indicated that although the District's enrollment has been relatively flat for many years, enrollment is projected to grow by 18 percent by 2014.[27] Given the projected growth, the sizes of the Laurel School and Oak Knoll School campuses were determined to be inadequate in terms of student capacity; Encinal School, the largest of the elementary school campuses, was expected to be underutilized. As a result, the District adopted

[24] California Department of Education, 2011.

[25] White, Diane, 2011.

[26] Ibid.

[27] Menlo Park City School District, 2007. Facility Development, Enrollment Fact Sheet. Website: district.mpcsd.org/ (accessed January 10, 2012).

a reconfiguration plan to adjust school boundaries and grade levels (Encinal School is now K-5) that would reduce the enrollment of Laurel and Oak Knoll schools, and increase the enrollment of Encinal School.[28]

The District also addressed the existing facility shortcomings through Measure U, a $91 million facilities bond, approved by 70 percent of voters on the June 2006 ballot. After the passage of Measure U, the District began an aggressive planning process that led to the October 2006 Board adoption of The Plan for Reconfiguration of the Elementary Schools. The Plan was based on specific educational, logistical, operational and financial objectives and is intended to address the projected increase in school enrollment with a combination of new facilities, modernization of existing buildings, and a revision of school boundaries. The District also receives substantial support within the community through the Menlo Park Atherton Education Foundation, a non-profit organization that raises money to support Laurel, Encinal, Oak Knoll, and Hillview schools. In 2010, the Foundation granted $2.35 million to the schools.[29]

The 3-year reconfiguration and construction projects at the elementary schools were concluded in the fall of 2010, resulting in the creation of additional classroom space, open space for playgrounds and fields, and the elimination of portable classrooms. Because enrollment growth at Hillview Middle School was projected to reach 38 percent, the District approved the complete redevelopment of the middle school campus.[30] The construction of the 85,000 square foot new facility began in the summer of 2010 and is scheduled for completion and occupancy for the start of the 2012-2013 school year. Upon completion of the new school, students will be moved from the existing school to the new classrooms and facilities. The existing school is scheduled to be demolished in the summer of 2012 and converted to a playfield and basketball courts.[31]

Sequoia Union High School District. The Sequoia Union High School District provides high school education (grades 9-12) to students in the City of Menlo Park. During the 2009-2010 school year, approximately 8,479 students were enrolled in the Sequoia Union High School District. District-wide enrollment for the 2010-2011 school year was 8,267 students.[32] The projected District-wide enrollment for the 2011-2012 school year is 8,212 students.[33] The District has a maximum classroom student-to-teacher ratio of 27.5 to 1.[34] The District uses a student generation rate of 0.2 students for both single-family and multi-family residential developments.[35]

[28] Menlo Park City School District, 2007. Facility Development, Reconfiguration Fact Sheet. Website: district.mpcsd.org/ (accessed January 10, 2012).

[29] Menlo Park City School District, 2011. Website: www.mpcsd.org (accessed March 30).

[30] Menlo Park City School District, 2011. *Community Relations: Community Report from the Menlo Park City School District -2010-11*. Website: www.mpcsd.k12.ca.us/Facilities (accessed March 30, 2011).

[31] Menlo Park City School District, 2011. *Menlo Park City School District: Facility Development, School Projects*. Website: www.mpcsd.org (accessed March 30).

[32] California Department of Education, 2011. *Education Demographics Unit: DataQuest, Enrollment Report.* Enrollment by Grade for 2009-2010 and 2010-2011. Website: data1.cde.ca.gov/dataquest (accessed March 30).

[33] Berghouse, Susan, 2011. Director of Enrollment, Registration, and Personnel. Sequoia Union High School District. Personal communication with LSA Associates, Inc. June 1.

[34] Ibid.

[35] Pacheco, Louise, 2011. Assistant Project Manager-Construction, Sequoia Union High School District. Personal communication with LSA Associates, Inc. May 12.

High school-aged residents generated by the proposed project would attend Menlo-Atherton High School. Menlo-Atherton High School has a capacity of 2,122 students (see Table IV.E-2).[36] Student enrollment for the 2009-2010 school year at the high school is 1,945.[37] Enrollment for the 2010-2011 school year increased by 79 students to 2,024 students.[38] The estimated projected enrollment for the 2011-2012 school year is 2,020 students.

Through Measure J (a $165 million 10-year technology bond approved in 2008), the District continues to undertake a District-wide expansion of a career technical education program that includes projects such as: upgrading classroom computers, improving energy efficiency, and building classrooms for career, technical, and vocational courses.[39]

b. School Impacts. The project would have a significant impact on school services if it would require the construction of new facilities in order to maintain acceptable service ratios or other performance objectives for school services, and these new facilities would result in secondary environmental impacts.

(1) Less-Than-Significant School Impacts. The project includes the development of 26 residential units and would result in an increase of up to 15 school-aged residents within the project site. As shown in Table IV.E-3, the Menlo Park City School District uses varying student generation rates that range from 0.28 to 0.39 elementary and middle school students per single-family residential unit, depending on the category of the residential unit. The Sequoia High School District uses a student generation rate of 0.2 high school students per residential unit. Based on these rates, the proposed project would generate between seven and ten elementary and middle school students and five high school students. As previously described, Menlo Park City District schools that would serve the project are currently operating near or slightly over capacity.

State law (Government Code Section 65996) specifies that the impact of development projects on schools can be offset through the payment of a school impact fee prior to issuance of a building permit. In Menlo Park, a project applicant can either negotiate directly with the affected school districts, or pay a school impact fee of $2.97[40] per square foot for each residential unit. In the case of the proposed project, the Menlo Park City School District and Sequoia Union High School District would share the impact fee.[41] The school districts are responsible for implementing the specific methods of mitigating school impacts under the Government Code. The school impact fees and the school districts' methods of implementing measures specified by Government Code 65996 would offset project-related student enrollment. Payment of school facilities mitigation fees has been deemed by the State legislature (per Government Code Section 65995(h) to constitute full and complete mitigation of the impacts of a development project on the provision of adequate school

[36] Berghouse, Susan, 2011.

[37] California Department of Education, 2011.

[38] Berghouse, Susan, 2011.

[39] Sequoia Union High School District, 2011. Bond Updates. Website: www.sequoiadistrict.org/20441082420148270/site/default.asp?2044Nav=|&NodeID=68 (accessed May 10).

[40] White, Danielle, 2011. Chief Business Official. Menlo Park City School District. Personal communication with LSA Associates, Inc. May 9.

[41] Ibid.

facilities. The proposed project would not result in a substantial increase in new students, such that the construction of new school facilities would be required. Through the payment of associated development fees and compliance with applicable State and local regulations, implementation of the proposed project would have a less-than-significant impact on school facilities.

(2) Significant School Impacts. The proposed project would not result in any significant impacts related to schools and mitigation measures are not required since the schools districts are responsible for implementing the specific methods of mitigating school impacts under State law (through the establishment of development fees).

5. Water Service

This section includes a brief discussion of water service in and around the project site and evaluates the project's potential impacts on water supply and infrastructure.

a. Existing Infrastructure and Services. The San Francisco Public Utilities Commission (SFPUC) provides water to the City of Menlo Park and other municipalities. The SFPUC Regional Water System provides an average of approximately 265 million gallons per day (mgd) to 2.5 million users in Tuolumne, Alameda, Santa Clara, San Mateo and San Francisco counties.[42,43]

The SFPUC Regional System is a complex network of storage and distribution facilities. It supplies water from two primary sources: the Tuolumne River through the Hetch Hetchy Reservoir; and reservoirs in the Alameda and Peninsula watersheds. The local watershed facilities are operated to conserve local runoff for delivery. Water in the Hetch Hetchy Reservoir represents the majority of the water supply available to San Francisco. On average, the Hetch Hetchy Reservoir provides over 85 percent of the water delivered by the SFPUC to the Bay Area. Local reservoirs provide, on average, approximately 15 percent of the water delivered by the SFPUC Regional Water System.[44]

The California Water Service Company (Cal Water) provides water service to parts of Menlo Park, including the project site. Cal Water's service area for Menlo Park is within the Bear Gulch District. The Bear Gulch District, located in southern San Mateo County, serves the communities of Atherton, Portola Valley, Woodside, parts of Menlo Park, and adjacent unincorporated portions of San Mateo County, including: West Menlo Park, Ladera, North Fair Oaks, and Menlo Oaks.[45] The Bear Gulch District receives 85 to 95 percent of its daily supply from the SFPUC and the remainder from Cal Water's own local water supply.

The Bear Gulch District receives purchased treated water from the Regional Water System. The federal Raker Act prevents privately-owned utilities, like Cal Water, from receiving water from the

[42] San Francisco Public Utilities Commission, 2011. Water. Website: sfwater.org/mc_main.cfm/MC_ID/13 (accessed March 28).

[43] San Francisco Public Utilities Commission, 2005. *2005 Urban Water Management Plan for the City and County of San Francisco*. December. Website: sfwater.org/mto_main.cfm/MC_ID/13/MSC_ID/165/MTO_ID/286 (accessed 2011 28 March).

[44] Ibid.

[45] Bay Area Water Supply and Conservation Agency (BAWSCA), 2009. *Annual Survey FY 2008-2009*. January. Website: bawsca.org/docs/BAWSCA_Survey_FY07_08_2.pdf (accessed May 17, 2011).

Hetch Hetchy system, but allows purchases of treated water from local supply sources, such as the local watershed storage reservoirs. By utilizing the storage and conveyance systems within the Regional Water System, the SFPUC meets its retail and wholesale water demands with imported water from Hetch Hetchy and/or locally produced Bay Area water.

Bear Gulch District water is stored in the 215 million gallon Bear Gulch Reservoir, and is treated at the Station 2 Filter Plant before distribution. Station 2 has a capacity of 6 million gallons per day (mgd).[46] The distribution system consists of 36 pressure zones, 57 booster pumps, and 31 storage tanks and reservoirs. The water collection system operates as a grid system and the Bear Gulch District is within the 220 zone, or the Low Zone.[47] Currently, Cal Water does not have recycled water capabilities.

Three 6-inch water mains are located on El Camino Real, College Avenue, and Partridge Avenue, respectively. The three water mains range in age from 40 to 70 years old. An SFPUC water connection is located approximately 650 feet from the project site on El Camino Real.

b. Water Service Impacts. The water service criteria of significance are based on the *CEQA Guidelines* Environmental Checklist questions. The proposed project would have a significant impact on water service if:

- The project would require or result in construction of new water or wastewater facilities, or expansion of existing facilities, construction of which could cause significant environmental effects.
- Sufficient water supplies are not available to serve the project from existing entitlements and resources, or new and expanded entitlements are needed.

(1) Less-Than-Significant Water Service Impacts. Water demand from the proposed project would be approximately 2,912 gallons per day.[48] The Bear Gulch District of Cal Water provides water service to the project site and receives its water allocation from the SFPUC. The Bear Gulch District indicates that it has adequate water supplies to serve the proposed project.[49] Currently, there are no planned water supply improvement projects in the project area.[50] Minor upgrades to water lines within and adjacent to the site would be required as part of the project and would conform to Cal Water requirements. If such upgrades are required, they would primarily occur within public rights-of-way and would not be expected to result in environmental impacts beyond those identified in this EIR. Additionally, all landscaping would be required to adhere to the City's Water Efficient Landscaping Ordinance.

(2) Significant Water Service Impacts. The proposed project would not result in any significant water service impacts.

[46] Ibid.

[47] Roberts, Marty, 2011. Superintendent of Construction, Bear Gulch District. California Water Service Company. Personal communication with LSA Associates, Inc. May 12.

[48] ESA, 2011. *Menlo Park El Camino Real/Downtown Specific Plan Draft Environmental Impact Report*. April. A multi-family residential rate of 112 gallons per day was used in this analysis.

[49] Roberts, Marty, 2011.

[50] Ibid.

6. Wastewater

This section includes a brief discussion of the wastewater infrastructure and service in and around the project site and analyzes the project's potential effects on the wastewater system.

a. Existing Infrastructure and Services. The West Bay Sanitary District (WBSD) serves an area of approximately 13 square miles, and maintains and operates over 200 miles of gravity sewer mains in the City of Menlo Park and portions of the cities of East Palo Alto and Redwood City; the Towns of Atherton, Woodside, and Portola Valley; and portions of unincorporated San Mateo and Santa Clara counties. Pipe sizes range in diameter from 4 to 54 inches and a majority of the pipelines are made of vitrified clay and asbestos cement, with isolated occurrences of reinforced and unreinforced concrete and ductile iron pipe. Recently-installed pipes consist of polyvinyl chloride (PVC).[51] All wastewater collected within the WBSD is transported via main line trunk sewers to the Menlo Park Pumping Station. The South Bayside System Authority (SBSA) Regional Treatment Plant, located in Redwood City, treats wastewater generated by the WBSD, and the cities of Belmont, San Carlos, and Redwood City. The cities of Redwood City, Belmont, and San Carlos own and operate the SBSA regional treatment plant. The SBSA operates the pump stations that are located at the terminus of each collection system, including the Menlo Park Pump Station, located at the northern end of Marsh Road.[52] Wastewater from the pumping station is conveyed to the SBSA treatment plant for treatment and discharge to San Francisco Bay.

The WBSD owns and operates 13 pump stations located within the collection system that are necessary to convey wastewater flow from low-lying areas to higher elevations where the wastewater can again flow by gravity. The WBSD's pump stations have pumping equipment, standby generators, and telemetry that alert the pump station crew of emergencies. The WBSD also has emergency standby generators and bypass pumps as part of its emergency response equipment.[53]

The WBSD's share of dry weather flow at the wastewater treatment plant is approximately 7.98 million gallons per day (mgd) and the current average daily dry weather flow is 4.5 mgd.[54] Wet weather flows vary but peak wet weather flows are approximately 14 mgd due to inflow and infiltration of stormwater.

Existing sanitary sewer service for the project site is provided via a 24-inch sanitary sewer line located along El Camino Real near the eastern boundary of the site. An existing 6-inch line is also located along Partridge Avenue near the southern boundary of the site and an 8-inch line is located along College Avenue near the northern boundary of the site. The proposed project would connect to these existing facilities.

[51] Kitajima, Bill, 2011. Projects Manager, West Bay Sanitary District. Personal communication with LSA Associates, Inc. May 12.

[52] Ibid.

[53] West Bay Sanitary District, 2011. Education. Website: www.westbaysanitary.org/education/what-we-do (accessed April 4).

[54] Kitajima, Bill, 2011.

b. Wastewater Impacts. The wastewater criteria of significance are based on the *CEQA Guidelines* Environmental Checklist questions. The proposed project would have a significant impact on wastewater service if it would:

- Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board.
- Require or result in construction of new water or wastewater facilities, or expansion of existing facilities, construction of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments, and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

(1) Less-Than-Significant Wastewater Impacts. Using the District's wastewater generation rate of 220 gallons per day for residential uses, the proposed project would generate approximately 5,720 gallons per day (gpd) of wastewater.[55] The proposed project's wastewater flow represents approximately 0.13 percent of the District's share of dry weather flow at the SBSA. Because the implementation of the proposed project would not substantially reduce the capacity of the wastewater treatment system, the proposed project would not exceed the wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board or require the construction of new wastewater treatment facilities.[56]

(2) Significant Wastewater Impacts. The proposed project would not result in any significant wastewater service impacts.

7. Solid Waste

This section includes a brief discussion of solid waste services at the project site and analyzes the project's potential effects on the solid waste disposal system.

a. Existing Infrastructure and Services. The City is a member agency of the South Bayside Waste Management Authority (RethinkWaste), a joint powers authority created in 1982 to facilitate waste management and recycling programs for its member agencies. The primary goal of RethinkWaste is to provide cost effective waste reduction, recycling, and solid waste programs to member agencies through franchised services and other recyclers to meet and sustain a minimum of 50 percent diversion of waste from landfills, as mandated by California State Law, AB 939.[57]

(1) Non-Hazardous Solid Waste. On January 1, 2011, Recology San Mateo County (formerly Norcal Waste Systems of San Mateo County), started providing recycling, compost, and garbage collection services to all residential, multi-family, and commercial customers that reside

[55] Ibid. The wastewater generation rate for residential uses is likely higher than the water demand rate due to inflow and infiltration of stormwater into the wastewater treatment system.

[56] Ibid.

[57] South Bayside Waste Management Authority, 2011. Website: www.rethinkwaste.org (accessed March 31).

within the city limits of the of the 12 member agencies of RethinkWaste.[58] Non-hazardous solid waste is taken to the Shoreway Environmental Center, located at 333 Shoreway Road in San Carlos, for processing, staging, and shipment to end markets. The Shoreway Environmental Center serves as a regional solid waste and recycling facility for the receipt, handling, and transfer of solid waste and recyclables collected from the RethinkWaste service area.[59] Recyclable materials are also delivered to the Shoreway Environmental Center, where they are processed.

The Shoreway Environmental Center consists of the solid waste Transfer Station, Materials Recovery Facility (MRF), Recycling Buy-Back and Drop-off, and the Public Batteries, Oil, and Paint Drop-off, which are operated by South Bay Recycling under contract with RethinkWaste as of January 1, 2011.[60] The Shoreway Center has a maximum allowable capacity of 3,000 tons of waste per day.[61] After undergoing processing, waste from the Shoreway Center is delivered to the Ox Mountain Sanitary Landfill near State Route 92 in Half Moon Bay. The landfill handles construction, demolition, and mixed municipal waste, and has a total estimated capacity of 37.9 million cubic yards. As of the year 2000, the landfill's total estimated capacity used was 6,746,148 cubic yards, or 17.8 percent of the landfill's total capacity. The landfill has a permitted throughput of 3,598 tons per day[62] and is anticipated to have sufficient capacity until 2018.[63]

(2) Hazardous Solid Waste. Curbside Inc, contracted by Rethink Waste, offers door-to-door household hazardous waste collection services upon request for all residents in selected cities (Belmont, Foster City, East Palo Alto, Hillsborough, Menlo Park, San Carlos, and San Mateo) and West Bay Sanitary District. Hazardous waste generated by residential uses includes: paint, insecticides and herbicides, automotive parts, florescent lights, tubes, compact fluorescent lamps, batteries, computers, cell phones, cleaning products, solvents, and sharp objects. The County of San Mateo Health System's Household Hazardous Waste Program educates the public about the dangers of toxic household wastes and assists people in disposing of waste properly at collection events and collection centers. Collection centers accept only residential waste; a separate program for small businesses that generate small quantities of toxic waste is offered for qualified San Mateo County businesses.[64]

(3) Regulatory Context. The following discussion summarizes regulations that apply to solid waste generation and disposal in the City.

The California Integrated Waste Management Act of 1989 (AB 939) requires counties to adopt an Integrated Waste Management Plan (IWMP) to establish objectives, policies, and programs related to

[58] Recology San Mateo County, 2011. Website: www.recologysanmateocounty.com/index.php (accessed March 31).

[59] South Bayside Waste Management Authority, 2011. Shoreway Overview. Website: www.rethinkwaste.org/shoreway-facility/overview (accessed June 1).

[60] Ibid.

[61] CalRecycle, 2011. *Transfer Station Profile for Shoreway Center.* Website: www.calrecycle.ca.gov/Profiles/Facility (accessed March 31).

[62] Permitted throughput is the maximum permitted amount of waste a landfill can handle and dispose of in one day. This figure is established in the current solid waste facilities permit issued by the Integrated Waste Management Board.

[63] CalRecycle, 2011. *Facility/Site Summary Details, Ox Mountain Sanitary Landfill*. Website: www.ciwmb.ca.gov (accessed March 31).

[64] San Mateo, County of, 2011. Health System, Health Divisions, Environmental Health. Website: www.co.sanmateo.ca.us/portal/site/health (accessed March 31).

waste disposal, management, source reduction, and recycling. AB 939 mandates that cities and counties adopt a Source Reduction and Recycling Element (SRRE) to specify how the community would meet the established 50 percent landfill diversion goal. Each jurisdiction is also required to take measures to reduce solid waste generation and to provide for the safe disposal of special and hazardous wastes. Certain special and hazardous wastes are included within the purview of the SRRE, but communities are also required to adopt a separate Household Hazardous Waste Element (HHWE) to address hazardous wastes generated by households. The City's SRRE was approved in September 1994 and the City's HHWE was approved in January 1996 by the California Department of Resources Recycling and Recovery (CalRecycle), formally known as the California Integrated Waste Management Board. The SRRE Biennial Review was also accepted in January 1996. The City reached a 50 percent diversion rate for the first time in 2000. As of 2006, a 55 percent diversion rate was reported by CalRecycle.[65] The City of Menlo Park Climate Action Change Plan[66] includes strategies, such as expanded recycling services, to increase the City's diversion rate. The Plan indicates that single stream recycling[67] is expected to increase diversion of City-generated bottles, cans, paper, and plastic by about 15 percent and if food waste and other compostable materials are included in the service, there could be another 15 percent increase in tonnage diverted from the landfill.

Since 1989, San Mateo County and its cities have implemented a variety of programs to reduce solid waste, including through the implementation of curbside recycling, commercial recycling programs, organics collection, backyard composting, electronics recycling, construction and demolition recycling ordinances, and green building programs. Most of the diversion programs are focused around green waste, as well as on the residential and commercial sectors, through operation and planned expansion of recycling services.[68] The Menlo Park Municipal Code requires that structures planned for demolition be made available for deconstruction and salvage prior to demolition. In addition, the code requires all contractors to recover the maximum feasible amount of materials prior to demolition for reuse or recycling. Furthermore, the code requires all commercial demolition projects over 5,000 square feet to divert 60 percent of all demolition-generated debris. Plans for diverting these materials must be described by projects applicants and approved by the City.[69]

b. Solid Waste Impacts. The solid waste criteria of significance are based on the *CEQA Guidelines* Environmental Checklist questions. The proposed project would have a significant impact on solid waste if it would:

[65] CalRecycle, 2011. *Jurisdiction Profile for City of Menlo Park*. Website: www.calrecycle.ca.gov/Profiles (accessed March 31).

[66] Menlo Park, City of, 2009. *Climate Change Action Plan*. Website: www.menlopark.org/departments/env/cap.html (accessed March 31).

[67] Single stream recycling is a system in which recyclables are mixed together instead of being sorted prior to pickup.

[68] CalRecycle, 1999. Board Meeting, Agenda Item 4. September 21. Website: www.ciwmb.ca.gov/agendas/mtgdocs/1999/09/00001674.doc.

[69] Menlo Park, City of, 2001. City of Menlo Park Municipal Code, *Chapter 12.48, Recycling and Salvaging of Construction and Demolition Debris.*

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Violate applicable federal, State, and local statutes and regulations related to solid waste.

(1) Less-Than-Significant Solid Waste Impacts. CalRecycle has developed residential disposal rates for counties and regions throughout the State. Using San Mateo County's rate of 0.42 tons of waste per unit per year, residents at the completed project would produce approximately 11.34 tons of solid waste per year.[70] As noted previously in this section, the Ox Mountain Sanitary Landfill has a maximum allowable capacity of 3,598 tons of waste per day through the year 2018. The increase in waste generation resulting from the proposed project would represent approximately 0.3 percent of the landfill's daily permitted throughput. The anticipated life of the Ox Mountain Sanitary Landfill would not be significantly reduced by implementation of the proposed project, particularly if occupants accomplish recycling at rates that mirror the City-wide average.

The proposed project would be designed and developed in accordance with State and local solid waste regulations (federal solid waste regulations do not apply to the proposed project). Demolition debris generated by the proposed project would be reduced to the greatest extent feasible, in accordance with the Menlo Park Municipal Code, and would not substantially affect the remaining capacity of the Shoreway Center or the Ox Mountain Sanitary Landfill. The proposed project would not violate applicable federal, State, and local statutes and regulations related to solid waste. Therefore, impacts associated with solid waste disposal would be considered less than significant.

(2) Significant Solid Waste Impacts. The proposed project would not result in any significant solid waste impacts.

8. Energy and Telecommunications

The following discussion provides background information on the energy and telecommunication systems that relate to the proposed project.

a. Electricity and Natural Gas. Electricity and gas service to the project site would be provided by Pacific Gas and Electric (PG&E). PG&E charges connection and user fees for all new development, in addition to sliding rates for electrical and natural gas service based on use. Existing electricity and gas lines in the vicinity of the site would serve the project.

Gas supplies in northern California come primarily from gas fields in the Sacramento Valley.[71] However, PG&E produces much of its energy from renewable sources and has plans in place to increase reliance on renewable energy sources. Of the energy provided to PG&E customers in 2010, approximately 16 percent came from renewable resources. In 2010, 24 percent of energy provided to PG&E customers came from nuclear generation; 16 percent came from large hydroelectric facilities; and 16 percent came from renewable resources such as wind, geothermal, biomass, and small hydroelectric sources. In addition, PG&E has plans to increase the use of renewable power. For

[70] CalRecycle, 2011. *Estimated Solid Waste Generation Rates.* June 13. Website: www.calrecycle.ca.gov/wastechar/ResDisp.htm.

[71] California Gas and Electric Utilities, 2011. *2010 California Gas Report.* Website: www.pge.com/pipeline/library/regulatory/downloads/cgr10.pdf (accessed November 8).

instance, PG&E purchases power from customers that install small-scale renewable generators (e.g., wind turbines or photovoltaic cells) up to 1.5 megawatts in size.[72]

Because many agencies in California have adopted policies seeking increased use of renewable resources (and have established minimum standards for the provision of energy generated by renewable resources), it is expected that PG&E will continue to meet future demand for energy via a increasing reliance on renewable resources, including small-scale sources such as photovoltaic panels and wind turbines, in addition to larger-scale facilities, such as wind farms.

The PG&E gas transmission pipeline system serves approximately 4.2 million gas customers in northern and central California. The PG&E electric system is designed to deliver safe and reliable energy to customers throughout Northern and Central California. PG&E produces or buys its energy from a mix of conventional and renewable generating sources, which travel through PG&E's electric transmission and distribution systems.[73]

Regulatory requirements for efficient use of electricity and gas are contained in Title 24, Part 6, of the California Code of Regulations, entitled "Energy Efficiency Standards for Residential and Nonresidential Buildings." These regulations specify the State's minimum energy efficiency standards and apply to new construction of both residential and nonresidential buildings. The standards regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. Compliance with these standards is verified and enforced through the local building permit process.[74]

b. Telecommunications. Telecommunications and cable service would be provided by AT&T and other providers (which would be selected by individual residents of the site). AT&T also provides or hosts a variety of other telecommunication services, including Digital Subscriber Line (DSL), Internet Service Provider (ISP), web hosting, virtual private networking, U-verse, Multi-protocol Level Switching (MPLS), and wireless/cellular paging services.

The California Public Utilities Commission requires that AT&T anticipate and serve new growth. To meet this requirement, AT&T continually upgrades its facilities and infrastructure, adding new facilities and technology to remain in conformance with California Public Utilities Commission tariffs and regulations and to serve customer demand in the City and elsewhere.

c. Energy and Telecommunications Impacts. The project would have a significant impact on energy and telecommunications if it would require the construction of additional electricity, gas, or telecommunications infrastructure facilities, the construction of which could cause significant environmental effects.

(1) Less-Than-Significant Energy and Telecommunications Impacts. Development of the proposed project would incrementally increase demand for electricity, gas, and telecommunication services in order to serve the residential development (although increased demand for these services

[72] Pacific Gas & Electric Company, 2011. *Clean Energy Solutions.* Website: www.pge.com/mybusiness/environment/pge/cleanenergy/index.shtml (accessed February 17).

[73] Pacific Gas and Electric Company, 2011. *Electric System.* Website: www.pge.com/mybusiness/edusafety/systemworks/electric/ (accessed November 8).

[74] Locally-adopted amendments to Title 24, Part 6 would further increase the energy efficiency of the project.

would comprise a very small proportion of overall demand in the region). Despite long-term State-wide increases in energy consumption, the energy demand estimated for the proposed project would not contribute to a substantial increase in energy consumption within PG&E's northern and central California service area. The City is already served by gas and electricity infrastructure, and the net increase in energy demand from the proposed project and reasonably foreseeable projects, relative to the regional service area would be minimal and would not require expanded or new energy facilities as a direct result of project development. Although the proposed project and other future projects within the City and the region would be expected to increase the demand for energy-producing facilities, this increase in demand would likely be met through the development of renewable resources that would have a more benign environmental effect than the development of new conventional gas- or coal-fired power plants. In addition, new construction associated with the project would be serviced by existing electricity, gas, and telecommunications lines (and major upgrades to these lines would not be required). Therefore, the extension of utilities infrastructure to serve the project would result in a less-than-significant impact to these services.

(2) Significant Energy and Telecommunications Impacts. The proposed project would not result in any significant energy and telecommunications impacts.

F. AESTHETICS

This section evaluates the effects of the proposed project on aesthetic resources, including views and shade/shadow patterns in the vicinity of the project site. This analysis also considers the proposed project's consistency with applicable visual resources-related policies. Photographs, visual simulations, and diagrams are included to illustrate the site's visual character and the effects of the proposed project on aesthetic resources and shade/shadow patterns.

1. Setting

The following section describes the visual quality of the project site and views of the project site from surrounding areas.

a. Visual Quality of the Project Site. The project site is generally flat and made up of seven contiguous parcels, which include a large vacant paved parking lot along the El Camino Real frontage; a residential triplex building at 603 College Avenue; and a single-family residence at 612 Partridge Avenue. The one-story triplex was built in 1948 and is characterized by traditional, wood-frame architecture. The one-story, single-family residence has Craftsman architectural features, including a gently sloping roof, exposed eaves, and horizontal massing. The parking lot is surrounded by chain link fencing and is inaccessible to the public. Alto Lane is used as a private driveway for 603 College Avenue and has an electronic metal gate restricting public access into the right of way. Fencing surrounds both residential properties within the site. Key land use characteristics influencing the visual character of the site include the vacant El Camino Real frontage area and residential uses along the western boundary of the site. From El Camino Real, the project site appears as a gap in the streetscape, and signals a lack of activity. Please refer to Section IV.A, Land Use and Planning Policy, for a description of the physical characteristics of the project site. Key visual landmarks along College Avenue include two large redwood trees, one of which is located on the project site.

b. Visual Quality of the Project Site Surroundings. The orientation of the project site does not exactly match the cardinal directions. For the purpose of the following description (and consistent with the background discussion in the rest of the EIR), College Avenue is considered to be north of the site; El Camino Real is east of the project site; Partridge Avenue is south of the site; and predominantly single-family and multi-family residential homes are west of the site.

- *North*. The site is bordered by College Avenue to the north. Beyond College Avenue is a small shopping center with mainly one-story buildings that directly front El Camino Real. The visual quality of the shopping center is characterized by low-slung buildings with adjacent street-front parking and a parking lot located at the back of the buildings. Along College Avenue, single-family dwellings are one to two stories in height and are characterized by a diversity of architectural styles and ages. The street is lined with mature trees, which create a comfortable pedestrian environment.
- *East*. The site is bordered by El Camino Real to the east. The visual quality of El Camino Real is characterized by the roadway's large width (a total of six lanes) and adjacent commercial uses. These commercial uses are generally low in profile and are located adjacent to large surface parking lots. Trees, which have been planted along the east and west sides of El Camino Real, and in the median, contribute to the visual character of the area, but the sheer width of El Camino Real and the low profile of adjacent buildings creates an environment that is focused on vehicle movement and that may be visually discomforting.

- *South*. Areas to the south of the project site are characterized by low-profile commercial uses, including an auto body repair shop and restaurants. Surface parking also contributes to the look and feel of the visual environment. The residential neighborhood along Partridge Avenue is characterized by predominately two-story, single-family residences, with a diversity of architectural styles and ages. Partridge Avenue is lined with mature trees, which create a comfortable pedestrian environment (similar to College Avenue to the north of the site).
- *West*. The site is bordered to the west by a residential neighborhood, which is characterized by one- to two-story single-family dwellings along tree-lined streets.

c. Views from the Project Site. Views from the project site are constrained by surrounding development and trees. Views to the west are somewhat limited by surrounding fencing and trees. Views to the north and south are limited by the existing commercial development, and views to the east are partially blocked by tall trees along the Caltrain right-of-way. The Santa Cruz Mountains are generally not visible from the project site due to intervening development and vegetation. No views within or around the project site are designated as scenic views by local, State or federal agencies.

d. Views of the Project Site. Views of the project site area available from the streets that border the site: El Camino Real, College Avenue, and Partridge Avenue. Figure IV.F-1 shows the location of views of the project site for which visual simulations of the proposed project were prepared. Figures IV.F-2a through IV.F-2c show existing views from these viewpoints (in addition to the effects of the proposed project on these views). Key views of the project site are discussed below.

- *Views From College Avenue.* Views of the project site along College Avenue are partially obstructed by existing trees along sidewalks, including the redwood tree on the project site (see Figure IV-F-2a). From a pedestrian level, the residential triplex building at 603 College Avenue is visible but the vacant lot which fronts El Camino Real is barely visible. Directly adjacent to the triplex building, a two-story single-family house is visible.
- *Views From El Camino Real (northbound).* Views of the project site heading north along El Camino Real (see Figure IV.F-2b) are characterized by a vacant lot surrounded by chain link fencing, small street trees, and pedestrian-level and street-level lighting fixtures. The site appears to have little activity along its El Camino Real frontage. Views of two large redwood trees are also visible in the northwestern portion of the project site.
- *Views From El Camino Real (southbound).* Views of the project site heading south along El Camino Real (see Figure IV.F-2c) are similar to those seen in the northbound direction. The site is characterized by a vacant lot surrounded by chain link fencing, small street trees, and pedestrian-level and street-level lighting fixtures. The site appears to be underutilized because there is no vehicle activity, unlike some of the commercial uses in the vicinity of the site. The southernmost portion of the site is also visible, but is generally devoid of activity.

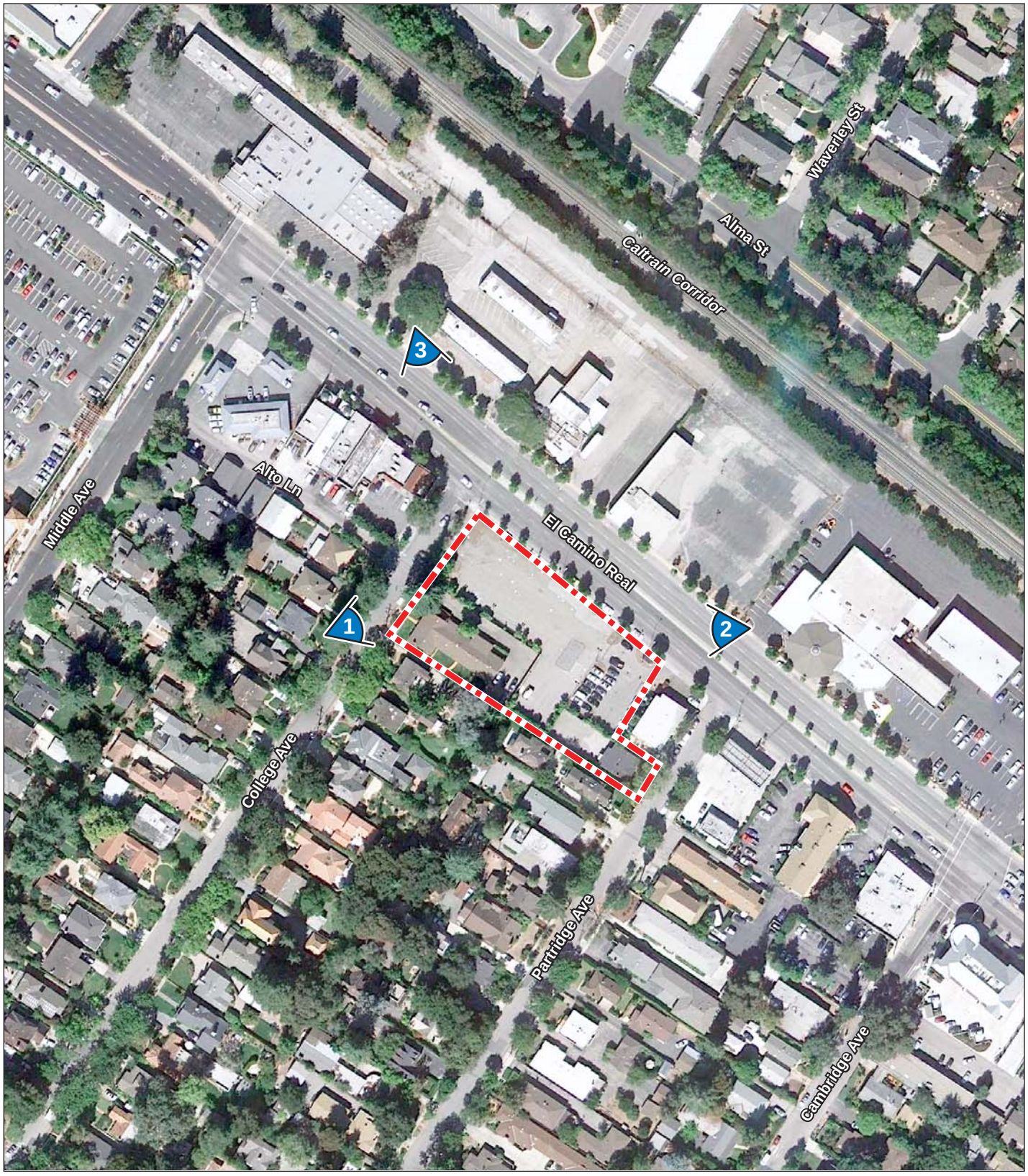

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FIGURE IV.F-1

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Project Site

2 Viewpoint Locations

389 El Camino Real Project EIR
Visual Simulations
Viewpoint Locations

SOURCE: GOOGLE EARTH, 10/2009; LSA ASSOCIATES, INC., 2011.

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Existing view of the Project Site

Visual Simulation of the Proposed Project

LSA

FIGURE IV.F-2a

389 El Camino Real Project EIR
Visual Simulations, Viewpoint 1 - College Avenue

SOURCE: DAHLING GROUP, 2011.

Existing view of the Project Site

Visual Simulation of the Proposed Project

LSA

FIGURE IV.F-2b

389 El Camino Real Project EIR
Visual Simulations, Viewpoint 2 -
El Camino Real (Northbound)

SOURCE: DAHLING GROUP, 2011.

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Existing view of the Project Site

Visual Simulation of the Proposed Project

LSA

FIGURE IV.F-2c

389 El Camino Real Project EIR
Visual Simulations, Viewpoint 3 -
El Camino Real (Southbound)

SOURCE: DAHLING GROUP, 2011.

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- *Views From Partridge Avenue.* Views of the project site along Partridge Avenue are similar to those from College Avenue. Views of the site are partially obstructed by existing trees and vegetation along the sidewalk, and by the auto body repair shop. From a pedestrian level, the single-family residence at 612 Partridge Avenue and the side of the auto body repair shop are visible.

e. Existing Shade/Shadow Patterns. Figures IV.F-3a through IV.F-3f show existing shadow patterns within the project site, in addition to simulations of the shadow patterns that would be expected after build-out of the proposed project. Shadow pattern simulations were prepared for the following dates: June 21 (the summer solstice, when the sun is at its highest point in the sky); December 21 (the winter solstice, when the sun is at its lowest point in the sky); and March 21 and September 21 (the spring and fall equinoxes, respectively, when day and night are of approximately equal length). The shadow diagrams show net new shadow generated by the project.

Simulations were prepared for three times during each day: 9:00 a.m.; 12:00 p.m. (noon); and 3:00 p.m. Shadows cast by existing structures within the project site are limited because existing buildings are one story in height. In addition, the eastern portion of the project site consists of a vacant lot, and generates minimal shadow. Shadows are most widespread within the project site on December 21, the shortest day of the year. However, even on December 21, shadows generated by structures within the project site are generally confined to the project site itself. The shadow generated on December 21 at 9:00 a.m. extends onto College Avenue and the sidewalk on the northern side of the street; however, shadows generated by buildings on the site do not cover existing off-site buildings.

f. Applicable Policies. The Land Use section of the General Plan includes the following aesthetics-related policies that are applicable to the proposed project:

Goal I-A: **To maintain and improve the character and stability of Menlo Park's existing residential neighborhoods while providing for the development of a variety of housing types. The preservation of** open **space shall be encouraged.**

Policy I-A-1: New construction in existing neighborhoods shall be designed to emphasize the preservation and improvement of the stability and character of the individual neighborhood.

Policy I-A-2: New residential developments shall be designed to be compatible with Menlo Park's residential character.

Policy I-A-3: Quality design and usable open space shall be encouraged in the design of all new residential developments.

Policy I-G-10: Extensive landscaping should be included in public and private development, including greater landscaping in large parking areas. Where appropriate, the City shall encourage placement of a portion of the required parking in landscape reserve until such time as the parking is needed. Plant material selection and landscape and irrigation design shall adhere to the City's Water Efficient Landscaping Ordinance.

2. Impacts and Mitigation Measures

This section analyzes impacts related to aesthetics that could result from implementation of the proposed project. The subsection begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project. Mitigation measures are recommended, as appropriate.

a. Criteria of Significance. Implementation of the proposed project would have a significant effect on aesthetics if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

These criteria are derived from the *CEQA Guidelines* environmental checklist. The City does not have any official scenic views or viewsheds.

b. Less-Than-Significant Impacts. The following section describes the less-than-significant impacts to aesthetics that would result from implementation of the proposed project. As described in Chapter III, Project Description, implementation of the proposed project would result in the demolition of two existing residential buildings on the site, abandonment of the public street easement for Alto Lane, and construction of a 26-unit residential project and associated facilities. Building roof lines would be no higher than 35 feet above grade (although building parapets and chimneys would extend slightly above the building roof line).

(1) Scenic Vistas. The project site is generally flat and contains limited views of surrounding areas due to existing buildings and trees. The Santa Cruz Mountains are not visible from the project site. (In addition, views of the Santa Cruz Mountains are not identified as scenic vistas or views in the General Plan, or by regulatory agencies with jurisdiction over the project site.) Therefore, the proposed project would not affect a scenic vista.

(2) Scenic Resources. The project site is not located within the viewshed of a designated State Scenic Highway. There are three officially-designated scenic highways within San Mateo County: State Route (SR) 35, SR 1, and Interstate 280 (I-280). SR 35 and SR 1 are located approximately 10 and 26 miles from the project site, respectively. I-280 is located approximately 4 miles from the project site. Due to its distance from the designated scenic highways, the proposed project would not substantially damage scenic resources within the viewshed of a State Scenic Highway.

The project site contains one heritage tree (a 90-foot-tall coast redwood), which would be preserved as part of the project. No rock outcroppings or historic structures are located within the project site. Therefore, the proposed project would not adversely affect scenic resources within the project site. In addition, the proposed project would not compromise scenic views, including views to the Santa Cruz Mountains, because such views are limited or nonexistent in the vicinity of the site.

(3) Visual Character. The project site is characterized by a vacant asphalt parking lot along the El Camino Real frontage. A chain link fence separates the vacant lot on the site from the sidewalk, and the two existing residential buildings. The eastern side of Alto Lane and the southern boundary of the 603 College Avenue property have brick and wood fencing. Fencing and hedges separate the rear of the 612 Partridge Avenue property from the vacant parking lot. Commercial and retail uses are located along El Camino Real to the north and south of the project site, which generate moderate levels of pedestrian activity in the vicinity of the site.

March 21, 9:00 a.m. PDT

September 21, 9:00 a.m. PDT

LSA

FIGURE IV.F-3a

Legend

Project Buildings | Existing Shadow | New Project Shadow

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389 El Camino Real Project EIR

Shadow Diagrams:

March 21 and September 21, 9:00 a.m.

SOURCE: ENVIRONMENTAL VISION, AUGUST 2011.

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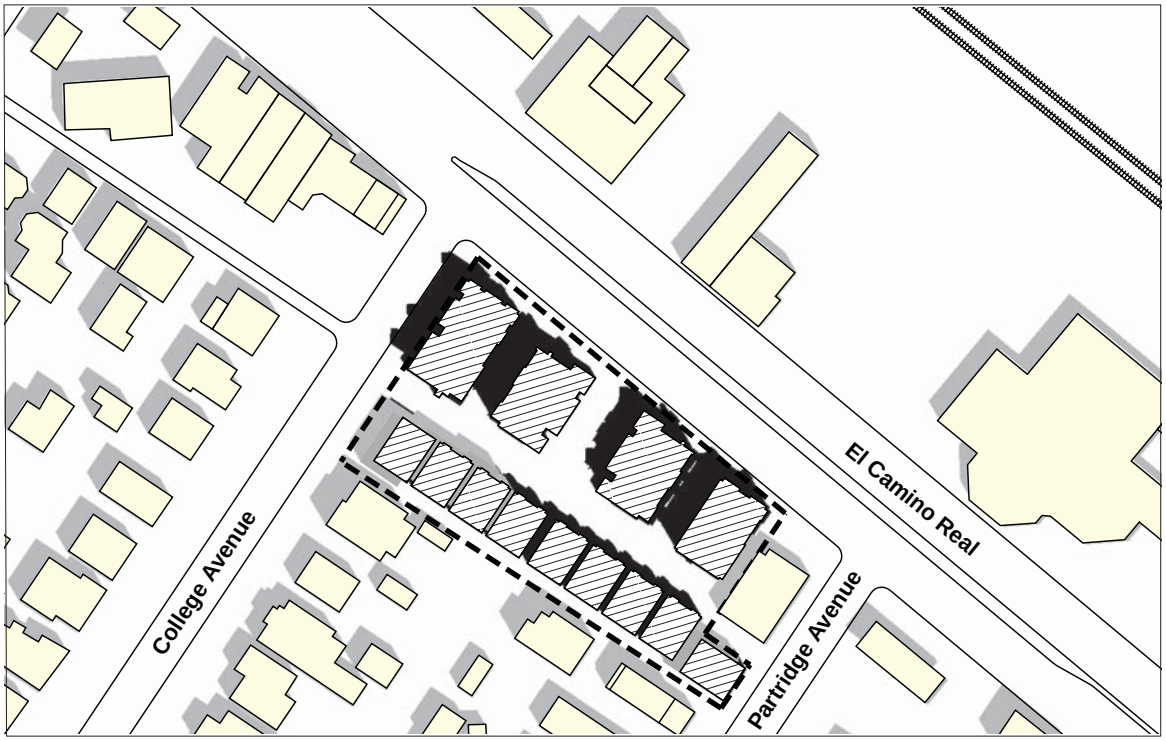
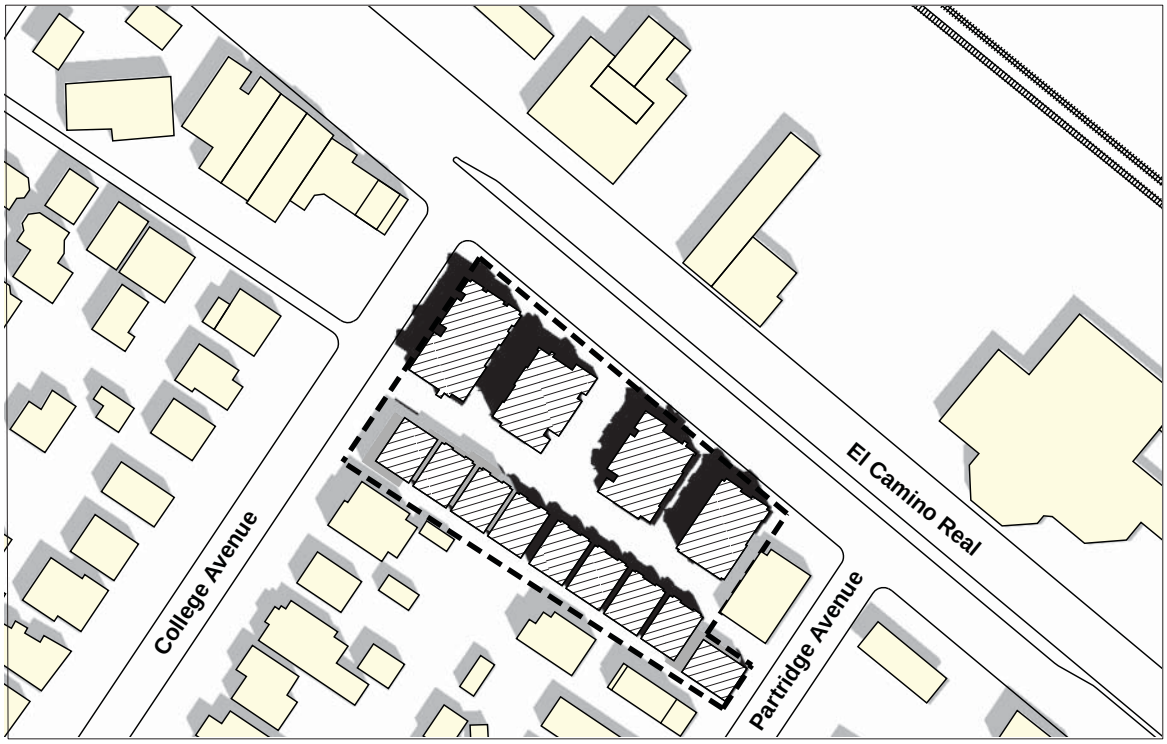


March 21, 12:00 noon PDT



September 21, 12:00 noon PDT

LSA

FIGURE IV.F-3b

Legend

Project Buildings

Existing Shadow

New Project Shadow

N

0 50 100

FEET

389 El Camino Real Project EIR

Shadow Diagrams:

March 21 and September 21, 12:00 noon

SOURCE: ENVIRONMENTAL VISION, AUGUST 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_IVF3b.ai (1/10/12)

March 21, 3:00 p.m. PDT

September 21, 3:00 p.m. PDT

LSA

FIGURE IV.F-3c

Legend

Project Buildings

Existing Shadow

New Project Shadow

N

0 50 100

FEET

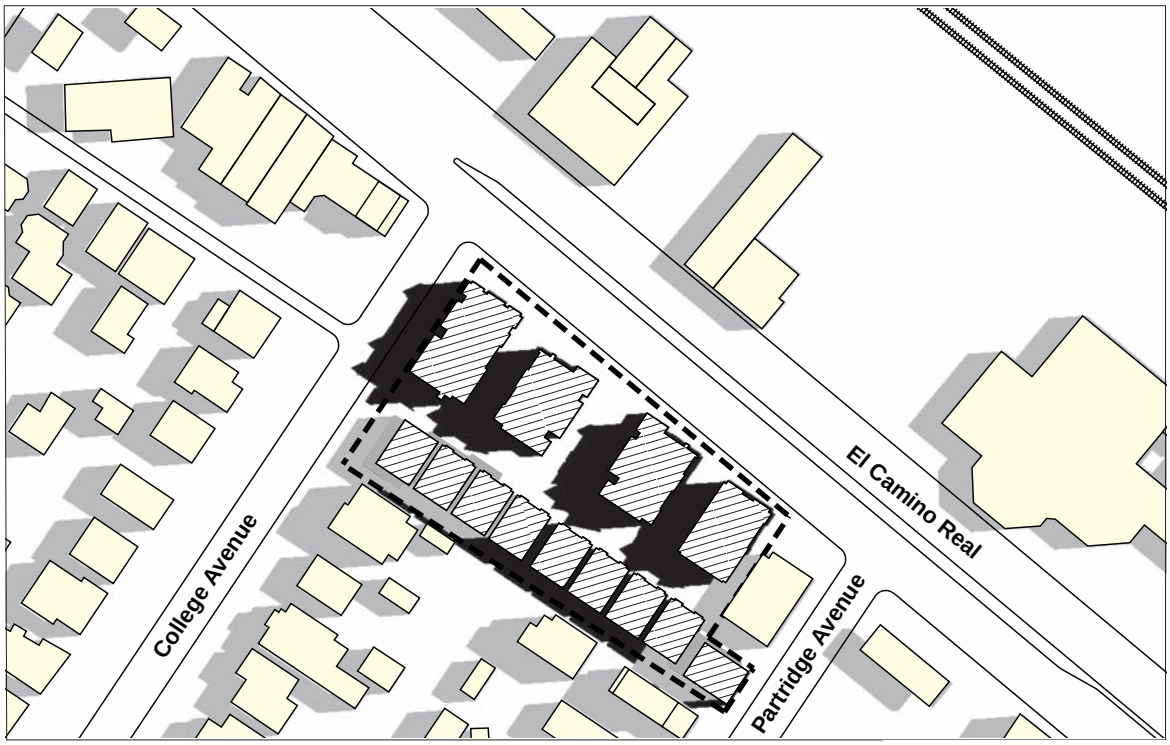
389 El Camino Real Project EIR

Shadow Diagrams:

March 21 and September 21, 3:00 pm

SOURCE: ENVIRONMENTAL VISION, AUGUST 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_IVF3c.ai (8/10/11)



June 21, 9:00 a.m. PDT

December 21, 9:00 a.m. PST

LSA

FIGURE IV.F-3d

Legend

Project Buildings | Existing Shadow | New Project Shadow

N

0 50 100

FEET

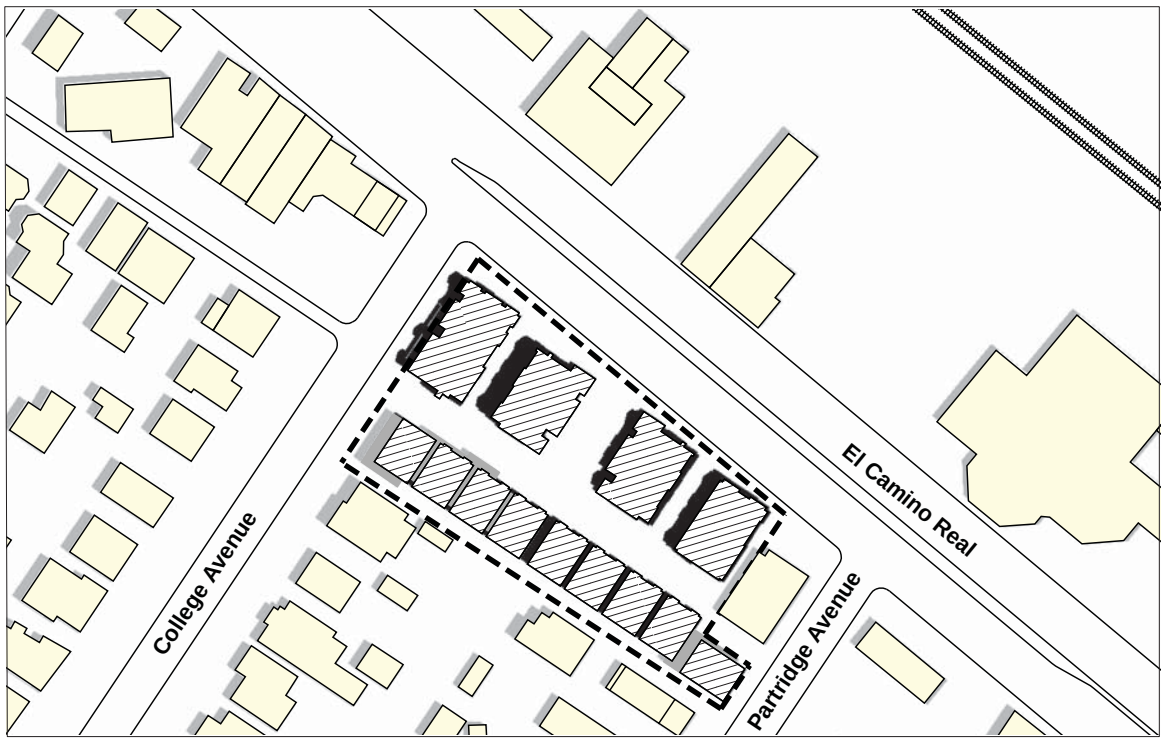
389 El Camino Real Project EIR

Shadow Diagrams:

June 21 and December 21, 9:00 am

SOURCE: ENVIRONMENTAL VISION, AUGUST 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_IVF3d.ai (1/10/12)



June 21, 12:00 noon PDT

December 21, 12:00 noon PST

LSA

FIGURE IV.F-3e

Legend

Project Buildings | Existing Shadow | New Project Shadow

N

0 50 100

FEET

389 El Camino Real Project EIR

Shadow Diagrams:

June 21 and December 21, 12 noon

SOURCE: ENVIRONMENTAL VISION, AUGUST 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_IVF3e.ai (1/10/12)

June 21, 3:00 p.m. PDT

December 21, 3:00 p.m. PST

LSA

FIGURE IV.F-3f

Legend

Project Buildings | Existing Shadow | New Project Shadow

N

0 50 100

FEET

389 El Camino Real Project EIR

Shadow Diagrams:

June 21 and December 21, 3:00 pm

SOURCE: ENVIRONMENTAL VISION, AUGUST 2011.

I:\CMK1001 389 El Camino Real\figures\Fig_IVF3f.ai (1/10/12)

Implementation of the proposed project would result in the demolition of the two existing residential buildings, abandonment of the public street easement for Alto Lane, and the construction of a 26-unit residential project and associated facilities. The proposed residential buildings would add visual interest to El Camino Real (compared to existing conditions) and would enhance the street-level pedestrian experience and the visual diversity of the street scene.

Because proposed residential uses are similar in type to those located immediately west of the site (although they would be developed at a higher density), the proposed project would not result in a substantial adverse change in the visual character of the project site. Although the proposed project would introduce higher-intensity residential uses adjacent to lower intensity residential uses and commercial uses, the two- to three-story building elements would help fill-in the streetscape void created by the vacant parking lot along the El Camino Real frontage, and would add texture and activity to that portion of the street. Figures IV.F-2a and IV.F-2c show "before" and "after" (project implementation) pictures of the project site.

As shown in the visual simulation in Figure IV.F-2a, a proposed two-story single-family residence (located in the residential triplex building site at 603 College Avenue) and three-story townhouse building (located on the existing vacant lot) would be partially visible at the viewpoint along College Avenue. As shown in the visual simulations in Figures IV.F-2b and IV.F-2c, views of the project site facing north and south along El Camino Real would be characterized by the three-story townhouse buildings and landscaping features, in addition to the existing street trees and lighting fixtures.

As described in Chapter III, Project Description, the architecture of the proposed project is characterized by traditional-looking materials such as decorative asphalt shingle roofing, fiber-cement finishing with wood and brick/stone accents, and a sloping roofline. Architectural features of the townhouses and single-family homes would include vinyl windows, fiber-cement columns and siding, decorative steel and wood railings, French doors, brick rowlocks, wood gates, metal louvered utility doors, and steel sectional doors with glass lights. The proposed architectural style is similar to that of some of the one- to two-story residential buildings in the residential neighborhood extending along College and Partridge Avenues. Therefore, the architecture and design of the project would not result in a significant adverse change in the visual character of the area.

The visual changes to the project site that would result from the proposed project would not be considered adverse, as the proposed buildings are of a size and scale that would generally improve the pedestrian experience along El Camino Real, which is a relatively wide and imposing roadway. Although the proposed project would be more dense than the neighborhood immediately to the west, this density would not compromise the look and feel of the existing residential neighborhood.

The proposed project would redevelop a vacant lot and residential site with higher-density residential uses. The addition of residential population to the site would increase daytime and nighttime activity within and around the area and could enhance the visual appeal of this stretch of El Camino Real. Redevelopment of the project site with residential uses would create a more appealing urban environment and would create linkages between the El Camino Real corridor, downtown, and outlying neighborhoods. Therefore, the proposed project would not adversely affect the visual quality of the project site and its surroundings.

(4) Visual Resource Policies. The proposed project would be generally consistent with the visual resources-related policies in the City's General Plan Land Use Element that apply to the

project. Consistent with Policies I-A-1 and I-A-2, the proposed project would enhance the integrity of the El Camino Real corridor, because it would redevelop a surface parking lot along the roadway frontage and develop residential uses that are compatible with the City's residential character. The project would also be consistent with Policies I-A-3 and I-G-10 because useable private and shared open space would be incorporated into the design of the project. In addition, the project's landscape design would comply with the City's Water Efficient Landscaping Ordinance.

(5) Shade and Shadow. Implementation of the proposed project would result in the construction of two- and three-story buildings where one-story buildings and a vacant surface parking lot currently exist. As depicted in Figures IV.F-3a through IV.F-3f, these buildings would cast new shadows within and around the project site, including on a very small portion of the adjacent residential properties to the west of the site. New shadows would also be cast on small portions of residential and commercial properties across College Avenue to the north of the site, and across El Camino Real, to the east of the site. The most extensive shadow coverage outside the project site that would result from implementation of the proposed project would occur during morning hours throughout the year, and in the winter in late afternoon.

In mornings during the spring and fall, new shadows from the proposed project could extend approximately 75 to 100 feet onto the sidewalks in front of residential and commercial properties on College Avenue. In mornings around the winter solstice, when the sun is lowest in the sky, new shadows from the proposed project could extend approximately 125 feet onto the parking lot of the commercial property on College Avenue. In the late afternoon of the winter solstice, new shadows from the proposed project could extend approximately 125 feet onto and across El Camino Real, but not into any of the commercial buildings located on the east side of El Camino Real. None of the new shadows would cover adjacent residential and commercial buildings. Although the project would incrementally reduce morning sunshine in these areas, this impact would not be considered significant because the use of solar receptors or public spaces would not be substantially diminished.

The proposed project would cast shadows on the project's common open spaces near the current intersection of Alto Lane and College Avenue and adjacent to El Camino Real during the morning hours. The proposed project would also cast shadows on the El Camino Real open space area during late afternoon around the winter solstice. However, with the exception of the El Camino Real open space area during the winter solstice, both common open space areas would remain relatively shade-free during noon and afternoon hours for much of the year, especially during the summer when usage rates are expected to be higher. Shadow in the open space areas would be most extensive during the morning hours. However, the open space areas would be used the least at this time. Therefore, shadows cast by the proposed structures would not substantially interfere with the use of the open space areas.

c. Significant Impacts. Implementation of the proposed project would result in the following significant impact:

Impact AES-1: The proposed project could increase the amount of light and glare in Menlo Park (S)

Exterior lighting would be installed throughout the project site, including along interior pedestrian circulation routes. Although proposed lighting is expected to be generally consistent with and similar to existing lighting in the El Camino Real corridor, this lighting could increase levels of nighttime

light and glare in the area, particularly at the residential area to the west of the project site. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

> Mitigation Measure AES-1: The project applicant shall prepare a lighting plan and photometric study and submit them the City for review and approval prior to issuance of a building permit. City staff shall review the plan to ensure that any outdoor lighting for the project is oriented downwards and is designed to minimize lighting or glare off-site. (LTS)

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V. ALTERNATIVES

The *CEQA Guidelines* require the analysis of a range of reasonable alternatives to the project, or to the location of the project that would feasibly attain most of the project's basic objectives and avoid or substantially lessen any of the significant effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.[1] CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The proposed project has been described and analyzed in the previous chapters, with an emphasis on significant impacts resulting from the project and mitigation measures recommended to avoid these impacts. The following discussion is intended to inform the public and decision-makers of the relative impacts of five feasible alternatives to the proposed project. A discussion of the environmentally superior alternative is also provided.

The proposed project is described in detail in Chapter III, Project Description, and the potential environmental effects of implementing the proposed project are analyzed in Chapter IV, Setting, Impacts and Mitigation Measures. The project is a 26-unit residential development, which includes 62 parking spaces and associated facilities.

The five alternatives proposed to the proposed project that are discussed in this chapter include the following:

- The **No Project alternative** assumes the project site would generally remain in its exiting condition. The existing buildings, infrastructure, and fenced parking lot would remain with minimal or no changes.
- The **Baseline Zoning alternative** assumes development would occur in general conformance with the site's existing zoning regulations. Under this alternative, three residential units on the portion of the site zoned Apartment District (R-3) would be developed and approximately 23,000 square feet of commercial space would be developed on the portion of the site zoned General Commercial (applicable to El Camino Real) (C-4 (ECR)).
- The **Reduced Residential alternative** assumes the number of residential units developed on the site would be reduced to a total of 12 units (including five single-family units and seven townhouse units) to avoid potentially significant traffic impacts.
- The **Mixed Used alternative** assumes the project would be developed with a mixture of residential and commercial uses in a single building. The development would include 22 multi-family residential units and approximately 13,400 square feet of commercial space. Under this alternative, the portion of the site zoned Apartment District (R-3) would be rezoned to General Commercial (applicable to El Camino Real) (C-4 (ECR)).

[1] *CEQA Guidelines*, 2011. Section 15126.6.

- The **Senior Housing alternative** assumes the project would be developed as a senior housing project with 26 residential units in a single building.

Project objectives are identified in Chapter III, Project Description. To assist in evaluating project alternatives, the objectives are repeated below.

- Redevelop an underutilized site with a mixture of attached and detached single-family units that is compatible with the surrounding neighborhood;
- Design the project in a way that is sensitive to the character of the Allied Arts neighborhood to the west;
- Encourage in-fill development in the City and allow for a more vibrant mix and density of land uses;
- Provide housing opportunities, including affordable housing, for existing and future residents of Menlo Park;
- Create development that enhances the visual character of the El Camino Real corridor;
- Locate a project in close proximity to a regional transportation corridor with good local access from major streets and freeways; and
- Locate a project in close proximity (i.e., easy access by foot and/or bike) to transit services, and other major local and regional services and employment centers, including the Safeway grocery-shopping complex, the Stanford Shopping Center, the Stanford Hospital, and the Menlo Park Caltrain station.

Following is a discussion of each alternative, and an analysis of the anticipated environmental impacts. This analysis compares the anticipated impacts of each alternative to the impacts associated with the proposed project, and includes a determination as to whether or not each alternative would reduce, eliminate, or create new significant impacts.

A. NO PROJECT ALTERNATIVE

1. Principal Characteristics

The No Project Alternative assumes that the site would not be developed with the project and would generally remain in its existing condition. The triplex and single-family residence would remain on the site, as would the existing parking lot. The public street easement for Alto Lane would not be abandoned and conveyed to the project applicant. Minimal site improvements to landscaping and building facades would occur, but no new buildings would be constructed. The existing residential units on the site could be fully occupied with residents in the near-term.

The No Project alternative would not achieve any of the objectives of the proposed project. The project site would not be developed with residential uses located in close proximity to a regional transportation corridor with access to transit, services, and regional job centers. In the long-term, the site could be redeveloped with different uses, including those envisioned in the Draft El Camino Real/Downtown Specific Plan. However, for the purpose of this analysis, the site would remain in its existing condition under the No Project Alternative.

2. Analysis of the No Project Alternative

The potential impacts associated with the No Project alternative are described below.

a. Land Use and Planning Policy. Implementation of the No Project alternative would result in the continuation of existing land uses within the project site. Similar to the proposed project, the alternative would not disrupt or divide the physical arrangement of the established community, and the existing structures would remain on the site. The type and intensity of land uses on the project site would not be altered and the residential neighborhood to the west of the site would continue to be bordered by the existing triplex, single-family residence, and a parking lot. Alto Lane would remain a public street easement, but would be primarily used as a driveway to access the triplex (and would continue to be gated). The No Project alternative would not promote General Plan policies related to the development of housing in Menlo Park and the intensification of uses along the El Camino Real corridor. For informational purposes, it is noted that the alternative also would not conflict with the Draft El Camino Real/Downtown Specific Plan (currently undergoing review), which envisions the development of higher density mixed-use development along the El Camino Real corridor. However, the avoidance of such a conflict with the Draft Specific Plan would not be considered a reduction of an environmental impact because the Draft Specific Plan has not been adopted as of the preparation of this EIR.

b. Transportation, Circulation and Parking. The No Project alternative would not add new vehicle trips to local and regional roadways and would not increase demand for transit, bike, and pedestrian facilities. Because no new vehicle trips would be added to local roadways, the alternative would avoid the project's significant contribution to traffic volumes on University Drive between Middle Avenue and Cambridge Avenue in the Near Term Plus Project Condition and Long Term Plus Project Condition. In addition, the alternative would avoid the project's significant contribution to traffic volumes on Middle Avenue between University Drive and El Camino Real in the Long Term Plus Project Condition. These impacts would be significant and unavoidable under the project because no feasible mitigation exists to reduce the impacts to a less-than-significant level. In addition, the alternative would avoid the conveyance of the public street easement encompassing Alto Lane to the project applicant. However, this easement provides access to the triplex on the project site and does not currently function as a public street.

c. Air Quality. Implementation of the No Project alternative would not result in substantial construction activity within the project site and would not generate new vehicle trips that would increase emissions of regional air pollutants. It would avoid the potentially significant air quality impacts associated with the project. The No Project alternative would avoid the need for mitigation measures to address significant air quality impacts associated with demolition and construction activities, as would be required under the proposed project. This alternative would not violate the BAAQMD's air quality standards, expose the public to objectionable odors, or substantially increase public exposure to toxic air contaminants in excess of established standards.

d. Noise. The No Project alternative would avoid the significant impacts related to noise that would result from the proposed project. First, no substantial construction activities would occur on the site. Therefore, the alternative would not result in a short-term increase in ambient noise levels due to the operation of heavy construction equipment on the project site. Because no substantial construction activities would occur on this site under this alternative, no temporary sound wall (or the implementation of other construction-period noise reduction measures) would be required. In

addition, new residents would not be exposed to unacceptable noise levels associated with vehicle traffic on El Camino Real. Lastly, residences adjacent to the project site would not be exposed to periodically high noise levels associated with the operation of new stationary equipment, such as air conditioners and compressors. However, it should also be noted that the project is expected to slightly reduce traffic-related noise levels at residential uses adjacent to the western boundary of the site. The No Project alternative would not realize that potentially beneficial effect of the project.

e. Public Services and Utilities. Because no new residential uses would be developed on the site, the No Project alternative would not increase demand for public services, including police, fire, schools, and utilities services (although existing residents on the site would continue to generate a modest demand for public services and utilities). The alternative would not contribute new students to the Menlo Park City School District and the Sequoia Union High School District. However, no new impact fees would be generated for the expansion of facilities in those school districts.

f. Aesthetics. Similar to the proposed project, implementation of the No Project alternative would not have a substantial adverse effect on scenic vistas, as no designated vistas are located within or close to the project site. Also similar to the project, the alternative would maintain the one heritage tree within the project site. The visual character of the site would generally remain unchanged and the alternative would not result in the less-than-significant effects to visual character associated with demolition of the existing structures on the site and redevelopment of the site with residential uses that would occur with implementation of the proposed project. Under this alternative, the site would remain in its existing condition. The visual quality of the site could suffer from deferred maintenance of existing buildings and the existing vacant lot, which could detract from the visual quality of the area. In addition, the No Project alternative would not create new light and glare in the area that could adversely affect nighttime views.

B. BASELINE ZONING ALTERNATIVE

1. Principal Characteristics

The Baseline Zoning alternative would result in the demolition of all structures on the site and development of a mixture of uses that is in general conformance with the current zoning regulations that apply to the site. The project site contains two zoning designations. The entire project site except for the northwestern portion of the site west of Alto Lane is zoned General Commercial (applicable to El Camino Real) (C-4(ECR)). The remainder of the site is zoned Apartment District (R-3).

As discussed in Section IV.A, Land Use and Planning Policy, the C-4 (ECR) zone permits the development of a variety of land uses, including cafes and restaurants, financial establishments, and professional and administrative offices (residential units are permitted, but only with a conditional use permit). Maximum FAR is 55 percent, or up to 75 percent with a use permit. Therefore, under the City's Zoning Ordinance, approximately 23,000 square feet of commercial space could be developed on the portion of the project site zoned C-4 (ECR), assuming a maximum FAR of 55 percent. For the purpose of this analysis, the Baseline Zoning alternative would include 23,000 square feet of retail space in a two-story building located adjacent to El Camino Real. The Zoning Ordinance requires the provision of 6 parking spaces per 1,000 square feet of commercial space. Therefore, 156 parking spaces would be required as part of the commercial component of this alternative. A portion of the

parking would need to be structured (e.g., provided in a sub-grade parking lot under the commercial building) in order to be accommodated on-site.

The R-3 zone permits the development of single-family dwellings, duplexes, and accessory buildings at a density of 18.5 units/acre (with a use permit, for projects consisting of three or more units). The net acreage of the portion of the site zoned R-3 would allow for the development of three single-family residential units. The three residential units that would be developed as part of the Baseline Zoning alternative would be similar in size and form to single-family structures that would be developed as part of the project. Units would contain three or four bedrooms and would range in size from approximately 1,500 square feet to 2,000 square feet and contain two garage parking spaces each. The residential component of the alternative would be exempt from the City's BMR Program because it would result in the development of fewer than five units.

Alto Lane would remain in its existing configuration, but the public street easement would be conveyed to the project applicant, as under the proposed project. Access to the commercial portion of the alternative would be via El Camino Real and access to the three residential units would be via Alto Lane, as under existing conditions.

This alternative would meet most of the project objectives, although the objectives relating to the development of single-family housing on the site and providing additional housing opportunities would not be achieved to the same extent as the proposed project.

2. Analysis of the Baseline Zoning Alternative

The potential impacts associated with the Baseline Zoning alternative are described below.

a. Land Use and Planning Policy. Similar to the proposed project, the Baseline Zoning alternative would not result in any significant land use or planning policy impacts. Even though the Alto Lane public street easement would be conveyed to the sponsor of the alternative, this conveyance would not divide an established community since the segment of Alto Lane within the site functions as a private driveway and does not provide access to uses outside the site. In addition, the development of commercial uses adjacent to El Camino Real and residential uses in the western portion of the site would not result in land use incompatibilities. The El Camino Real corridor is a mixed use environment, and the City plans to increase development intensities along the corridor. Therefore, the development of mixed uses on the site would be consistent with the existing and planned land use pattern of the area. In addition, the development of a mixture of uses on the site would promote the land use vision outlined in the Draft El Camino Real/Downtown Specific Plan.

b. Transportation, Circulation and Parking. Since the Baseline Zoning alternative would generate more vehicle trips than the other alternatives, it was subject to a more detailed transportation evaluation in the Transportation Impact Analysis prepared for the project. Please refer to the Transportation Impact Analysis, available for review at the Menlo Park Community Development Department, for additional detail about the transportation evaluation of the Baseline Zoning alternative.

The Baseline Zoning alternative would generate approximately 1,011 net daily trips, as shown in Table V-1. As discussed in Section IV.B, Transportation, Circulation and Parking, growth associated with the Near Term Condition would cause one intersection and several local approaches to State-controlled intersections to operate at unacceptable levels. The traffic generated by the Baseline

Zoning alternative would result in impacts at local approaches to State-controlled intersections at El Camino Real/Menlo Avenue during the AM peak hour and El Camino Real/Menlo Avenue and El Camino Real/Roble Avenue during the PM peak hour. These impacts would not occur with implementation of the proposed project.

In the Near Term Condition, the alternative would also result in significant impacts to the following roadway segments: College Avenue between University Drive and El Camino Real; Partridge Avenue between University Drive and El Camino Real; Cambridge Avenue between University Drive and El Camino Real; and University Drive between Middle Avenue and Cambridge Avenue. In the Near Term Condition, the proposed project would result in a significant impact only to the roadway segment on University Drive between Middle Avenue and Cambridge Avenue.

As discussed in Section IV.B, Transportation, Circulation and Parking, growth associated with the Long Term Condition would cause several intersections and local approaches to State-controlled intersections to operate at unacceptable levels. In the Long Term Condition, traffic generated by the Baseline Zoning alternative would result in potentially significant impacts to the intersections of El Camino Real/Menlo Avenue and El Camino Real/Middle Avenue during the AM Peak Hour and El Camino Real/Menlo Avenue, El Camino Real/Roble Avenue, and El Camino Real/Middle Avenue during the PM Peak Hour. These impacts would not occur with implementation of the proposed project. In addition, the alternative would result in significant impacts to the following roadway segments in the Long Term Condition: Partridge Avenue between University Drive and El Camino Real; Cambridge Avenue between University Drive and El Camino Real; University Drive between Middle Avenue and Cambridge Avenue; and Middle Avenue between University Drive and El Camino Real. In the Long Term Condition, the proposed project would result in a significant impact only to the roadway segments on University Drive between Middle Avenue and Cambridge Avenue, and Middle Avenue between University Drive and El Camino Real.

Table V-1: Trip Generation of the Baseline Zoning Alternative

	Land Use	AM Peak Hour			PM Peak Hour			
Existing Uses	**Code**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**Daily**
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Proposed Single Family Detached Housing (3)	210	1	1	2	2	1	3	29
Specialty Retail Center (23,000 sf)	814	103	111	214	64	51	115	1,022
Total for Proposed Uses		**104**	**112**	**216**	**66**	**52**	**118**	**1,051**
Total Net New Trips		**104**	**109**	**213**	**64**	**51**	**115**	**1,011**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Source: DKS, 2011.

c. Air Quality. Because the Baseline Zoning alternative would result in a substantial increase in the number of daily and peak hour vehicle trips compared to the proposed project, it would result in additional significant air quality impacts beyond those identified for the proposed project. In particular, the alternative would be expected to result in a significant contribution to regional air pollutants associated with vehicle trips. In addition, delivery trucks on the site could generate toxic air contaminants that would affect sensitive receptors in the area, including residential uses to the west of the site.

The alternative would also result in the generation of 1,126 metric tons of carbon dioxide-equivalent emissions per year, which would exceed the BAAQMD's threshold. Mitigation would be required to reduce these greenhouse gas emissions to a less-than-significant level. Similar to the proposed project, construction activities on the site could expose adjacent residents to substantial pollutant concentrations and toxic air contaminants.

d. Noise. The Baseline Zoning alternative would result in generally the same significant impacts related to noise that would result from the proposed project (although proposed residential uses would require additional noise insulation to reduce noise levels generated from adjacent commercial uses and associated vehicle traffic; this additional noise insulation would need to be provided in accordance with the City's Land Use Compatibility Standards for multi-family dwellings). Although the alternative would generate additional vehicle trips on El Camino Real compared to the proposed project, increases in vehicle volumes would not be sufficient to substantially increase noise levels on El Camino Real (or other roads intersecting El Camino Real). Similar to the proposed project, implementation of construction- and operational-period noise reduction measures would be required under this alternative.

e. Public Services and Utilities. Similar to the proposed project, the Baseline Zoning alternative would increase demand for public services and utilities, but such demand would not be sufficient to require the construction of new services and utilities facilities. Because the alternative would result in the construction of three residential units (compared to the 26 units that would be developed as part of the project), the alternative would contribute far fewer new students to the Menlo Park City School District and the Sequoia Union High School District. However, the impacts of the proposed project on local schools would also be less than significant.

f. Aesthetics. Similar to the proposed project, implementation of the Baseline Zoning alternative would not have a substantial adverse effect on scenic vistas, as no designated vistas are located within or close to the project site. Also similar to the project, the alternative would maintain the one heritage tree within the project site. Compared to the proposed project, the visual character of the site would be characterized by more active uses near El Camino Real and lower-activity residential uses in the western portion of the site. These more active uses near El Camino Real could add visual interest to the El Camino Real streetscape.

C. REDUCED RESIDENTIAL ALTERNATIVE

1. Principal Characteristics

The Reduced Residential alternative is designed to avoid the project's significant and unavoidable contribution to traffic volumes on University Drive between Middle Avenue and Cambridge Avenue in the Near Term Plus Project Condition and Long Term Plus Project Condition, and Middle Avenue between University Drive and El Camino Real in the Long Term Plus Project Condition. To avoid these impacts would require a reduction in the number of residential units on the site from a total of 26 residential units (including nine single-family units and 17 townhouse units) to a total of 12 residential units (including five single-family units and seven townhouse units). All existing structures on the site would be demolished as part of the alternative.

For the purpose of this analysis, it is assumed that the townhouse units would be located in the eastern portion of the site, closest to El Camino Real, and the single-family units would be located in the western portion of the site. The units would be similar in size and form to the residential structures that would be developed as part of the project. Units would range in size from two to four bedrooms and would contain 1,426 to 1,960 square feet of interior space and two garage parking spaces each. In addition, five guest parking spaces would be provided (thus a total of 29 parking spaces would be provided on the site). One affordable unit would be provided on the site in accordance with the City's BMR Program (in-lieu fees would also be paid for the fraction of one affordable unit that would not be constructed on the site).

Similar to the proposed project, access to the site would be via El Camino Real and the public street easement for Alto Lane would be abandoned. Because fewer residential units would be developed on the site, more of the site would be used for private and common open space compared to the proposed project.

This alternative would meet most of the project objectives, although the objectives relating to the development of single-family housing on the site and providing additional housing opportunities would be achieved to a lesser extent than the proposed project.

2. Analysis of the Reduced Residential Alternative

The potential impacts associated with the Reduced Residential alternative are described below.

a. Land Use and Planning Policy. The Reduced Residential alternative would result in impacts to land use and planning policy that are similar to the impacts that would result from the proposed project. Like the proposed project, the alternative would not divide an established community (as Alto Lane within the site is not used as a public access route) or result in incompatible land uses (as lower-intensity residential uses would not be fundamentally incompatible with commercial uses located along El Camino Real or residential uses to the west of the site). However, the alternative would do less to promote General Plan policies seeking to intensify uses within the El Camino Real corridor compared to the proposed project. In addition, the alternative would not promote the expansion of the City's housing supply (including affordable housing) to the extent of the project. For informational purposes, it is noted that the development of lower-density residential uses on the site would also conflict with the vision for the El Camino Real corridor described in the Draft El Camino Real/Downtown Specific Plan (which is currently undergoing review and has not yet been adopted).

b. Transportation, Circulation and Parking. The Reduced Residential alternative would generate a total of four AM peak hour net new trips (two inbound and two outbound trips), six PM peak hour net new trips (four inbound and two outbound trips), and 49 total daily net new trips. Table V-2 summarizes the trip generation of the alternative. The alternative would avoid the significant transportation impacts associated with the proposed project.

Table V-2: Trip Generation of the Reduced Residential Alternative

Existing Uses	Land Use Code	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Proposed Single Family Detached Housing (5)	210	1	3	4	3	2	5	48
Proposed Residential Condominium/ Townhouse (7)	230	1	2	3	3	1	4	41
Total for Proposed Uses		**2**	**5**	**7**	**6**	**3**	**9**	**89**
Total Net New Trips		**2**	**2**	**4**	**4**	**2**	**6**	**49**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Source: DKS, 2011.

As discussed in Section IV.B, Transportation, Circulation and Parking, growth associated with the Near Term Condition and Long Term Condition would cause one intersection and several local approaches to State-controlled intersections to operate at unacceptable levels. The traffic generated by the Reduced Residential alternative would not result in any potentially significant impacts to local approaches to a State- controlled intersection during the AM or PM peak hours in the Near Term Condition and Long Term Condition. In addition, the alternative would not result in significant impacts to study area roadway segments in either analyzed scenario.

c. Air Quality. Even though construction activities on the site would be less intense under the Reduced Residential alternative compared to the proposed project, because of the close proximity of residential uses to the site, construction activities would generate emissions that could pose a health risk to adjacent sensitive receptors. However, these health risks would be incrementally reduced compared to the project. Similar to the proposed project, the alternative would not generate significant levels of regional pollutants.

d. Noise. The impacts of the Reduced Residential alternative on the noise environment would be similar to those associated with the proposed project. Similar to the project, the alternative would not result in significant increases in noise levels along local roadways due to development-related traffic. However, construction activities on the site would temporarily increase ambient noise levels, and stationary equipment on the site (such as air conditioners) could result in unacceptable noise levels in the adjacent residential neighborhood. Similar to the proposed project, both impacts would require mitigation. Implementation of construction- and operational-period noise reduction measures would be required under this alternative In addition, sound insulation would be required as part of the alternative, in order to reduce interior noise levels to acceptable levels; this additional noise insulation would need to be provided in accordance with the City's Land Use Compatibility Standards for multi-family dwellings.

e. Public Services and Utilities. Although the Reduced Residential alternative would increase demand for public services and utilities, such demand would be reduced compared to the project and, similar to the project, would not be sufficient to require the construction of new services and utilities facilities. Because the alternative would result in the construction of 12 residential units (compared to the 26 units that would be developed as part of the project), the alternative would contribute fewer

new students to the Menlo Park City School District and the Sequoia Union High School District. However, the impacts of the proposed project on local schools would also be less than significant.

f. Aesthetics. The impacts of the Reduced Residential alternative on the visual environment would be similar to impacts associated with the proposed project. Similar to the proposed project, implementation of the Reduced Residential alternative would not have a substantial adverse effect on scenic vistas, as no designated vistas are located within or close to the project site. Also similar to the project, the alternative would maintain the one heritage tree within the project site. Compared to the proposed project, the alternative would generate less activity along the El Camino Real Corridor, but the look and feel of the residential uses would be somewhat more similar to that of the adjacent residential neighborhood (where residential uses are at a lower density than the proposed project).

D. MIXED USE ALTERNATIVE

1. Principal Characteristics

The Mixed Use alternative would result in the demolition of existing buildings on the site and development of a mixed-use project similar to that envisioned in the Draft El Camino Real/Downtown Specific Plan. The alternative would include 22 multi-family residential units and approximately 13,400 square feet of commercial space. Under this alternative, the portion of the site zoned as Apartment District (R-3) would be rezoned to General Commercial applicable to El Camino Real (C-4 (ECR)).

The alternative would result in the development of one three-story (above-grade) building on the site, located adjacent to El Camino Real. The 13,400 square feet of commercial space would be located on the ground floor of the building facing El Camino Real. For the purpose of this analysis, it is assumed the commercial space would be general retail space, occupied by one tenant or two to three smaller tenants.

The 22 multi-family units developed as part of the project would be smaller in size than those proposed as part of the project and would each contain approximately 1,000 square feet of interior space, on average. Units would contain two or three bedrooms each. The residential units would occupy the second and third stories of the proposed mixed-use building. Three affordable units (15 percent of the total units developed on the site) would be provided on the site in accordance with the City's BMR Program (in-lieu fees would also be paid for the fraction of one affordable unit that would not be constructed on the site).

The project would include a total of 133 parking spaces, including 81 parking spaces for the commercial uses and 52 parking spaces for the residential uses (including guest parking spaces). The parking would be provided in a sub-grade lot under the mixed-use building and in a surface lot. Access to the site would be via El Camino Real. Similar to the proposed project, the public street easement for Alto Lane would be abandoned.

This alternative would meet most of the project objectives, with the exception of the objective relating to the development of single-family housing on the site. In addition, the objective regarding providing additional housing opportunities would not be achieved to the same extent as the proposed project.

2. Analysis of the Mixed Use Alternative

The potential impacts associated with the Mixed Use alternative are described below.

a. Land Use and Planning Policy. Similar to the proposed project, the Mixed Use alternative would not result in any significant land use or planning policy impacts. Even though the Alto Lane public street easement would be conveyed to the sponsor of the alternative, this conveyance would not divide an established community, since the segment of Alto Lane within the site functions as a private driveway and does not provide access to uses outside the site. In addition, the development of mixed uses on the site would not result in land use incompatibilities. The El Camino Real corridor is a mixed use environment, and the City plans to increase residential intensities and ground-floor retail uses along the corridor to promote pedestrian activity. Therefore, the development of such mixed uses on the site would be consistent with the existing and planned land use pattern of the area. In addition, the development of a mixture of uses on the site would promote the land use vision outlined in the Draft El Camino Real/Downtown Specific Plan (which is currently undergoing review and has not been adopted).

b. Transportation, Circulation and Parking. No detailed evaluation of the effects on the transportation system of the Mixed Use alternative has been conducted as part of this analysis as only the "worst case" alternative (Baseline Zoning alternative) and Reduced Residential alternative were evaluated in detail. However, based on the trip generation analysis prepared for the alternative (see Table V-3), it is expected that the impacts of the Mixed Use alternative would resemble those resulting from the Baseline Zoning alternative. In the Near Term Condition and Long Term Condition, the alternative would be expected to result in impacts at local approaches to State-controlled intersections that would not occur with implementation of the proposed project. In addition, impacts would occur to roadways segments beyond the University Avenue and Middle Avenue segments that would be substantially adversely affected by the proposed project.

Table V-3: Trip Generation of the Mixed Use Alternative

Existing Uses	Land Use Code	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Residential Condominium/Townhouse (22)	230	2	8	10	7	4	11	128
Specialty Retail Center (13,400 sf)	814	87	94	181	38	29	67	594
Total for Proposed Uses		**89**	**102**	**191**	**45**	**33**	**78**	**722**
Total Net New Trips		**89**	**99**	**188**	**43**	**32**	**75**	**682**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Source: DKS, 2011.

c. Air Quality. The Mixed Use alternative would result in a substantial increase in the number of daily and peak hour vehicle trips compared to the proposed project, and would result in air quality impacts that are similar to those that would result from the Baseline Zoning alternative. The alternative would be expected to result in a significant contribution to regional air pollutants associated with vehicle trips. In addition, delivery trucks on the site could generate toxic air contaminants that would affect sensitive receptors in the area, including residential uses to the west of the site. However,

similar to the project, the alternative would not exceed the BAAQMD's threshold for the emission of greenhouse gases (and thus would make a less-than-significant contribution to the cumulative impact of global climate change).

d. Noise. The Mixed Use alternative would result in the significant impacts related to noise that would result from the proposed project (although residential uses would primarily require additional noise insulation to reduce noise levels generated from adjacent commercial uses and associated vehicle traffic; this additional noise insulation would need to be provided in accordance with the City's Land Use Compatibility Standards for multi-family dwellings). Although the alternative would generate additional vehicle trips on El Camino Real compared to the proposed project, increases in vehicle volumes would not be sufficient to substantially increase noise levels on El Camino Real (or other roads intersecting El Camino Real). Implementation of construction- and operational-period noise reduction measures would be required under this alternative.

e. Public Services and Utilities. Similar to the proposed project, the Mixed Use alternative would increase demand for public services and utilities, but such demand would not be sufficient to require the construction of new services and utilities facilities. Because the alternative would result in the construction of 22 smaller residential units (compared to the 26 units that would be developed as part of the project), the alternative would not generate new public school students to the extent of the project. However, the impacts of the proposed project on local schools would also be less than significant.

f. Aesthetics. Similar to the proposed project, implementation of the Mixed Use alternative would not have a substantial adverse effect on scenic vistas, as no designated vistas are located within or close to the project site. Also similar to the project, the alternative would maintain the one heritage tree within the project site. Compared to the proposed project, the visual character of the site would be characterized by more active uses at the street level and a larger, more massive building fronting El Camino Real. Because of the large width of El Camino Real, a three-story building on the site would create a more balanced street-to-building ratio and as a result, could generally improve the pedestrian experience along El Camino Real, which would represent a beneficial impact. The urban typology of the mixed use structure, with ground-floor retail uses, is one that is promoted in the Draft El Camino Real/Downtown Specific Plan (which is undergoing review and has not been adopted).

E. SENIOR HOUSING ALTERNATIVE

1. Principal Characteristics

The Senior Housing alternative is designed to explore the environmental impacts associated with the development of a housing project on the site that contains only residential units for seniors. The primary objective of the alternative is to expand the supply of housing for seniors in Menlo Park. Similar to the previous three alternatives, the Senior Housing alternative would require the demolition of all existing structures on the site.

The alternative would result in the development of 26 attached units of senior housing. For the purpose of this analysis, it is assumed that the 26 units would be developed in a three-story building on the project site. The units would be approximately 1,000 square feet in size, on average, and would contain either one or two bedrooms. Similar to the proposed project, three units would be priced at

affordable levels. The alternative would be designed for seniors who are able to live independently. Community space would be provided on the site on the ground floor of the residential building.

Because seniors typically drive less than non-seniors, and due to the proximity of the site to transit, the alternative would include only one parking space per unit plus nine guest spaces (for a total of 35 parking spaces). Parking would be provided in a sub-grade level and in a surface lot. Primary access to the site would be via El Camino Real.

This alternative would meet most of the project objectives, with the exception of the objective relating to the development of single-family housing on the site.

2. Analysis of the Senior Housing Alternative

The potential impacts associated with the Senior Housing alternative are described below.

a. Land Use and Planning Policy. The Senior Housing alternative would result in impacts to land use and planning policy that are similar to the impacts that would result from the proposed project. Like the proposed project, the alternative would not divide an established community (as Alto Lane within the site is not used a public access route) or result in incompatible land uses (as senior residential uses would not be fundamentally incompatible with commercial uses located along El Camino Real or residential uses to the west of the site). The alternative would expand the City's supply of housing to the same degree as the proposed project. However, this alternative would promote policies related to the provision of senior housing, and would provide local seniors with housing located in close proximity to transit. For informational purposes, it is noted that although the Senior Housing alternative would not include ground-floor retail uses, the multi-story structure would represent an intensification of a land use, similar to that envisioned in the Draft El Camino Real/ Downtown Specific Plan (which is currently undergoing review and has not been adopted).

b. Transportation, Circulation and Parking. The Senior Housing alternative would generate no net new AM or PM peak hour trips (AM peak hour trips would be reduced slightly due to the trip characteristics of senior residential uses compared to the existing residential uses on the site), and 50 total daily net new trips (see Table V-4). The alternative would avoid the significant transportation impacts associated with the proposed project.

Table V-4: Trip Generation of the Senior Housing Alternative

	Land Use	AM Peak Hour			PM Peak Hour			
Existing Uses	**Code**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**Daily**
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Senior Adult Housing - Attached (26)	252	1	1	2	2	1	3	90
Total for Proposed Uses		**1**	**1**	**2**	**2**	**1**	**3**	**90**
Total Net New Trips		**1**	**-2**	**-1**	**0**	**0**	**0**	**50**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Source: DKS, 2011.

c. Air Quality. Because of the close proximity of residential uses to the site, construction of the Senior Housing alternative would generate emissions that could pose a health risk to adjacent sensitive receptors. Similar to the proposed project, the alternative would not generate significant levels of regional pollutants. Overall levels of regional pollutants generated by vehicle emissions would be reduced compared to the proposed project because the alternative would generate a relatively smaller number of net new daily trips and no net new peak hour trips.

d. Noise. The impacts of the Senior Housing alternative on the noise environment would be similar to those associated with the proposed project. Similar to the project, the alternative would not result in significant increases in noise levels along local roadways due to development-related traffic. However, construction activities on the site would temporarily increase ambient noise levels, and stationary equipment on the site (such as air conditioners) could result in unacceptable noise levels in the adjacent residential neighborhood. Similar to the project, both impacts would require mitigation. In addition, sound insulation would be required as part of the alternative, in order to reduce interior noise levels to acceptable levels.

e. Public Services and Utilities. The Senior Housing alternative would increase demand for public services and utilities similar to the proposed project, although the alternative would likely generate few (if any) new public school students. However, demand for emergency medical assistance could increase compared to the proposed project. This increase in demand for emergency medical services would not be expected to require the construction of new facilities.

f. Aesthetics. The impact of the Senior Housing alternative on the visual environment would be similar to impacts associated with the proposed project. However, the development of one three-story building on the site would create a more balanced street-to-building ratio and as a result improve the pedestrian experience along El Camino Real, which would represent a beneficial impact. Similar to the proposed project, implementation of the Senior Housing alternative would not have a substantial adverse effect on scenic vistas, as no designated vistas are located within or close to the project site. Also similar to the project, the alternative would maintain the one heritage tree within the project site.

F. OTHER ALTERNATIVES CONSIDERED

No off-site alternatives were considered because the project sponsor's decision to develop the site is based on existing ownership of the site. The sponsor does not own or control other sites that could accommodate the proposed project. In addition, a higher-intensity alternative (beyond the Baseline Zoning alternative or Mixed Use alternative considered in the chapter) was not analyzed because such an alternative would be likely to exacerbate the significant unavoidable impacts to the local roadway system that would be expected to occur with implementation of the proposed project.

G. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative in an EIR. Based on this analysis, the Senior Housing alternative would be considered the environmentally superior alternative. The alternative would avoid the significant unavoidable impacts of the project on the local roadway system and would generate no net new peak hour vehicle trips, while allowing for the development of 26 residential units on the site. In addition, the alternative would promote City policies related to the

development of housing along transit corridors and the provision of housing for seniors. The alternative would also achieve most of the project objectives outlined at the beginning of this chapter. The only objective not achieved by development of the alternative would be the one relating to the development of a mixture of attached and detached single-family residential units. All residential units developed as part of the Senior Housing alternative would be multi-family.

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VI. OTHER CEQA CONSIDERATIONS

As required by the California Environmental Quality Act (CEQA), this chapter discusses the following types of impacts that could result from implementation of the proposed project: growth-inducing impacts; significant irreversible changes; cumulative impacts; effects found not to be significant; and significant unavoidable effects.

A. GROWTH INDUCEMENT

This section summarizes the project's growth-inducing impacts on the surrounding community. According to CEQA, a project is typically considered growth-inducing if it would foster substantial economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.[1] Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped. Typically, projects on infill sites that are surrounded by existing urban uses are not considered growth-inducing because the re-use of land by itself usually does not facilitate development intensification on adjacent sites. Growth in urbanized areas that are served by transit and located in close proximity to job and retail centers is usually considered environmentally beneficial. To the extent that such development has an effect on nearby or adjacent sites, growth-inducement is often a desirable outcome.

Implementation of the proposed project would result in direct growth because it includes the construction of 26 new housing units. Using a rate of 2.4 persons per unit,[2] the proposed project would generate a residential population of 62 persons. According to the California Department of Finance, as of January 2011, the City's population is 32,319.[3] The Association of Bay Area Governments (ABAG) projects that the City's 2015 population will increase to 33,300.[4] The addition of 62 residents from the proposed project would represent 6.3 percent of the anticipated City-wide population growth between 2011 and 2015. According to ABAG, the City's population is expected to increase by 15.6 percent between 2015 and 2035. During this period, residents associated with the proposed project would represent approximately 1.2 percent of the City's expected population growth.

Indirect population growth associated with the proposed project could occur in association with job creation. The economic stimulus generated by construction of the proposed project could result in the

[1] *CEQA Guidelines,* 2011. Section 15126.2(d).

[2] Association of Bay Area Governments, 2009. *Building Momentum: San Francisco Bay Area Population, Household, and Job Forecasts.* (ABAG persons per household data are from within the City's sphere of influence.)

[3] California, State of, 2011a. Department of Finance. *E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change—January 1, 2010 and 2011.* May.

[4] Ibid. (ABAG population data are from within the City's jurisdictional boundary.)

creation of new construction-related jobs. However, the jobs created during the construction phase of the project would not be substantial in the context of job growth in the City and region in the next 10 years. Although some of the employees generated by the proposed project may decide to live in Menlo Park, the migration of these employees into the City would not result in a substantial population increase. In addition, the project would not in and of itself be likely to create long-term, permanent construction jobs.

In addition, the proposed project would occur on an infill site in an existing urbanized neighborhood near downtown Menlo Park. It would not result in the extension of utilities or roads into undeveloped areas, and would not directly or indirectly lead to the development of greenfield sites on the San Francisco Peninsula.

For these reasons, the project would not lead to substantial growth inducement. Because the project site is located within an existing urbanized area, and is near a major regional transit station (the Menlo Park Caltrain Station), anticipated growth would add riders to the existing transit system and could reduce adverse impacts associated with automobile use, such as air pollution and noise. Therefore, the direct and indirect population growth that could occur as a result of project implementation would be largely beneficial and would not be considered substantial and adverse.

B. SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that could result from implementation of a proposed project. These may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. CEQA states that irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.[5] The *CEQA Guidelines* describe three distinct categories of significant irreversible changes: 1) changes in land use that would commit future generations; 2) irreversible changes from environmental actions; and 3) consumption of non-renewable resources.

1. Changes in Land Use Which Would Commit Future Generations

The proposed project would allow for the redevelopment of approximately 1.23-acres of land currently consisting of a parking lot, Alto Lane (a public right-of-way), and two residential buildings. The project site is surrounded by urban development on all sides. The proposed project would be generally consistent with the General Plan land use and zoning designations for the site, and would effectively expand the residential neighborhood located to the west of the site. In addition, the project would promote City policies that seek to add activity and population to the El Camino Real corridor. Therefore, the project would not change fundamental land use patterns in the vicinity of the project site (or underlying General Plan and zoning designations) and would not commit future generations to a significant change in land use. It should be noted that although the project would perpetuate a residential land use pattern, this pattern would not be oriented to transit to the extent of a mixed-use development envisioned in the Draft El Camino Real/Downtown Specific Plan (which is currently undergoing review and has not been adopted). The project would contain two parking spaces per residence (which would facilitate driving) and would not contain the street-front retail uses that are sought by the City to bring pedestrian activity to El Camino Real. However, this deviation from the

[5] *CEQA Guidelines*, 2011. Section 15126.2(c).

development envisioned in the Draft Specific Plan would not commit Menlo Park to adverse changes in land use. Future redevelopment of the site could occur in conformance with the Draft Specific Plan, if the Specific Plan is ultimately adopted.

2. Irreversible Changes from Environmental Accidents

No significant irreversible environmental damage, such as what could occur as a result of an accidental spill or explosion of hazardous materials, is anticipated due to implementation of the proposed project. The project has no design or operational features that would lead to irreversible damage associated with environmental accidents. The buildings on the project site may contain lead and asbestos (which were commonly used as building materials prior to 1980). However, compliance with federal, State and local regulations would reduce the possibility that hazardous substances within the project site – including lead and asbestos – would cause significant environmental damage.

3. Consumption of Nonrenewable Resources

Consumption of nonrenewable resources includes conversion of agricultural lands, loss of access to mining reserves, and use of non-renewable energy sources. The project site is located within an urbanized neighborhood near downtown Menlo Park and is characterized as urban and built-up land by the California Department of Conservation.[6] Therefore, no agricultural lands would be converted to non-agricultural uses as part of the project. In addition, the project site does not contain known mineral resources and does not serve as a mining reserve. Therefore, implementation of the proposed project would not result in the loss of availability of a known mineral resource of value locally or to the region or State.

Construction of the proposed project would require the use of energy, including energy produced from non-renewable resources. Energy consumption would also occur during the operational period of the proposed project due to the use of automobiles and appliances, and for heating and cooling. Even though new buildings constructed on the site would likely be more energy-efficient than existing buildings on the site (on a square footage basis) and the project would increase resident densities around a key transit node (which could reduce per capita transportation fuel usage), new structures would increase consumption of nonrenewable fuel sources. However, due to compliance with State Title 24 energy efficiency standards and locally-adopted amendments to the State's Green Building Standards Code, the proposed project would not result in a significant increase in the consumption of nonrenewable resources.

In order to ensure that buildings constructed as part of the project would use nonrenewable fuel energy sources efficiently and to encourage the substitution of renewable fuel sources for nonrenewable sources, the City may require the consideration of the following measures as project plans are refined (note that this measure is optional and is not required to reduce the significant effects of the project):

Construction and Building Materials

- Use locally produced and/or manufactured building materials for construction of the project;
- Re-use demolished construction material on-site; and

[6] California, State of, 2009. Department of Conservation. *San Mateo County Important Farmland 2008.* May.

- Use "Green Building Materials," such as those materials which are resource efficient, and recycled and manufactured in an environmentally-sound way, including low Volatile Organic Compound (VOC) materials.

Energy Efficiency Measures

- Design all project buildings to exceed the California Building Code's Title 24 energy standard (to achieve at least a 15 percent reduction in energy usage compared to conventional construction), including, but not limited to any combination of the following:
- Increase insulation such that heat transfer and thermal bridging is minimized;
    - Limit air leakage through the structure or within the heating and cooling distribution system (including air ducts) to minimize energy consumption; and
    - Incorporate ENERGY STAR or better rated windows, space heating and cooling equipment, light fixtures, appliances, or other applicable electrical equipment.
- Design, construct and operate buildings as equivalent to "LEED Silver" or higher certified buildings;
- Develop an On-Site Renewable Energy System that consists of solar, wind, geothermal, biomass and/or bio-gas strategies. This system should reduce grid-based energy purchases and provide at least 2.5 percent[7] of the project energy cost from renewable energy. Such a strategy can include installation of photovoltaic panels and solar and tankless hot water heaters;
- Use combined heat and power in appropriate applications;[8]
- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings;
- Install light colored "cool" roofs and cool pavements;
- Install energy efficient heating and cooling systems, appliances and equipment, and control systems; and
- Install light emitting diodes (LEDs) for outdoor lighting.

Water Conservation and Efficiency Measures

- Devise a comprehensive water conservation strategy appropriate for the project. The strategy may include the following, plus other innovative measures that might be appropriate:
    - Create water-efficient landscapes within the development;

[7] Based on U.S. Green Building Council, LEED, 2005. *Green Building Rating System for New Construction & Major Renovations. Version 2.2.* October.

[8] Combined heat and power (CHP) systems (also known as "cogeneration") generate electricity (and/or mechanical energy) and thermal energy in a single, integrated system. The thermal energy recovered in a CHP system can be used for heating or cooling in buildings. CHP captures the heat that would otherwise be rejected in traditional separate generation of electric or mechanical energy, increasing overall efficiency.

- Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls;
- Use reclaimed water for landscape irrigation within the project. Install the infrastructure to deliver and use reclaimed water;
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances, including low-flow faucets, dual-flush toilets and waterless urinals; and
- Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.

C. CUMULATIVE IMPACTS

CEQA defines cumulative impacts as "two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. These impacts can result from the proposed project alone or together with other projects. The *CEQA Guidelines* state: "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."[9]

1. Methodology

When evaluating cumulative impacts, CEQA envisions the use of either a list of past, present, and probable future projects, including projects outside the control of the lead agency, or a summary of projections in an adopted planning document, or some reasonable combination of the two approaches. This cumulative analysis assumes the development of planned/approved developments near the project site that would be completed in the near term, along with a growth rate of 1 percent per year to account for future development over a 20-year growth horizon. This analysis is consistent with the Long Term Condition analysis in Section IV.B, Transportation, Circulation and Parking.

2. Cumulative Effects of the Proposed Project

The following analysis examines the cumulative effects of the proposed project. The potential cumulative effects of the proposed project are summarized below for each of the topics that are analyzed in Chapter IV of the Draft EIR.

a. Land Use and Planning Policy. Implementation of the cumulative projects, in combination with the proposed project, would result in the redevelopment of numerous infill sites throughout Menlo Park, including along the El Camino Real corridor. Infill projects in a setting like that of Menlo Park generally represent environmentally-sound development in that such projects capitalize on existing transit systems and infrastructure, and minimize impacts on sensitive resources, such as wetlands and farmlands, that are frequently degraded with greenfield site development. Anticipated development in Menlo Park is expected to intensify the uses of underutilized parcels, provide greater

[9] *CEQA Guidelines*, 2011. Section 15355.

neighborhood cohesion and linkages with downtown, and accommodate an increasing population. Because the proposed project would add population to the El Camino Real corridor and place more people in close proximity to regional transit, the project – in combination with other past, present, and reasonably foreseeable future projects – would not result in adverse land use and planning policy impacts.

b. Transportation, Circulation, and Parking. Please refer to Section IV.B., Transportation, Circulation and Parking, for a detailed description of the cumulative transportation-related impacts of the proposed project. Although the proposed project and many of the cumulative projects would be located in close proximity to transit stations and would allow for the utilization of alternative modes of transportation, these projects would increase traffic on City streets. In the cumulative Near Term and Long Term conditions, the proposed project would add 68 vehicles to the roadway segment of University Drive between Middle Avenue and College Avenue. In addition, in the cumulative Long Term Condition, the proposed project would add 52 vehicles to the roadway segment of Middle Avenue between University Drive and El Camino Real. This contribution to roadway traffic volumes would be considered cumulatively significant. No feasible mitigation measures have been identified that would reduce these significant cumulative impacts to a less-than-significant level.

c. Air Quality. The proposed project is a development in close proximity to the Menlo Park Caltrain station and downtown Menlo Park. As such, the proposed project would capitalize on existing transit systems and encourage the use of alternate forms of transportation (such as walking and biking). Some of the cumulative projects are also infill projects in close proximity to transit stations (including bus stops) and have the potential to reduce automobile-related pollutant levels in Menlo Park. During the construction period, the proposed project would result in the short-term generation of pollutants, including suspended and inhalable particulate matter, and toxic air contaminants. However, implementation of Mitigation Measures AIR-1 and AIR-2 would reduce construction-period emissions (including emissions of toxic air contaminants) to a less-than-significant level. It is expected that mitigation measures similar to those recommended for the proposed project would be implemented during the construction phases of the cumulative projects, reducing short-term emission impacts to a less-than-significant level.

d. Noise. Implementation of the proposed project and cumulative projects would result in noise increases in Menlo Park and surrounding cities due to construction-period activity and increased traffic on City streets. However, noise increases associated with construction of the proposed project would be reduced to a less-than-significant level through implementation of Mitigation Measure NOISE-1, which would restrict construction activities to daytime hours and require the project sponsor to develop and require the implementation of other measures to reduce construction-related noise. It is anticipated that the cumulative projects in Menlo Park would incorporate these standard noise-reduction measures and that project construction would not result in substantial adverse cumulative noise impacts. The project's contribution to traffic-related noise would not be considered significant at the project or cumulative level (see Section IV.D, Noise, for a more detailed discussion). The project site would be exposed to high noise levels as a result of cumulative traffic volumes on El Camino Real, but implementation of Mitigation Measure NOISE-2 would reduce traffic-related noise on the project site to an acceptable level.

e. Pubic Services and Utilities. Implementation of the proposed project and cumulative projects would increase the demand for water, wastewater treatment, landfill space, and public services

(including police, fire, school, and park services). Utility improvements funded by project sponsors, routine expansion of wastewater treatment facilities, the adoption of waste reduction plans and the installation of recycling bins, and the incorporation into projects of required energy- and water-efficient technologies would ensure that the anticipated projects would have less-than-significant cumulative impacts on wastewater treatment, energy, and landfill space. The proposed project and the cumulative projects would be subject to the City's Water Efficient Landscape Ordinance, which would result in an efficient use of water. The Water Efficient Landscape Ordinance establishes a project water budget that may not be exceeded, or establishes a limit for site turf coverage. Therefore, the proposed project would not result in a significant adverse cumulative impact to water supply. The proposed project, like many of the cumulative projects, would be constructed on a predominantly impervious site and would not result in a substantial increase in stormwater runoff that would over-burden the existing stormwater system. Adherence to increasingly strict RWQCB requirements would increase on-site storm water retention compared to existing conditions. Incremental changes in storm-water runoff would be mitigated through increases in infrastructure capacity in select locations.

It is anticipated that the proposed project and cumulative projects would be adequately served by other existing public services (police, fire, schools, and parks). The sponsors of these projects would be required to pay development fees that would fund needed expansions of service facilities (including schools), but such facilities would likely be built within already-developed sites, which would limit associated environmental impacts.

f. Aesthetics. Implementation of the proposed and cumulative projects would result in visual changes to neighborhoods in Menlo Park associated with the intensification of already-developed parcels. In general, these visual changes would not adversely affect the visual quality of Menlo Park as they would be subject to the City's design review process. The redevelopment of vacant lots and surface parking areas would create a more appealing urban environment and would create linkages between downtown, the El Camino Real commercial corridor, and outlying neighborhoods. The proposed project would not compromise scenic views, including views to the Santa Cruz Mountains. Overall, the proposed project would not substantially contribute to an adverse cumulative impact to visual quality in Menlo Park.

D. EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on correspondence with City staff, visits to the project site, and preliminary research, the proposed project is not expected to result in significant impacts related to the following topics, which are not further evaluated in the Draft EIR.

1. Agriculture and Forestry Resources

The site is located within an urbanized district near downtown Menlo Park and is not classified by the State of California Department of Conservation as farmland.[10] No agricultural uses or farmland are present within or adjacent to the project site. Therefore, implementation of the proposed project would not convert agricultural land to non-agricultural uses.

[10] California, State of, 2009. Department of Conservation. *San Mateo County Important Farmland 2008.* May.

2. Biological Resources

The project site is located within a developed area, the majority of which is covered with impervious surfaces. Wildlife and botanical resources present within the project site are adapted to disturbed, urban conditions and would not be adversely affected by implementation of the proposed project. The project site contains one heritage tree, as defined by the City (a 90-foot-tall coast redwood (*Sequoia sempervirens*) located in the northwest corner of the site), that would be preserved in-place. No State or federally protected plant or animal species are known to occur within the project site.

3. Cultural Resources

According to an evaluation conducted by LSA Associates, no previously recorded cultural resources have been identified in or adjacent to the project site. In addition, the evaluation concluded that the existing buildings (612 Partridge Avenue and 603-607 College Avenue) on the project site lack historical significance and, therefore, do not appear eligible for listing in the California Register and do not constitute historical resources for the purposes of CEQA.[11]

Due to the urbanized nature of the area, it is unlikely that cultural resources such as archeological remains would be potentially present and affected by the proposed project. However, the City would require implementation of the following best practices to protect archaeological and paleontological resources, in the event that such resources are encountered on the project site:

- If deposits of prehistoric or historic archaeological materials are encountered during project construction activities, all work within a specified distance of the discovery shall be stopped and a qualified archaeologist shall be contacted to assess the finds and make recommendations. If such deposits cannot be avoided, they shall be evaluated for California Register of Historical Resources eligibility. If the deposits are not eligible, avoidance is not necessary. If the deposits are eligible, they shall be avoided by project construction activities, or such effects shall be mitigated to a less-than-significant level. Upon completion of the archaeological assessment, the archaeologist shall prepare a report documenting the methods and results of the assessment, and shall provide recommendations for the treatment of archaeological materials discovered.
- If paleontological resources are discovered during project construction activities, all work within a specified distance of the discovery shall be redirected until a paleontological monitor has assessed the situation and made recommendations regarding their treatment. It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided, or such effects shall be mitigated. Mitigation shall consist of data recovery, report preparation, fossil curation, and public outreach.
- If human remains are encountered, work within a specified distance of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation. Project personnel shall not collect or move any human remains or associated materials. If the human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect

[11] LSA Associates, Inc., 2009. *Memorandum: Architectural Eligibility Evaluation for the 389 El Camino Real Project, Menlo Park, San Mateo County, California (LSA #CMK1001).* May 19.

the site and provide recommendations for the proper treatment of the remains and associated grave goods. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results of the assessment, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD.

4. Geology and Soils

Like all projects in the Bay Area, the proposed project could expose persons to seismic hazards. It is acknowledged that seismic hazards cannot be completely eliminated, even with a site-specific geotechnical investigation and advanced building practices. However, exposure to seismic hazards is a generally accepted part of living in the earthquake-prone San Francisco Bay Area. It is highly likely that the region will be exposed to a major earthquake during the operational period of the proposed project. Moderate to strong ground shaking is expected at the project site during predicted earthquakes on the San Andreas and other regional active faults. This level of seismic shaking could cause extensive non-structural damage in buildings on the site, and some structural damage could occur. The City would require the project sponsor to prepare a Geotechnical Investigation that would detail the design features that would need to be incorporated into the project to reduce seismic hazards to an acceptable level. In addition, the City would require that these design features be incorporated into the project, in compliance with the applicable California Building Code.

5. Greenhouse Gas Emissions

Local temperatures could increase in time as a result of global climate change, with or without development envisioned as part of the proposed project. This increase in temperature could lead to other climate effects including, but not limited to, increased flooding due to increased precipitation and runoff, and a reduction in the Sierra snowpack. At present, the extent of climate change impacts is uncertain, and more extensive monitoring of runoff and snowpack is necessary for a greater understanding of changes in hydrologic patterns. Studies indicate that increased temperatures could result in a greater portion of peak stream flows occurring earlier in the spring with decreases in late spring and early summer.[12] These changes could have implications for water supply, flood management, and ecosystem health.

The Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines establish a screening threshold for global climate change of 56 single-family dwelling units or 78 townhouse units (the number of dwelling units expected to result in more than 1,100 metric tons per year of carbon dioxide). Projects that exceed this threshold would be considered to make a significant contribution to global climate change. Because the project would not exceed this threshold, the project would be considered to result in a less-than-significant contribution to the cumulative impact of global climate change.

6. Hazards and Hazardous Materials

The northeastern and central portions of the project site were formerly occupied by an Exxon Service Station, which contained three gasoline underground storage tanks (UST), one diesel UST, one waste oil UST, and two pump islands. These features were suspected of having contaminated the site with

[12] U.S. Global Change Research Program, 2001. *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change.*

petroleum hydrocarbons. After the station was closed, the five USTs and two pump islands were removed in 1993. Remedial activity on the site was performed and approximately 25 monitoring wells were installed at the site between 1992 and 1996. Other remedial efforts included soil over-excavation, pumping and treatment of ground water, soil vapor extraction, and natural attenuation. Residual petroleum hydrocarbons were detected during pre-remedial investigations; post-remediation soil sampling performed in 2005 detected reduced concentrations of petroleum hydrocarbons.

On May 12, 2006, a letter from TRC Lowney to the San Mateo County Environmental Health Services Division concluded that remedial efforts at the site "appear to have successfully reduced petroleum hydrocarbon concentrations at the property to levels that would allow unrestricted reuse." In particular, post-remediation soil sampling near previously-identified contaminated areas did not detect petroleum hydrocarbons that exceed laboratory detection limits, and none of the petroleum hydrocarbons detected in ground water exceed the environmental screening levels established by the Regional Water Quality Control Board (RWQCB) for evaluating risks associated with vapor intrusion into residential structures. Therefore, contamination associated with the Exxon Service Station would not expose construction workers or future occupants of the project site to soil or groundwater contaminants.

However, the existing buildings on the site may contain lead and asbestos because they were constructed prior to 1980. The construction contractor would be required to adhere to applicable federal, State, and local regulations related to the treatment of lead and asbestos. Therefore, such materials would not pose a significant health risk.

Following project construction, the project would not result in significant impacts from the routine transport, use, or disposal of significant quantities of hazardous materials. Any hazardous materials (pesticides, herbicides, fertilizers, fuels) used for the maintenance of open space/landscaped areas would be brought onto the project site for immediate use and would not be stored on-site in hazardous quantities.

The proposed project would not be expected to impair implementation of or interfere with any emergency response or evacuation plans in the project site vicinity. The project would not affect the configuration of El Camino Real or other regional roadways that would be used for emergency evacuation. With the exception of the abandonment of the public street easement for an existing right-of-way (Alto Lane), no roadways would be obstructed or removed as part of the proposed project. In addition, proposed buildings would be required to conform to the applicable California Fire Code and include automatic sprinkler protection per the 2010 Building Standards Code. Therefore, the project would not result in significant hazards and hazardous materials impacts.

7. Hydrology and Water Quality

The proposed project would be constructed on an urbanized site that is currently almost completely paved and would not substantially increase impervious surface coverage or result in flood hazards within the project site. In addition, the proposed project would not place structures in flood hazard zones or alter existing waterways. Construction and operational impacts to storm water quality and quantity that would result from implementation of the proposed project would be minimized through compliance with RWQCB regulations and implementation of the best practices described below.

The proposed project would not use local groundwater supplies or substantially increase the amount of impervious surfaces (and therefore reduce deep infiltration). Therefore, implementation of the proposed project would not contribute to depletion of groundwater supplies. Development of the proposed project would not substantially alter a natural water course or the amount of impervious surfaces on the project site, and would not expose people or property to flooding associated with catastrophic dam failure, seiche, or tsunamis.

The proposed project could adversely affect water quality during both the construction and operation periods of the project. However, the project would be required to: comply with applicable water quality regulations that would require the submittal of Notice of Intent (to obtain coverage under the Construction General Permit for construction-period stormwater discharges); implement a Storm Water Pollution Prevention Plan (to reduce construction-period pollution); and incorporate into the project landscape features that retain and treat stormwater runoff. Therefore, construction and operation of the proposed project would not substantially adversely affect water quality and stormwater volumes.

8. Mineral Resources

No mineral resources are located within or near the project site. Mineral resource extraction activities have not taken place within or around the project site during recent history.

9. Population and Housing

The proposed project would increase the City's housing supply by 26 residential units and would therefore induce direct population growth. The proposed units designed for the project site would contain two to four bedrooms. Using a rate of 2.4 persons per residential unit,[13] the residential population of the project would be 62 residents and would account for approximately 3.9 percent of the City's population growth between 2011 and 2015. The addition of 62 residents would represent approximately 1.2 percent of projected population growth between 2015 and 2035.[14] The expected increase in population would be consistent with the anticipated growth identified by the Association of Bay Area Governments (ABAG), and this impact would be considered less than significant.

Two existing residential buildings currently occupy the project site: a residential triplex building at 603 College Avenue and a single-family residence at 612 Partridge Avenue. Two of the three triplex units on the project site are currently inhabited; the remaining residential units on the site are uninhabited. The project would demolish the existing units on the site, displacing residents that currently live on the site. However, the project would replace the existing four units of housing on the site (which could be occupied by approximately 10 persons, based on average unit occupancy data) with a total of 26 units of new housing, including three units priced for low-income households. Therefore, the demolition of housing on the site would be considered a less-than-significant impact.

10. Recreation

Parks and recreational facilities located in the vicinity of the project site include the 9.0-acre Nealon Park, located 0.3 miles northwest of the project site at 800 Middle Avenue; the 9.31-acre Burgess

[13] Association of Bay Area Governments, 2009. *Building Momentum: San Francisco Bay Area Population, Household, and Job Forecasts.* (ABAG persons per household data are from within the City's sphere of influence.)

[14] Ibid. (ABAG population data are from within the City's jurisdictional boundary.)

Park, located 0.8 miles northeast of the project site at 701 Laurel Street; the 0.38-acre Fremont Park located 0.8 miles northwest of the project site at the intersection of Santa Cruz Avenue and University Drive, and the 4.55-acre Jack W. Lyle Park, located 0.6 mile northwest of the project site at the intersection of Middle Avenue and Fremont Street. Nealon Park includes five lighted tennis courts, a softball field, playground, picnic areas, and an off-leash dog area. Burgess Park provides two lighted tennis courts, two baseball fields, a soccer field, a children's playground, and an open play field. Adjacent facilities include the Burgess Pool, Burgess Recreation Center, Burgess Skate Park, and the Arrillaga Family Gymnasium. Fremont Park includes walkways, benches, and shaded areas. Jack W. Lyle Park includes an open play field, half court basketball court, playgrounds, walkways, and benches.[15]

Development of the proposed project would increase the demand for park and recreation facilities. However, there is a sufficient acreage of neighborhood parks in close proximity of the project site. As mentioned above, Nealon, Burgess, Fremont, and Jack W. Lyle Parks are located within 1 mile of the project site. Based on the modest population growth that would be generated from the project, the increase in new residents would not substantially increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facilities would occur or be accelerated. In addition, the proposed project also would not include recreation facilities (other than private, on-site open space) or require the construction or expansion of recreational facilities that would have an adverse physical effect on the environment.

E. SIGNIFICANT UNAVOIDABLE IMPACTS

The proposed project would result in three significant unavoidable impacts: 1) in the Near Term Condition, the proposed project would add 68 vehicles to the roadway segment of University Drive between Middle Avenue and College Avenue; 2) in the Long Term Condition, the proposed project would add 68 vehicles to the roadway segment of University Drive between Middle Avenue and College Avenue; and 3) in the Long Term Condition, the proposed project would add 52 vehicles to the roadway segment of Middle Avenue between University Drive and El Camino Real. These contributions to roadway traffic volumes would be considered significant because they would exceed the City's average daily trip thresholds for those roadways. No feasible mitigation measures have been identified that would reduce these significant impacts to a less-than-significant level. Therefore, the impacts would remain significant and unavoidable and the City would need to adopt a Statement of Overriding Considerations to approve the project, consistent with *CEQA Guidelines* Section 15093.

[15] Menlo Park, City of, 2011. Community Services Department. Parks, Fields, Picnic Areas, and Tennis Courts. Website: www.menlopark.org/departments/com/parks.html (accessed March 1).

VII. REPORT PREPARATION

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