Commonwealth Corporate Center Project
Draft EIR

State Clearinghouse #2012082027
February 2014

Prepared for: **City of Menlo Park**

DRAFT

COMMONWEALTH CORPORATE CENTER PROJECT ENVIRONMENTAL IMPACT REPORT

PREPARED FOR:

City of Menlo Park
701 Laurel Street
Menlo Park, CA 94025

PREPARED BY:

ICF International
620 Folsom Street, 2nd Floor
San Francisco, CA 94107

February 2014

ICF International. 2014. Commonwealth Corporate Center Project Environmental Impact Report. Draft. February. (ICF 00078.13.) San Francisco, CA. Prepared for City of Menlo Park, CA.

Executive Summary

Project Overview

The Sobrato Organization (Project Sponsor) is proposing to redevelop the properties at 151 Commonwealth Drive and 164 Jefferson Drive (collectively referred to as the Project site) in the City of Menlo Park. The 12.1-acre Commonwealth Site was formerly occupied by Diageo North America and has been unoccupied since July 2011. The 1.17-acre Jefferson Site is directly adjacent to the Commonwealth Site to the north. This site consists of an operational warehouse building used for office and light industrial uses and associated surface parking.

The Project would demolish the existing buildings at the Project site and construct two office, biotech, and/or research and development (R&D) buildings, a surface parking lot, onsite linkages, and landscaping. The Project Sponsor's conceptual site plan proposes two separate buildings located in the southwest corner of the Project site, towards the main entrance at Commonwealth Drive. Building 1 would be arranged in an east–west orientation, and Building 2 would be arranged in a north-south orientation, to the east of Building 1. Each building would have a footprint of approximately 34,535 square feet (sf). Together, the two buildings would have a total floor area of approximately 259,920 sf.

The proposed structures would be surrounded by surface parking, landscaping, pedestrian paths, and water features. A courtyard with café tables and chairs would be situated in between the two buildings and would provide a social space for the Project. Two covered trash and generator enclosures would be located within the parking lots to the northwest of Building 1 and to the southeast of Building 2. Bicycle lockers would also be provided within the parking lot to the north of the two buildings. One depressed truck loading dock per building would be located in the northwest and southwest corners of Buildings 1 and 2, respectively. The northern portion of the Project site (the Jefferson Site) would include an entrance and driveway from Jefferson Drive, a lawn area for active recreation, picnic tables, a stormwater treatment area, and landscaping.

The Project site is currently zoned M-2 and designated Limited Industry in the City's General Plan. Under the current land use designation, the Project site could be built out to approximately 260,313 sf, with a floor area ratio (FAR) of 0.45, as identified in the City's zoning ordinance. The Project would comply with these requirements; however, the two proposed buildings would exceed the 35-foot maximum height limit in the M-2 zoning district. In order to comply with the M-2 zoning, the increase in height from 35 feet (allowed) to 62 feet (proposed) would require rezoning the Project site to M-2(X). In addition, a Conditional Development Permit (CDP) would be required to modify existing M-2 development regulations in order to establish a new height limit. The Project site would require a lot merger to combine the Commonwealth Site and the Jefferson Site.

The Project would also require a tree removal permit for each heritage tree proposed for removal per Municipal Code Section 13.24.040 and a Below Market Rate Housing Agreement for the payment of in-lieu fees associated with the City's Below Market Rate Housing Program.

Areas of Controversy

California Environmental Quality Act (CEQA) Guidelines Section 15123 specifies that the Draft Environmental Impact Report (EIR) summary identify "areas of controversy" known to the Lead Agency, including issues raised by agencies and the public, and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

A Notice of Preparation (NOP) was released for the Project on August 6, 2012 for a 30-day public review period. A public scoping meeting was held before the City's Planning Commission on August 20, 2013. This summary list is compiled based on written comments received (included in Appendix 1 of this Draft EIR) and comments stated during the public scoping meeting. The topics that would result in physical impacts under CEQA are addressed in the EIR analysis. Major areas of controversy include those listed below.

Aesthetics

- Building heights.
- Heritage tree removal and other landscaping concerns.

Transportation

- Implementation of a trip cap.
- Inclusion of additional study intersection.
- Inclusion of on- and off-ramps in study.
- Preparation of the Draft EIR should be consistent with the Caltrans Guidelines.
- Consideration of El Camino Real.
- Discussion of bicycle and pedestrian facilities.
- Use of C/CAG.
- Parking impacts on surrounding properties.

Greenhouse Gas Emissions

- Heat-island effect of the parking lot.

Noise

- Noise bounce-back of traffic from US 101 associated with the new buildings to the residences on the other side of US 101.
- Vibration impacts during construction on sensitive equipment.

Hydrology/Flood Hazards

- Rainwater retention in the parking area and increases in impervious surface area.

Hazardous Materials

- Hazardous waste cleanup of the former distillery.

Population and Housing

- Housing implications within the City.
- General process of how housing impacts are analyzed under CEQA.

Public Services

- Impacts on fire and emergency services.

Biological Resources

- Impacts on wildlife due to the proximity to the Bay.
- Heritage tree removal.
- Disturbance of nesting birds and roosting bats.
- Impacts of larger buildings on migratory birds.

Alternatives

- Analysis of an alternative that does not exceed the 35-foot height limit.

Project Alternatives

Chapter 4 of this Draft EIR, *Alternatives Analysis*, analyzes the following reasonable alternatives to the Project.

- **No Project Alternative.** The No Project Alternative is provided in this Draft EIR to compare the impacts of the Project with what would be reasonably expected to occur in the foreseeable future if the Project were not approved and development continued to occur in accordance with existing plans and consistent with available infrastructure and community services (CEQA Guidelines Section 15126.6(e)(2)).
- **Reduced Intensity Alternative.** The Reduced Intensity Alternative assumes a 25 percent reduction in building area and employees. As discussed in Chapter 4, the Reduced Intensity Alternative is the Environmentally Superior Alternative.

Impacts and Mitigation Measures

Table ES-1 presents a summary of the impacts of the Project, proposed mitigation and improvement measures, and each impact's level of significance after mitigation. The environmental impacts are identified and classified as "Significant," "Potentially Significant," "Less Than Significant," or "No Impact." According to the CEQA Guidelines Section 15382, a significant impact is "… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…"

CEQA Guidelines Section 15126.4(a)(1) also states that an EIR "… shall describe feasible mitigation measures which could minimize significant adverse impacts…" In this Draft EIR, mitigation measures are identified for all of the impacts labeled "Potentially Significant."

Draft EIR Conclusions

In accordance with CEQA Guidelines Section 15123(b)(3), this summary section must identify issues to be resolved, including whether or how to mitigate the significant effects and the choice among alternatives. Chapter 3 of the Draft EIR, *Environmental Impact Analysis*, presents mitigation measures to reduce or avoid significant impacts identified for the Project. In some instances, the Draft EIR identifies mitigation options to address specific impacts. During the CEQA environmental review process, the City will need to resolve which mitigation measures are suitable and whether they can effectively reduce impacts to a less-than-significant level. A Mitigation Monitoring and Reporting Program (MMRP) will be prepared to define the timing of implementation of the measures, parties responsible for implementation, and parties responsible for reporting and verifying implementation.

The Draft EIR identifies impacts that would remain significant and unavoidable even after implementation of the proposed mitigation measures. Consequently, the City will need to determine whether to approve the Project as proposed and, if so, provide its rationale in a Statement of Overriding Considerations.

As outlined above, Chapter 4, *Alternatives Analysis*, presents the alternatives for the Project. Although the Reduced Intensity Alternative would meet some Project objectives, none of the alternatives would avoid all of the significant and unavoidable impacts of the Project. The City will need to resolve whether these options, or others that have not been considered, are preferable from an environmental and community perspective compared to the Project.

How to Comment on this Draft EIR

This Draft EIR is considered a draft under CEQA because it must be reviewed and commented upon by public agencies, organizations, and individuals before being finalized. This document is being distributed for a minimum of a 45-day public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects. Written comments should be submitted to:

David Hogan, Contract Planner
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Email: dwhogan@menlopark.org

A public hearing to take oral comments on the Draft EIR will be held before the Planning Commission on March 24, 2014. Hearing notices will be mailed to responsible agencies and interested individuals.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
3.1 Land Use			
Impact LU-1: Conflicts with Adopted Land Use Plans and Policies. The Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-LU-1: Cumulative Land Use Impacts. The Project, in combination with other foreseeable development in the nine-county ABAG region, would not be inconsistent with applicable land use plans, policies, and regulations. As such, the impact would be less than significant.	LTS	None Required.	N/A
3.2 Aesthetics			
Impact AES-1: Degradation of Visual Character or Quality. The Project would not substantially degrade the existing visual character or quality of the site and its surroundings. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact AES-2: New Sources of Light and Glare. The Project could create a new source of substantial light or glare that could adversely affect daytime or nighttime views in the area. As such, the impact would be potentially significant.	PS	***AES-2.1: Design Lighting to Meet Minimum Safety and Security Standards.*** Concurrent with the building permit submittal, the Project Sponsor shall incorporate lighting design specifications to meet minimum safety and security standards. The comprehensive site lighting plans shall be subject to review and approval by the City's Community Development Department Planning Division prior to building permit issuance of the first building on that site. The following measures shall be included in all lighting plans.	LTS

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Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		• Luminaries shall be designed with cutoff-type fixtures or features that cast low-angle illumination to minimize incidental spillover of light onto adjacent private properties. Fixtures that shine light upward or horizontally shall not spill any light onto adjacent private properties. • Luminaries shall provide accurate color rendering and natural light qualities. Low-pressure sodium and high-pressure sodium fixtures that are not color-corrected shall not be used, except as part of an approved sign or landscape plan. • Luminary mountings shall be downcast and pole heights minimized to reduce potential for back scatter into the nighttime sky and incidental spillover light onto adjacent properties and undeveloped open space. Light poles shall be no higher than 20 feet. Luminary mountings shall be treated with non-glare finishes. ***AES-2.2: Treat Reflective Surfaces.*** The Project Sponsor shall ensure application of low-emissivity coating on exterior glass surfaces of the proposed structures. The low-emissivity coating shall reduce visible light reflection of the visible light that strikes the glass exterior and prevent interior light from being emitted brightly through the glass.	
Impact C-AES-1: Cumulative Degradation of Visual Character or Quality. The Project, in combination with other foreseeable development in the surrounding area, would not have a significant cumulative impact on visual character or quality. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-AES-2: Cumulative Sources of Light and Glare. Implementation of the Project, in combination with foreseeable development, would not create new sources of light or glare that could adversely affect day or nighttime views. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
3.3 Transportation			
Impact TRA-1: Impacts on Intersections in Near Term 2015 Plus Project Conditions. Increases in traffic generated by the Project under Near Term 2015 Plus Project Conditions would result in increased delays during AM and PM Peak Hours causing a potentially significant impact on the operation of several of the study intersections.	PS	Mitigation Measure TRA-1.1 involves intersection improvements to mitigate or reduce the impacts of the Project under the Near Term 2015 Plus Project Conditions. However, some intersection impacts would remain significant and unavoidable since the improvements would require obtaining additional right-of-way and several intersections are not under the City's jurisdiction. The operations at several of the affected intersections could be improved by modifying the phasing or cycle length of the signal or by modifying the intersection geometry to provide additional capacity. Some of the modifications could be made by restriping the existing roadway; however, others would require additional right-of-way when travel lanes are added. See Appendix 3.3-F for intersection conceptual layout plans for mitigation measures. ***TRA-1.1: Implement Intersection Improvements to address Near Term Effects on Study Intersections.*** The following mitigation measures were considered to reduce potentially significant impacts on study intersections. a. Marsh Road and Bayfront Expressway (#1) A portion of the proposed mitigation measure for the intersection of Marsh Road and Bayfront Expressway is the same as the mitigation measure proposed for the Housing Element Environmental Assessment (EA) (TR-1g, TR-2w). The measure includes restriping the existing southbound approach of Haven Avenue from one shared left-turn and through lane, one through lane, and one right-turn lane to one shared left-turn and through lane, one shared through and right-turn lane, and one right-turn lane (the single through-lane will be combined with a right-turn lane). The improvements also include bicycle and pedestrian enhancements to the Haven Avenue approach. The improvements to the southbound leg are the responsibility of the	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		St. Anton (Haven Avenue Residential) development per the Housing Element EA and are currently in the design phase. Additionally, the eastbound approach of Marsh Road would be widened to accommodate a third right-turn lane. This has potentially significant secondary effects on bicyclists by requiring them to cross multiple lanes of traffic to make a left-turn or proceed through the intersection; and on pedestrians by increasing the crossing distance, exacerbating the multiple threat scenario (where vehicles block sight lines between drivers in adjacent lanes and crossing pedestrians), and exposure time to vehicle traffic. This improvement would therefore be required to include enhancements to bicycle and pedestrian infrastructure along Marsh Road in the area between the US 101 NB off-ramp and Bayfront Expressway to reduce the secondary effects of this mitigation measure. The Project Sponsor is responsible for the third right-turn lane and bicycle/pedestrian improvements for the eastbound approach on Marsh Road. Prior to submitting an application for a building permit, the Project Sponsor shall prepare detailed construction plans for the proposed mitigation measures on the eastbound approach at the intersection of Marsh Road and Bayfront Expressway for review and approval by the Public Works Director. Prior to the issuance of a building permit, the Project Sponsor shall obtain the approval from the Public Works Director for the improvement construction plans and shall provide a bond for improvements in the amount equal to the estimated construction cost for the intersection improvements plus a 15 percent contingency. Complete plans shall include all necessary requirements to construct the improvements in the public right-of-way, including grading and drainage improvements, utility relocations, traffic signal relocations/modifications, tree protection requirements, and signage and striping modifications. The plans shall be subject to review and approval of the Public Works Director prior to submittal to Caltrans.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		If Caltrans does not approve the proposed intersection improvements within 5 years from the CDP effective date, and the Project Sponsor demonstrates that it has worked diligently to pursue Caltrans approval to the satisfaction of the Public Works Director, in his/her sole discretion, then the Project Sponsor shall be relieved of responsibility to construct the improvement and the bond shall be released by the City after the Project Sponsor submits funds equal to the bid construction cost to the City. The City may use the funds for other transportation improvements, including, but not limited to, bicycle, pedestrian, and transit improvements and TDM programs, throughout the City with priority given to portions of the City east of US 101. Construction of this improvement, or in the case that Caltrans does not approve the intersection improvement, payment of funds equal to the bid construction cost to the City, by the Project Sponsor shall count as a future credit toward payment of the Transportation Impact Fee (TIF) pursuant to the TIF Ordinance. Although the proposed mitigation would fully mitigate the impact, it remains significant and unavoidable because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU) b. Marsh Road and US 101 Northbound Off-Ramp (#3) The proposed mitigation measures for the intersection of Marsh Road and the US 101 northbound off-ramp includes widening the northbound off-ramp to add a second right-turn lane. This would be accomplished by widening the western side of the approach and shifting the existing lanes, resulting in two left-turn lanes and two right-turn lanes. This improvement will require relocation of existing traffic signal poles, utility relocation, tree removal, and reconstruction of the curb ramp on the southwest corner of the intersection.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		According to the Facebook East Campus Development Agreement (FECPDA), Facebook is responsible for implementing this mitigation measure. However, even though the proposed mitigation would fully mitigate the impact, the impact remains significant and unavoidable because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU) c. Independence Drive and Constitution Drive (#8) A potential mitigation measure for the intersection of Independence Drive and Constitution Drive would include restricting left-turns from Constitution Drive to Independence Drive. This restriction would affect less than five vehicles during each peak hour. Because the number of affected vehicles is small, it is anticipated that traffic patterns would shift to alternative routes if peak hour congestion warrants. The impact remains significant and unavoidable because it is infeasible. No other feasible mitigation measures are available for this intersection at this time. (SU) d. Chrysler Drive and Bayfront Expressway (#9) The proposed mitigation measure for the intersection of Chrysler Drive and Bayfront Expressway includes restriping the existing eastbound right-turn lane to a shared left/right-turn lane. According to the FECPDA, Facebook is responsible for implementing this mitigation measure. However, although the proposed measure would fully mitigate the impact, it remains significant and unavoidable because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU)	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		e. Chrysler Drive and Jefferson Drive (#11) A potential mitigation measure for the intersection of Chrysler Drive and Jefferson Drive includes signalizing the intersection. With the addition of Project traffic, the intersection meets the peak hour signal warrants defined in the California Manual on Uniform Traffic Control Devices (California MUTCD) during the PM Peak Hour (Appendix 3.3-G). However, the California MUTCD includes eight criteria used to evaluate the potential installation of a traffic signal and cautions that installing a signal should only occur after "an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection." While signalizing the intersection would mitigate the Project's peak hour impact, only one of the eight criteria is met and given intersection spacing, installation of a signal would not be good traffic engineering practice. After conducting a comprehensive traffic study, the City will have discretion as to if and when a traffic signal may be installed based on California MUTCD requirements. Thus, at this time, the City cannot guarantee that a traffic signal would be installed, and therefore, the impact remains significant and unavoidable. As a partial mitigation measure, the Project Sponsor shall be required to construct sidewalks along 138 and 160 Jefferson Drive and the Jefferson Drive frontage of 1150 Chrysler Drive, as well as install a crosswalk and Americans with Disabilities Act (ADA)-compliant pedestrian curb ramps across the Jefferson Drive leg of the Chrysler Drive and Jefferson Drive intersection, and contribute a fair share contribution toward the future improvement of this intersection, which may include future signalization (if determined to be appropriate at a later date) or installation of other traffic control devices such as a roundabout or traffic circle. If a traffic signal is not installed, the City may use the funds for other transportation improvements, including, but not limited to, bicycle, pedestrian, and transit improvements and TDM programs, throughout the City. The	

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Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		design of the sidewalks and related improvements shall be prepared by the Project Sponsor, in collaboration with the City's Transportation Manager to work around obstacles in the public right-of-way, such as utility poles and heritage trees. The sidewalks and related improvements shall be constructed by the Project Sponsor and approved by the Public Works Director prior to the final inspection of the proposed buildings. The fair share contribution for intersection improvements shall be paid prior to the issuance of a building permit. Construction of these improvements is not eligible for TIF credit. (SU) f. Chrysler Drive and Independence Drive (#12) The proposed mitigation measure for the intersection of Chrysler Drive and Independence Drive includes signalizing the intersection. The signal warrant is met for the PM Peak Hour as shown in Appendix 3.3-G. However, the California MUTCD includes eight criteria used to evaluate the potential installation of a traffic signal and cautions that installing a signal should only occur after "an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection." While signalizing the intersection would mitigate the Project's peak hour impact, only one of the eight criteria is met and given intersection spacing, installation of a signal would not be good traffic engineering practice. After conducting a comprehensive traffic study, the City will have discretion as to if and when a traffic signal may be installed based on California MUTCD requirements. Thus, at this time, the City cannot guarantee that a traffic signal would be installed, and therefore, the impact remains significant and unavoidable. As a partial mitigation measure, the Project Sponsor shall be required to construct sidewalks along the Chrysler Drive frontage of 1150 Chrysler Drive, as well as install a crosswalk and ADA-compliant pedestrian curb ramps across the east leg of Chrysler Drive at the Chrysler Drive and Independence Drive intersection, and contribute a	

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Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		fair share contribution toward the future improvement of this intersection, which may include future signalization (if determined to be appropriate at a later date) or installation of other traffic control devices such as a roundabout or traffic circle. If a traffic signal is not installed, the City may use the funds for other transportation improvements, including, but not limited to, bicycle, pedestrian, and transit improvements and TDM programs, throughout the City. The design of the sidewalks and related improvements prepared by the Project Sponsor, in collaboration with the City's Transportation Manager to work around obstacles in the public right-of-way, such as utility poles and heritage trees. The sidewalks and related improvements shall be constructed by the Project Sponsor and approved by the Public Works Director prior to the final inspection of the proposed buildings. The fair share contribution for intersection improvements shall be paid prior to the issuance of a building permit. Construction of these improvements is not eligible for a TIF credit. g. Chilco Street and Constitution Drive (#14) The proposed mitigation measure for the Chilco Street and Constitution Drive intersection includes striping the southbound approach to include one left-turn lane and one shared through/right-turn lane. The striping improvements shall be installed by the Project Sponsor and approved by the Public Works Director prior to the final inspection of the proposed buildings. Alternatively, the Project Sponsor may choose to pay the cost of the approved striping improvement to the City prior to final inspection so that the City can use the Project Sponsor's funds to install the proposed improvements. Payment toward construction of these improvements is not eligible for a TIF credit. With the implementation of this mitigation measure, the impact would be reduced to a less-than-significant level. (LTS)	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		h. Willow Road and Bayfront Expressway (#15) The proposed mitigation measure for the Willow Road and Bayfront Expressway intersection includes the addition of a third right-turn lane for the eastbound approach on Willow Road. This improvement is identified in the City's TIF and also includes construction of a shoulder-side bike path between the railroad crossing and Bayfront Expressway on the eastbound approach. According to the FECPDA, Facebook is responsible for implementing this mitigation measure. Although the proposed mitigation would fully mitigate the impact, it remains significant and unavoidable because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU) i. Willow Road and Newbridge Street (#19) A potential mitigation measure for the intersection of Willow Road and Newbridge Street includes restriping the southbound approach on Newbridge Street from one left-turn lane, one through lane, and one right-turn lane to one shared left-turn and through lane, one shared through and right-turn lane, and one right-turn lane, adding one additional receiving lane on the south leg of Newbridge Street accordingly, and adding a westbound shared through and right-turn lane, and an additional receiving lane for the westbound through traffic. According to the FECPDA, Facebook is responsible for the improvements to the westbound approach. Restriping the left-turn lane and through lane on the southbound approach to a shared through and right-turn lane and a shared through and right-turn lane carries potentially significant secondary effects on bicyclists, making it difficult for them to position appropriately in the intersection and navigate, and for pedestrians, because of the multiple lanes of traffic permitted to turn across the crosswalk that could affect their walk	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		phase. Additionally, providing a receiving lane on the south leg of Newbridge Street is not feasible due to right-of-way acquisition and property impacts in the City of East Palo Alto. Although the proposed mitigation would fully mitigate the impact, it remains significant and unavoidable because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time. (SU) j. University Avenue and Bayfront Expressway (#25) A potential mitigation measure for the intersection of University Avenue and Bayfront Expressway includes adding a fourth southbound through lane. The additional southbound through lane, and required southbound receiving lane, are not feasible due to the right-of-way acquisition that would be needed from multiple property owners, potential occurrence of wetlands, relocation of the Bay Trail, and substantial intersection modifications, which are under Caltrans jurisdiction. Although the proposed mitigation would fully mitigate the impact, the impact remains significant and unavoidable because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time. (SU)	
Impact TRA-2: Impacts on Roadway Segments in the Near Term 2015 Plus Project Conditions. Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in increased ADT volumes on Project area roadway segments resulting in potentially significant impacts.	PS	A typical mitigation measure would seek to widen the road to add travel lanes and capacity to accommodate the increase in net daily trips. However, increasing the capacity of the roadway requires additional right-of-way, which would affect local property owners and is considered infeasible. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), potential air quality degradation, 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). There is also a quality of life aspect to roadway planning, as	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commenters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a LOS or traffic operation issue. An additional lane would not mitigate the impacts on the roadway segment, because the thresholds are based on the baseline and added Project traffic volumes. Therefore, impacts on the following roadway segments would remain significant and unavoidable. • Marsh Road between Bohannon Drive and Bay Road (B) • Chrysler Drive between Bayfront Expressway and Constitution Drive (C) • Chrysler Drive between Constitution Drive and Jefferson Drive (D) • Chilco Street between Bayfront Expressway and Constitution Drive (E) • Chilco Street between Hamilton Avenue and Ivy Drive (F) • Constitution Drive between Independence Drive and Chrysler Drive (G) • Constitution Drive between Jefferson Drive and Chilco Street (I) • Jefferson Drive between Chrysler Drive and the Project driveway (J) • Jefferson Drive between the Project driveway and Constitution Drive (K) • Independence Drive between Constitution Drive and Chrysler Drive (L) However, partial mitigation measures are identified to reduce the impacts of the Project under the Near Term 2015 Plus Project Conditions on daily roadway segment operations. The identified	

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Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		bicycle route improvements along Constitution Drive could encourage bicycling, and possibly reduce traffic volumes if drivers shift modes of travel from vehicles to bicycles due to availability of additional lanes. However, because the reduction cannot be quantified and it is unlikely that this would fully mitigate impacts on these segments, the impacts are considered significant and unavoidable. ***TRA-2.1: Implement Roadway Segment Improvements to address Near Term Effects.*** The following mitigation measures were considered to reduce potentially significant impacts on study area roadway segments. a. Constitution Drive between Independence Drive and Chrysler Drive (G) As a partial mitigation measure to reduce the Project's impact on this roadway segment, the Project Sponsor shall be required to construct a Class III bicycle route on Constitution Drive between Independence Drive and Chilco Street. The facility, at a minimum, shall include bicycle route signs and shared-lane markings. This improvement was identified in the City's Comprehensive Bicycle Development Plan (2005). The Project Sponsor shall install the proposed bicycle improvements prior to final inspection. Payment toward construction of these improvements is not eligible for a TIF credit. b. Constitution Drive between Jefferson Drive and Chilco Street (I) As a partial mitigation measure to reduce the Project's impact on this roadway segment, the Project Sponsor shall be required to construct a Class III bicycle route on Constitution Drive between Independence Drive and Chilco Street. The facility, at a minimum, shall include bicycle route signs and shared-lane markings. This improvement was	

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Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		identified in the City's *Comprehensive Bicycle Development Plan* (2005). The Project Sponsor shall install the proposed bicycle improvements prior to final inspection. Payment toward construction of these improvements is not eligible for a TIF credit.	
Impact TRA-3: Impacts on Routes of Regional Significance in the Near Term Plus Project Conditions. Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in potentially significant impacts on several Routes of Regional Significance.	PS	Mitigation Measure TRA-3.1 involves roadway improvements to mitigate the impacts of the Project under Near Term 2015 Plus Project Conditions on Routes of Regional Significance. A typical mitigation measure would seek to widen the road to add travel lanes and capacity. However, impacts on Routes of Regional Significance would remain significant and unavoidable because these roadways are not under the jurisdiction of the City. In addition, freeway improvement projects, which add travel lanes, are planned and funded on a regional scale and would be too costly for a single project to be expected to fund. Roadway segments could be improved with additional travel lanes to accommodate the increase in net daily trips, but increasing the capacity of the roadway requires additional right-of-way. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), potential air quality degradation, 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). There is also a quality of life aspect to roadway planning, as congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commenters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a LOS or traffic operation issue.	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		TRA-3.1: Implement Routes of Regional Significance Improvements to address Near Term Effects. The following mitigation measures were considered to reduce potentially significant impacts on Regional Routes of Significance. Routes of Regional Significance could be widened to add travel lanes, but the routes are under the jurisdiction of Caltrans. Adding a travel lane would increase capacity, but adding an additional lane to the roadway is not a feasible mitigation measure due to right-of-way constraints. Therefore, the following impacts remain significant and unavoidable. a. SR 84 between Willow Road and University Avenue b. SR 84 between University Avenue and the County Line c. US 101 between Marsh Road and Willow Road d. US 101 between Willow Road and University Avenue e. US 101 south of University Avenue	
Impact TRA-4: Impacts on Local Transit Systems in the Near Term 2015 Plus Project Conditions. The Project under Near Term 2015 Plus Project Conditions would not result in any impacts to the local transit system. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact TRA-5: Impacts on Local Bicycle and Pedestrian Facilities in the Near Term 2015 Plus Project Conditions. The Project under the Near Term 2015 Plus Project Conditions would not result in any impacts on local bicycle and pedestrian facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact TRA-6: Impacts on Intersections in the Cumulative 2030 Plus Project Conditions. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project	PS	Mitigation Measure TRA-6.1 involves intersection improvements to mitigate or reduce the impacts of the Project under the Cumulative 2030 Plus Project Conditions. The operations at several of the	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Conditions would result in increased delays at several intersections during peak hours causing a potentially significant impact on the operation of several study intersections.		intersections could be improved by modifying the intersection geometry to provide additional capacity. Some of the modifications may be installed by restriping within the existing roadway; however, others may require additional right-of-way to add travel lanes. See Appendix 3.3-F for intersection conceptual layout plans for mitigation measures. ***TRA-6.1: Implement Intersection Improvements to address Cumulative 2030 Conditions Effects on Study Intersections.*** The following mitigation measures were considered to reduce potentially significant impacts on study intersections. a. Marsh Road and Bayfront Expressway (#1) See Near Term 2015 Plus Project Conditions TRA-1.1a. b. Marsh Road and US 101 Northbound Off-Ramp (#3) See Near Term 2015 Plus Project Conditions TRA-1.1b. c. Marsh Road and US 101 Southbound Off-Ramp (#4) A potential mitigation measure for the intersection of Marsh Road and US 101 southbound off-ramp includes widening the southbound off-ramp and adding an additional right-turn lane along with restriping the existing right-turn lanes into a shared left and right-turn lane and adding an additional receiving lane on eastbound Marsh Road accordingly. However, this improvement is not feasible due to the right-of-way requirements that would be needed for the receiving lane on the eastbound Marsh Road bridge over US 101. Although the proposed mitigation would fully mitigate the impact, the impact remains significant and unavoidable because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		d. Marsh Road and Scott Drive (#5) A potential mitigation measure for the intersection of Marsh Road and Scott Drive includes widening the westbound approach and adding a shared right-turn and through lane. The west side of Marsh Road would also need to be widened to accommodate an additional receiving lane. This improvement would require relocation of existing traffic signal poles, utility relocation, and relocation and reconstruction of the sidewalk and curb ramp on the southwest corner of the intersection. The improvement would also require acquisition of right-of-way, which is not feasible. While the intersection is under City jurisdiction, the east leg of the intersection is located within Caltrans right-of-way, requiring coordination between the two jurisdictions for implementation of the improvements described above. As such, the City cannot guarantee the mitigation measure would be implemented. Although the proposed mitigation would fully mitigate the impact, the impact remains significant and unavoidable because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time. e. Marsh Road and Middlefield Road (#7) The proposed mitigation measure for the intersection of Marsh Road and Middlefield Road includes the addition of a second southbound left-turn lane on Middlefield Road and one receiving lane on Marsh Road accordingly. This measure has been identified in past studies, and, is potentially feasible to construct within the existing right-of-way on Marsh Road. However, based on consultation with the Town of Atherton, widening Marsh Road may require covering Atherton Channel and removal of numerous heritage trees, and, thus, the Town of Atherton considers it infeasible. No other feasible mitigation measure has been identified by the Town of Atherton at the time this EIR was prepared. Because the improvement is under the Town of	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		Atherton jurisdiction, which considers the improvements infeasible, the City cannot guarantee it would be implemented. Therefore, the impact remains significant and unavoidable. f. Independence Drive and Constitution Drive (#8) See Near Term 2015 Plus Project Conditions TRA-1.1c. g. Chrysler Drive and Bayfront Expressway (#9) See Near Term 2015 Plus Project Conditions TRA-1.1d. h. Chrysler Drive and Jefferson Drive (#11) See Near Term 2015 Plus Project Conditions TRA-1.1e. i. Chilco Street and Constitution Drive (#14) See Near Term 2015 Plus Project Conditions TRA-1.1g. j. Willow Road and Bayfront Expressway (#15) See Near Term 2015 Plus Project Conditions TRA-1.1h. k. Willow Road and Newbridge Street (#19) See Near Term 2015 Plus Project Conditions TRA-1.1i. l. Willow Road and Middlefield Road (#24) The proposed mitigation measure for the intersection of Willow Road and Middlefield Road includes widening the eastbound approach to add a second through lane on Willow Road. This improvement is identified in the City's TIF. Prior to the issuance of a building permit the Project Sponsor shall pay the adopted TIF in effect at the time the permit is issued. Payment of the TIF would reduce this cumulative impact to a less-than-significant level. m. University Avenue and Bayfront Expressway (#25) See Near Term 2015 Plus Project Conditions TRA-1.1j.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact TRA-7: Impacts on Roadway Segments in the Cumulative 2030 Plus Project Conditions. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased average daily traffic causing a potentially significant impact on the operation of several study roadway segments.	PS	A typical mitigation measure would seek to widen the road to add travel lanes and capacity to accommodate the increase in net daily trips. However, increasing the capacity of the roadway requires additional right-of-way, which would affect local property owners and is considered infeasible. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), potential air quality degradation, 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). There is also a quality of life aspect to roadway planning, as congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commenters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a LOS or traffic operation issue. An additional lane would not mitigate the impacts on the roadway segment, because the thresholds are based on the baseline and added Project traffic volumes. Therefore, impacts on the following roadway segments would remain significant and unavoidable. • Marsh Road between Bohannon Drive and Bay Road (B) • Chrysler Drive between Bayfront Expressway and Constitution Drive (C) • Chrysler Drive between Constitution Drive and Jefferson Drive (D) • Chilco Street between Bayfront Expressway and Constitution Drive (E) • Chilco Street between Hamilton Avenue and Ivy Drive (F)	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		• Constitution Drive between Independence Drive and Chrysler Drive (G) • Constitution Drive between Jefferson Drive and Chilco Street (H) • Jefferson Drive between Chrysler Drive and Project driveway (J) • Jefferson Drive between Project driveway and Constitution Drive (K) • Independence Drive between Constitution Drive and Chrysler Drive (L) However, partial mitigation measures are identified to reduce the impacts of the Project under the Cumulative 2030 Plus Project Conditions on daily roadway segment operations. The identified bicycle route improvements along two segments of Constitution Drive could encourage bicycling, and possibly reduce traffic volumes if drivers shift modes from vehicles to bicycles due to availability of additional lanes. However, because the reduction cannot be quantified and it is unlikely that this would fully mitigate impacts on these segments, impacts are considered significant and unavoidable. ***TRA-7.1: Implement Roadway Segment Improvements to address Cumulative 2030 Conditions.*** The following mitigation measures were considered to reduce potentially significant impacts on roadway segments. a. Constitution Drive between Independence Drive and Chrysler Drive (G) See Near Term 2015 Plus Project Conditions TRA-2.1. b. Constitution Drive between Jefferson Drive and Chilco Street (I) See Near Term 2015 Plus Project Conditions TRA-2.1.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact TRA-8: Impacts on Routes of Regional Significance in the Cumulative 2030 Plus Project Conditions. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in potentially significant impacts on several Routes of Regional Significance. As such, the impact would be potentially significant.	PS	Mitigation Measure TRA-8.1 involves roadway improvements to mitigate the impacts of the Project under Cumulative 2030 Plus Project Conditions on Routes of Regional Significance. A typical mitigation measure would seek to widen the road to add travel lanes and capacity. However, impacts on Routes of Regional Significance would remain significant and unavoidable because these roadways are not under the jurisdiction of the City. In addition, freeway improvement projects, which add travel lanes are planned and funded on a regional scale and would be too costly for a single project to be expected to fund. Roadway segments could be improved with additional travel lanes to accommodate the increase in net daily trips, but increasing the capacity of the roadway requires additional right-of-way. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), potential air quality degradation, 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). There is also a quality of life aspect to roadway planning, as congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commenters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a LOS or traffic operation issue. ***TRA-8.1: Implement Routes of Regional Significance Improvements to address Cumulative 2030 Conditions Effects.*** The following mitigation measures were considered to reduce potentially significant impacts on Regional Routes of Significance.	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		Routes of Regional Significance could be widened to add travel lanes, but the freeways are under the jurisdiction of Caltrans. Adding a travel lane would increase capacity, but adding an additional lane to the roadway is not a feasible mitigation measure due to right-of-way constraints. Therefore, the following impacts remain significant and unavoidable. a. SR 84 between Willow Road and University Avenue b. SR 84 between US 101 and Bayfront Expressway c. US 101 between Marsh Road and Willow Road d. US 101 between Willow Road and University Avenue e. US 101 south of University Avenue	
3.4 Air Quality			
Impact AQ-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan. The Project would not conflict with or obstruct implementation of the applicable air quality plan. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact AQ-2: Violation of Any Air Quality Standard During Construction. The Project could result in the violation of a BAAQMD air quality standard or substantial contribution to an existing or projected air quality violation during Project construction. As such, the impact would be potentially significant.	PS	***AQ-2.1: Implement Tailpipe Emission Reduction for Project Construction.*** NO_X emissions generated during construction are primary contributed by tailpipe exhaust emissions from diesel powered construction equipment and haul trucks. Therefore, in order to reduce the NO_X emissions, mitigation measures to reduce tailpipe exhaust emissions during construction shall be implemented according to the mitigation measures recommended by the BAAQMD's CEQA Guidelines. The Project Sponsor shall require all construction contractors to implement the Basic Construction Mitigation Measures and Additional Construction Mitigation Measures recommended by BAAQMD to control tailpipe emissions. Emission reduction measures shall include at least the following measures and may include other measures identified as appropriate by the air district and/or contractor: • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 2 minutes. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. • The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities in the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. • The Project shall develop a plan that demonstrates that the offroad equipment (more than 50 horsepower) to be used in construction of the Project (i.e., owned, leased, and subcontractor vehicles) shall achieve a Project-wide fleet-average 20 percent NO_X reduction and 45 percent PM reduction compared with the	SU

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		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 as such become available. • All construction equipment, diesel trucks, and generators shall be required to be equipped with Best Available Control Technology for emission reductions of NOX and PM. • All contractors shall be required to use equipment that meets ARB's most recent certification standard for offroad heavy-duty diesel engines. Table 3.4-7 summarizes the maximum daily emissions with the implementation of Mitigation Measure AQ-2.1, which results in a 20 percent reduction of NO_X emissions and 45 percent reduction of PM10 and PM2.5 emissions generated from onsite equipment exhaust. However, even with the implementation of Mitigation Measure AQ-2.1, NO_X emissions would still exceed BAAQMD's NO_X threshold during the short-period of excavation/grading phase and the portion of 2014 building construction phase for about 20 days. Because the mitigated emissions would still exceed the threshold, the impact would be significant and unavoidable. Note that while PM10 and PM2.5 exhaust emissions do not exceed BAAQMD thresholds, the mitigation measures to reduce the tailpipe emissions would also reduce the PM10 and PM2.5 emissions that are part of the exhaust emissions generated by diesel powered construction equipment and haul trucks. Therefore, although the construction emissions impact from PM10 and PM2.5 is less than significant, the implementation of Mitigation Measure AQ-2.1 to reduce the significant impact of NO_X emissions would further reduce the impact level of PM10 and PM2.5 emissions.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		AQ-2.2: Implement BAAQMD Basic Construction Mitigation Measures to Reduce Construction-Related Dust. BAAQMD does not have mass emission thresholds for fugitive emissions, but considers dust impacts to be less than significant if BMPs are employed to reduce these emissions. Therefore, the Project Sponsor shall require all construction contractors to implement the basic construction mitigation measures recommended by BAAQMD to reduce fugitive dust emissions. Emission reduction measures shall include, at a minimum, the following measures. Additional measures may be identified by BAAQMD or contractor as appropriate. • 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 offsite shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • 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. • A publicly visible sign shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact AQ-3: Violation of Any Air Quality Standard During Operation. Project operations would not result in a violation of a BAAQMD air quality standard or a substantial contribution to an existing or projected air quality violation. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact AQ-4: Exposure to Diesel Particulate Matter (DPM) Concentrations. The Project would not expose existing sensitive receptors to excessive DPM concentrations.	LTS	None Required.	N/A
Impact AQ-5: Exposure to CO Concentrations. The Project would not expose existing sensitive receptors to excessive CO concentrations. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact AQ-6: Exposure to Objectionable Odors. The Project would not create objectionable odors affecting a substantial number of people. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. The Project, combined with other development within the City, would not conflict with or obstruct implementation of the applicable air quality plan. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-AQ-2: Violation of a BAAQMD Air Quality Standards or Substantial Contribution to an Existing or Projected Air Quality Violation during Project Construction. Construction activities associated with the Project, in combination with other construction activities in the City, could generate substantial NO_X emissions in excess of BAAQMD threshold. As such, the impact would be potentially significant.	PS	Mitigation Measures AQ-1, as discussed in Impact AQ-2, has been identified to reduce the exhaust NO_X emissions but would not reduce the emissions below the BAAQMD threshold. Therefore, the cumulative impact of the Project and Tier 1 projects for NO_X emissions is therefore significant and unavoidable.	SU
Impact C-AQ-3: Violation of a BAAQMD Air Quality Standard or Substantial Contribution to an Existing or Projected Air Quality Violation from Project Operation. The Project operation, in combination with other cumulative development within the City, would not generate substantial CP emissions in excess of BAAQMD thresholds. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-AQ-4: Exposure of Existing Sensitive Receptors to Excessive DPM Concentrations. Cumulative development in the Project vicinity would not expose sensitive receptors to substantial DPM emissions. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-AQ-5: Exposure of Existing Sensitive Receptors to Excessive CO Concentrations. Cumulative development in the Project vicinity would not result in CO concentrations above the ambient air quality standards. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
3.5 Greenhouse Gas Emissions			
Impact GHG-1: Greenhouse Gas Emissions during Project Construction. The Project would generate greenhouse gas emissions during Project construction.	PS	Because BAAQMD recommends implementation of BMPs to help control and reduce GHG emissions, the BMPs listed below are recommended for reducing construction-related GHG emissions. As discussed in the Chapter 2, Project Description, the Project would recycle approximately 75 percent of all debris resulting from demolition and excavation activities during construction. The construction-related GHG impact is considered less than significant with implementation the Project Sponsor's commitment to recycle 75 percent of construction debris and the other BAAQMD-recommended BMPs, as deemed feasible, as listed in Mitigation Measure GHG-1.1. ***GHG-1.1: Implement BAAQMD Best Management Practices for Construction.*** The Project Sponsor shall require all construction contractors to implement the BMPs recommended by the BAAQMD to reduce GHG emissions. Emission reduction measures shall include, at a minimum, the use of local building materials of at least 10 percent, the reuse of materials, such as concrete on site of at least 20 percent, and the use of alternative fueled vehicles for construction vehicles/equipment.	LTS
Impact GHG-2: Greenhouse Gas Emissions During Project Operation. The Project would not generate significant greenhouse emissions during operation.	LTS	None Required.	N/A
Impact GHG-3: Conflicts with Applicable Greenhouse Gas Emission Plans, Policies, and Regulations. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact GHG-4: Exposure of Property and People to Climate Change. The Project would not result in the exposure of property and persons to the physical effects of climate change, including flooding, public health, and wildfire risk.	LTS	None Required.	N/A
3.6 Noise			
Impact NOI-1: Substantial Temporary or Periodic Increase in Noise Levels. The Project could generate construction equipment noise in excess of 85 dBA L_{max} at 50 feet from the construction equipment. As such, the impact would be potentially significant.	PS	***NOI-1.1: Implement Noise Control Measures to Reduce Construction Noise during Project Construction.*** The Project Sponsor shall implement the following measures during demolition and construction of the Project. • To the extent feasible, the noisiest construction activities, such as demolition and grading activities, shall be scheduled during times that would have the least impact on nearby office uses. This could include restricting construction activities in the areas of potential impact to the early and late hours of the work day, such as from 8:00 a.m. to 10:00 a.m. or 4:00 p.m. to 6:00 p.m. Monday through Friday. • Equipment and trucks used for Project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible. • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible. • Construction contractors, to the maximum extent feasible, shall be required to use "quiet" gasoline-powered compressors or other electric-powered compressors, and use electric rather than gasoline or diesel powered forklifts for small lifting. • Stationary noise sources, such as temporary generators, shall be located as far from nearby receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible. • Install temporary noise barriers eight feet in height around the construction site to minimize construction noise to 90 dBA as measured at the applicable property lines of the adjacent uses, unless an acoustical engineer submits documentation that confirms that the barriers are not necessary to achieve the attenuation levels. • Trucks shall be prohibited from idling along streets serving the construction site.	
Impact NOI-2: Expose Onsite Users to Excessive Noise Levels. The Project would not expose the onsite outdoor common areas to noise greater than 70 dBA CNEL. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact NOI-3: Expose Sensitive Receptors to Excessive Noise Levels. The Project would not expose the nearby residences or Beechwood School to Project operation noise of greater than 60 dBA Leq at nearby residences and 70 dBA Leq.at Beechwood School. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact NOI-4: Substantial Temporary or Periodic Increase in Vibration Levels. The Project would generate ground-borne vibration levels in excess of 65 VdB at nearby office buildings but would not exceed vibration levels in excess of 80 VdB and noise levels in excess of 43 dBA at nearby residences. As such, the impact would be potentially significant.	PS	Construction of the Project would have the potential to result in significant ground-borne vibration that would disturb vibration-sensitive office land uses. Mitigation Measure NOI-4.1 would require the notification of nearby businesses of potential impacts to vibration-sensitive equipment in order to identify any vibration-sensitive equipment in the Project vicinity and implementation of best management practices, as described in Mitigation Measure NOI-4.2, to help reduce impacts on buildings with vibration-sensitive equipment. However, although implementation of these measures would reduce ground-borne vibration impacts during construction, vibration-sensitive equipment at adjacent office buildings could still be exposed to excessive construction-generated vibration levels. It should be note that in general, construction equipment would operate throughout the Project site on a daily and monthly basis and would only occasionally be operating on the edges of the construction site closest to the adjacent uses. Therefore, the vibration disturbance during construction is expected to be intermittent and short-term. Regardless, this impact is considered to be significant and unavoidable. ***NOI-4.1: Notify Nearby Businesses of Project Construction Activities that Could Affect Vibration-Sensitive Equipment.*** The Project Sponsor shall provide notification to property owners and occupants of vibration-sensitive buildings within 225 feet[1] of construction activities, prior to the start of Project construction, informing them of the estimated start date and duration of vibration-generating construction activities, such as would occur during site preparation, demolition, excavation, and grading. This notification shall include information warning about potential for impacts related to vibration-sensitive equipment. The Project Sponsor shall provide a	SU

[1] Based on the formula shown in Table 3.6-6, the vibration level from operation of a vibratory roller would exceed 65 VdB within 225 feet of the equipment.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		phone number for the property owners and occupants to call if they have vibration-sensitive equipment on their sites. A copy of the notification and any responses shall be provided to the Planning Division prior to building permit issuance. ***NOI-4.2: Implement Construction Best Management Practices to Reduce Construction Vibration.*** If vibration-sensitive equipment is identified within 225 feet of construction sites, the Project Sponsor shall implement the following measures during construction. • To the extent feasible, construction activities that could generate high vibration levels at identified vibration-sensitive locations shall be scheduled during times that would have the least impact on nearby office uses. This could include restricting construction activities in the areas of potential impact to the early and late hours of the work day, such as from 8:00 am to 10:00 a.m. or 4:00 p.m. to 6:00 p.m. Monday through Friday. • Stationary sources, such as construction staging areas and temporary generators, shall be located as far from nearby vibration-sensitive receptors as possible. Trucks shall be prohibited from idling along streets serving the construction site where vibration-sensitive equipment is located.	
Impact C-NOI-1: Cumulative Temporary or Periodic Increase in Noise Levels. Construction activities associated with Project-related development and other future development in the City would not expose sensitive receptors to a substantial temporary or periodic increase in ambient noise level. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-NOI-2: Cumulative Exposure of Onsite Users to Excessive Noise Levels. The Project, in combination with other development within the City, would not expose the onsite outdoor common areas to noise in excess of the standards established in the General Plan. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-NOI-3: Cumulative Expose Sensitive Receptors to Excessive Noise. The Project, in combination with other development within the City, would not expose the nearby residences or Beechwood School to noise in excess of standards established in the General Plan or Municipal Code. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-NOI-4: Cumulative Exposure to Ground-borne Vibration. Construction activities associated with Project-related development and other future development in the City would not expose sensitive receptors to excessive ground-borne vibration. As such, the impact would be less than significant.	LTS	None Required.	N/A
3.7 Cultural Resources			
Impact CUL-1: Impacts on Historic Resources. The Project would not cause a substantial adverse change in the significance of a historical resource. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact CUL-2: Impacts on Archaeological Resources. The Project has the potential to encounter and damage or destroy previously unknown subsurface archaeological resources during construction. As such, the impact would be potentially significant.	PS	***CUL-2.1: Perform Construction Monitoring, Evaluate Uncovered Archaeological Features, and Mitigate Potential Disturbance for Identified Significant Resources at the Project Site.*** Prior to demolition, excavation, grading, or other construction-related activities on the Project site, the applicant shall hire a qualified professional archaeologist (i.e., one who meets the Secretary of the Interior's professional qualifications for archaeology or one under the supervision of such a professional) to monitor, to the extent determined necessary by the archaeologist, Project-related earth-disturbing activities (e.g. grading, excavation, trenching). In the event that any prehistoric or historic-period subsurface archaeological features or deposits, including locally darkened soil (midden), that could conceal cultural deposits, animal bone, obsidian, and/or mortar are discovered during demolition/ construction-related earth-moving activities, all ground-disturbing activity within 100 feet of the discovery shall be halted immediately, and the Planning and Building Divisions shall be notified within 24 hours. City staff shall consult with the Project archeologist to assess the significance of the find. Impacts on any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by the City and that are consistent with the Secretary of the Interior's Standards for Archaeological Documentation. If Native American archaeological, ethnographic, or spiritual resources are discovered, all identification and treatment of the resources shall be conducted by a qualified archaeologist and Native American representatives who are approved by the local Native American community as scholars of the cultural traditions. In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted. When historic archaeological sites or historic architectural features are involved, all identification and treatment is to be carried out by historical archaeologists or	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		architectural historians who meet the Secretary of the Interior's professional qualifications for archaeology and/or architectural history.	
Impact CUL-3: Impacts on Paleontological Resources. The Project could destroy a unique paleontological resource or site or unique geologic feature. As such, the impact would be potentially significant.	PS	***CUL-3.1: Conduct Protocol and Procedures for Encountering Paleontological Resources.*** Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology (SVP), who is experienced in teaching non-specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance. If a fossil is determined to be significant and avoidance is not feasible, the paleontologist shall develop and implement an excavation and salvage plan in accordance with SVP standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The City shall be responsible for ensuring that monitor's recommendations regarding treatment and reporting are implemented.	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact CUL-4: Impacts on Human Remains. The Project has the potential to encounter or discover human remains during excavation or construction. As such, the impact would be potentially significant.	PS	***CUL-4.1: Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site.*** If human remains are discovered during any construction activities, all ground-disturbing activity within 50 feet of the remains shall be halted immediately, and the County Coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. Additionally, the Building Division shall be notified. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The Project Sponsor shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The City of Menlo Park Community Development Department Planning Division shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of state law, as set forth in State CEQA Guidelines Section 15064.5(e) and Public Resources Code Section 5097.98. The applicant shall implement approved mitigation, to be verified by the Planning Division, before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.	LTS
Impact C-CUL-1: Cumulative Impacts on Historical Resources. Cumulative development in the Bay Area could have significant impacts on historical resources. However, construction of the Project would not contribute to a cumulative impact. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-CUL-2: Cumulative Impacts on Archaeological, Paleontological Resources, and Human Remains. Construction activities on the Project site and other cumulative development could result in impacts on archaeological resources. As such, the impact would be potentially significant.	PS	Mitigation Measures CUL-2.1, CUL-3.1, and CUL-4.1, prescribe discovery procedures for any previously unknown archaeological, paleontological resources, or human remains encountered during Project construction. The discovery procedures are consistent with professional standards and, as they pertain to discovered human remains, are compliant with state law. Compliance with these mitigation measures would reduce the Project's contribution to the cumulative impact to less than cumulatively considerable and reduce the potentially significant cumulative impacts associated with the loss of archaeological and paleontological resources and the disturbance of human remains to a less-than-significant level.	LTS
3.8 Geology and Soils			
Impact GEO-1: Strong Seismic Groundshaking and Seismic-Related Ground Failure. The Project would have a less-than-significant potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) Strong seismic ground shaking, and (2) Seismic-related ground failure, including liquefaction.	LTS	None Required.	N/A
Impact GEO-2: Soil Erosion. The Project would result in less-than-significant soil erosion impacts.	LTS	None Required.	N/A
Impact GEO-3: Soil Hazards. The Project would not be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in subsidence, liquefaction, or collapse. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact GEO-4: Expansive Soil. The Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a less-than-significant risk to life or property.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-GEO-1: Cumulative Seismic Hazards. The Project, in combination with other foreseeable development in the vicinity, would not substantially increase the risk of exposure or people or structures to seismic hazards. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-GEO-2: Cumulative Soil Erosion. The Project, in combination with other foreseeable development in the vicinity, would not substantially increase soil erosion potential. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-GEO-3: Cumulative Soil Hazards. The Project, in combination with other foreseeable development in the vicinity, would not substantially increase soil hazards. As such, the impact would be less than significant.	LTS	None Required.	N/A
3.9 Hydrology and Water Quality			
Impact WQ-1: Violation of Water Quality Standards or Waste Discharge Requirements. The Project would not violate any water quality standards or waste discharge requirements. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact WQ-2: Effects on Groundwater Supplies and Recharge. The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a net deficit in aquifer volume or a lowering of the local groundwater table level would result. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact WQ-3: Changes to the Existing Drainage Patterns. The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding onsite or offsite. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact WQ-4: Changes to Stormwater Runoff. The Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact WQ-5: Degradation of Water Quality. The Project would not otherwise substantially degrade water quality. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact WQ-6: Impacts from Flooding. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-WQ-1: Cumulative Degradation of Water Quality. The Project would not contribute to a cumulative degradation of water quality. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-WQ-2: Cumulative Impacts to Groundwater Supply. The Project would not contribute to a cumulative interference with groundwater supply or recharge. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-WQ-3: Cumulative Contribution to Storm Drainage Capacity. The Project would not contribute to a cumulative exceedance of the City's storm drainage capacity. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-WQ-4: Cumulative Flooding Impacts. The Project would not contribute to cumulative exposure of people and structures to a significant risk of loss, injury, or death due to flooding. As such, the impact would be less than significant.	LTS	None Required.	N/A
3.10 Hazards and Hazardous Materials			
Impact HAZ-1: Routine Hazardous Materials Use. The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact HAZ-2: Accidental Release of Hazardous Materials. The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As such, the impact would be potentially significant.	PS	***HAZ-2.1: Engineering Controls and Best Management Practices during Construction.*** During construction the contractor shall employ use of BMPs to minimize human exposure to potential contaminants. Engineering controls and Construction BMPs shall include the following. • Contractor employees working on site shall be certified in OSHA's 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training. • Contractor shall monitor area around construction site for fugitive vapor emissions with appropriate field screening instrumentation. • Contractor shall water/mist soil as its being excavated and loaded onto transportation trucks.	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		• Contractor shall place any stockpiled soil in areas shielded from prevailing winds. • Contractor shall cover the bottom of excavated areas with sheeting when work is not being performed. ***HAZ-2.2: Develop Construction Activity Dust Control Plan (DCP) and Asbestos Dust Management Plan (ADMP).*** Prior to commencement of site grading, the Project Sponsor shall retain a qualified professional to prepare a DCP/ADMP. The DCP shall incorporate the applicable BAAQMD pertaining to fugitive dust control. The ADMP shall be submitted to and approved by the BAAQMD prior to the beginning of construction, and the Project Sponsor must ensure the implementation of all specified dust control measures throughout the construction of the Project. The ADMP shall require compliance with specific control measures to the extent deemed necessary by the BAAQMD to meet its standard.	
Impact HAZ-3: Exposure to Schools. The Project could emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. As such, the impact would be potentially significant.	PS	Implementation of Mitigation Measures HAZ-2.1, and HAZ-2.2, would reduce the impact a less-than-significant level.	LTS
Impact HAZ-4: Impairment of Emergency Access or Emergency Plans. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-HAZ-1: Cumulative Hazardous Materials Use. The Project, in combination with other foreseeable development in the surrounding area, would not have a significant cumulative impact resulting from hazardous materials usage. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-HAZ-2: Cumulative Soil and Groundwater Contamination. Development of the Project site and other cumulative development could expose people or the environment to residual contaminants in soil and/or groundwater if measures are not implemented to control unintentional or inadvertent releases. This is a less-than-significant cumulative impact. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-HAZ-3: Cumulative Hazardous Materials in Building Components. Development of the Project and other cumulative development could expose people to asbestos, lead, PCBs, or other hazardous materials in existing buildings that may be demolished, renovated, or rehabilitated if measures are not implemented to control unintentional or inadvertent releases. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-HAZ-4: Cumulative Impairment of Emergency Access or Emergency Plan Impacts. Development of the Project and other cumulative development would not impair implementation of or interfere with an adopted emergency response or evacuation plan. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
3.11 Population and Housing			
Impact POP-1: Population Growth. Implementation of the Project would not induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure). As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact POP-2: Displacement of People. The Project would not result in the displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-POP-1: Cumulative Increase in Population. Cumulative development in the City and County would increase the resident population, but would not exceed growth projections. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-POP-2: Cumulative Increase in Housing Demand. Cumulative development in the City and County would increase the demand for housing, but would not exceed growth projections. As such, the impact would be less than significant.	LTS	None Required.	N/A
3.12 Public Services			
Impact PS-1: Impacts on Fire Services. The Project would not result in the need for new or physically altered fire service facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact PS-2: Impacts on Police Services. The Project would not result in the need for new or physically altered police service facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact PS-3: Impacts on School Facilities. The Project would not result in the need for new or physically altered school facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact PS-4: Impacts on Parks and Recreation Facilities. The Project would not result in the need for new or physically altered parks and recreation facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact PS-5: Impacts on Library Facilities. The Project would not result in the need for new or physically altered library facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-PS-1: Cumulative Fire Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered fire service facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-PS-2: Cumulative Police Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered police service facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-PS-3: Cumulative School Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered school facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-PS-4: Cumulative Parks and Recreation Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered parks and recreation facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-PS-5: Cumulative Library Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered library facilities. As such, the impact would be less than significant.	LTS	None Required.	N/A
3.13 Utilities			
Impact UT-1: Water Supply. The Project would not exceed water supplies available under normal year conditions to serve the Project from existing entitlements.	LTS	None Required.	N/A
Impact UT-2: Impacts on Water Treatment Facilities. The Project would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LTS	None Required.	N/A
Impact UT-3: Wastewater Generation. The Project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Board, require or result in the construction of new wastewater treatment facilities or the expansion of new facilities, or result in a determination by the South Bayside System Authority that it has inadequate capacity to serve the Project's expected demand and existing entitlements.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact UT-4: Solid Waste Generation. The Project would comply with federal, state, and local statutes and regulations related to solid waste and would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs.	LTS	None Required.	N/A
Impact UT-5: Stormwater Generation. The Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities.	LTS	None Required.	N/A
Impact UT-6: Energy Demand. The Project would not exceed existing gas and electric supplies.	LTS	None Required.	N/A
Impact C-UT-1: Cumulative Water Demand. The Project, in combination with other development within the City, would not require or result in the construction of new water treatment facilities or the expansion of existing facilities.	LTS	None Required.	N/A
Impact C-UT-2: Cumulative Wastewater Generation. The Project, in combination with other development within the West Bay Sanitary District service area, would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, or exceed expected demand and existing entitlements.	LTS	None Required.	N/A
Impact C-UT-3: Cumulative Solid Waste Generation. The Project, combined with other development within the Rethink Waste's service area, would not exceed service area solid waste disposal capacity and would be expected to comply with federal, state, and local statutes and regulations related to solid waste.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-UT-4: Cumulative Stormwater Generation. The Project, in combination with cumulative development in the City, would not require the construction or expansion of stormwater facilities.	LTS	None Required.	N/A
Impact C-UT-5: Cumulative Energy Demand. The Project, in combination with other development served by PG&E, would not exceed existing gas and electric supply capacity.	LTS	None Required.	N/A
3.14 Biology			
Impact BIO-1: Impacts on Special-Status Species. The Project could have an impact on species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations. As such, the impact would be potentially significant.	PS	***BIO-1.1: Identify and protect roosting and breeding bats on the Project site and provide alternative roosting habitat.*** The Sobrato Organization (Project Sponsor) shall implement the following measures to protect roosting and breeding bats found in a tree or structure to be removed with the implementation of the Project. Prior to tree removal or demolition activities, the Project Sponsor shall retain a qualified biologist to conduct a focused survey for bats and potential roosting sites within buildings to be demolished or trees to be removed. The surveys can be conducted by visual identification and can assume presence of hoary and/or pallid bats or the bats can be identified to a species-level with the use of a bat echolocation detector such as an "Anabat" unit. If no roosting sites or bats are found, a letter report confirming absence shall be sent to the California Department of Fish and Wildlife (CDFW) and no further mitigation is required. If roosting sites or hoary bats are found, then the following monitoring and exclusion, and habitat replacement measures shall be implemented. The letter or surveys and supplemental documents shall be provided to the City of Menlo Park (City) prior to demolition permit issuance.	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		a. If bats are found roosting outside of nursery season (May 1st through October 1st), then they shall be evicted as described under (c) below. If bats are found roosting during the nursery season, then they shall be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats shall be evicted as described under (c). Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. A 250-foot (or as determined in consultation with CDFW) buffer zone shall be established around the roosting site within which no construction or tree removal shall occur. b. Eviction of bats shall be conducted using bat exclusion techniques, developed by Bat Conservation International (BCI) and in consultation with CDFW that allow the bats to exit the roosting site but prevent re-entry to the site. This would include, but not be limited to, the installation of one-way exclusion devices. The devices shall remain in place for seven days and then the exclusion points and any other potential entrances shall be sealed. This work shall be completed by a BCI-recommended exclusion professional. The exclusion of bats shall be timed and carried concurrently with any scheduled bird exclusion activities. c. Each roost lost (if any) will be replaced in consultation with the Department of Fish and Game and may include construction and installation of BCI-approved bat boxes suitable to the bat species and colony size excluded from the original roosting site. Roost replacement will be implemented before bats are excluded from	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		the original roost sites. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site, the structures may be removed or sealed.	
Impact BIO-2: Impacts on Wildlife Corridors or Nursery Sites. The removal of trees, shrubs, or woody vegetation during Project construction could have an impact on the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. In addition, the proposed buildings and lighting would have the potential to injure or cause death to birds from collision and other factors. As such, the impact would be potentially significant.	PS	***BIO-2.1: Conduct pre-construction surveys for nesting migratory birds.*** The Sobrato Organization (Project Sponsor) shall implement the following measures to reduce impacts to nesting migratory birds. a. To facilitate compliance with state and federal law (CDFW Code and the MBTA) and prevent impacts on nesting birds, the Project Sponsor shall avoid the removal of trees, shrubs, or weedy vegetation February 15 through August 31 during the bird nesting period. If no vegetation or tree removal is proposed during the nesting period, no surveys are required. If it is not feasible to avoid the nesting period, a survey for nesting birds shall be conducted by a qualified wildlife biologist no earlier than seven days prior to the removal of trees, shrubs, weedy vegetation, buildings, or other construction activity. b. Survey results shall be valid for the tree removals for 21 days following the survey. If the trees are not removed within the 21-day period, then a new survey shall be conducted. The area surveyed shall include all construction areas as well as areas within 150 feet outside the boundaries of the areas to be cleared or as otherwise determined by the biologist. In the event that an active nest for a protected species of bird is discovered in the areas to be cleared or in other habitats within 150 feet of construction boundaries, clearing and construction shall be postponed for at least 2 weeks or until the biologist has determined that the young have fledged (left the nest), the nest is vacated, and there is no evidence of second nesting attempts.	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
		BIO-2.2: Implement Bird-Safe Design Standards into Project Buildings and Lighting Design. All new buildings and lighting features constructed or installed at the Project site shall be implemented to at least a level of "Select Bird-Safe Building" standards as defined in the City of San Francisco Planning Department's "Standards for Bird-Safe Buildings," adopted July 14, 2011. These design features shall include minimization of bird hazards as defined in the standards. With respect to lighting, the Project site shall: • Be designed to minimize light pollution including light trespass, over-illumination, glare, light clutter, and skyglow while using bird-friendly lighting colors when possible. • Avoid uplighting, light spillage, event search lights, and use green and blue lights when possible. • Turn off unneeded interior and exterior lighting from dusk to dawn during migrations: February 15 through May 31 and August 15 through November 30. Include window coverings on rooms where interior lighting is used at night that adequately block light transmission and motion sensors or controls to extinguish lights in unoccupied spaces.	
Impact BIO-3: Indirect Impacts on Special-Status Species Inhabiting the Nearby Salt Marshes. The Project would not impact the special-status bird and mammal species inhabiting the nearby salt and brackish water marshes. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact BIO-4: Loss of Riparian, Wetlands, and Other Habitats. The Project would not affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife, US. Fish and Wildlife Service, or as defined by Section 404 of the Clean Water Act. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact BIO-5: Conflicts with any Local Policies or Ordinances Protecting Biological Resources. The Project would not result in conflicts with Chapter 13.24 of the Municipal Code (Heritage Tree Ordinance). As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-BIO-1: Cumulative Impacts on Roosting Bats. Removal of buildings, tees, shrubs, or other woody vegetation associated with construction of the Project and other cumulative development would result in impacts to roosting bats. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-BIO-2: Cumulative Impact on Wildlife Corridors or Native Migratory Nesting Birds. Removal of buildings, trees, shrubs, or other woody vegetation associated with the construction of the Project and other cumulative development could result in impacts to movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or nesting birds. In addition, the proposed buildings and lighting would have the potential to injure or cause death to birds from collision and other factors. As such, the impact would be less than significant.	LTS	None Required.	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
Impact C-BIO-3: Cumulative Indirect Impact on Special-Status Species Inhabiting Nearby Salt Marsh. Construction of new multi-story buildings associated with the Project and other cumulative development would result in indirect effects on special-status bird and mammal species inhabiting the adjacent salt and brackish water marshes due to increased raptor predation. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-BIO-4: Cumulative Loss of Riparian Habitat and Other Sensitive Natural Communities. The Project, in combination with other cumulative development, would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local, regional, State, or federal plans or policies. As such, the impact would be less than significant.	LTS	None Required.	N/A
Impact C-BIO-5: Cumulative Conflicts with any Local Policies or Ordinances Protecting Biological Resources. The Project, in combination with other reasonably foreseeable projects, would not conflict with local policies or ordinances protecting biological resources. As such, the impact would be less than significant.	LTS	None Required.	N/A

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Acronyms and Abbreviations

μg/m3	micrograms per cubic meter
2012 CSA	2012 Circulation System Assessment Document
AB	Assembly Bill
AB 1358	California Complete Streets Act of 2008
AB 32	California Global Warming Solutions Act of 2006
AB 939	California Integrated Waste Management Act of 1989
ABAG	Association of Bay Area Governments
ac	acre
ACMs	asbestos-containing materials
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADMP	Asbestos Dust Mitigation Plan
ADT	average daily traffic
AFY	acre-feet per year
Agreement	Water Supply Agreement
ALUP	Airport Land Use Plan
APN	Assessor's Parcel Number
ARB	Air Resources Boards
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
ATCM	Airborne Toxic Control Measure
ATHS	Air Toxics Hot Spots
AVR	Average Vehicle Ridership
BAAQMD	Bay Area Air Quality Management District
BAT	best available technology
BAU	business-as-usual
BAWSCA	Bay Area Water Supply Conservation Agency
Bay	San Francisco Bay
Bay Area	San Francisco Bay Area
BCDC	Bay Conservation & Development Commission
BCI	Bat Conservation International
BCT	best conventional pollutant control technology
bgs	below ground surface
BMP	Best management practice
BMR	Below Market Rate
C&D	construction and demolition
C/CAG	City/County Association of Governments

CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal Green	California Green Building Standards Codes
Cal Water	California Water Services Company
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emission Estimator Model
Cal-EPA	California Environmental Protection Agency
CALGreen	California Green Building Standard Code
California MUTCD	California Manual on Uniform Traffic Control Devices
Cal-OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAT	Climate Action Team
CBC	California Building Code
CBPP	Comprehensive Bicycle and Pedestrian Plan
CBSC	California Building Standards Code
CCAA	California Clean Air Act
CCO	Contra Costa County
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife's
CDP	Conditional Development Permit
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Commission
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
Chemlawn	Trugreen Chemlawn
CII	Commercial, Industrial, and Institutional
CIP	capital improvement program
City	City of Menlo Park
CIWMB	California State Integrated Waste Management Board
CIWMP	Countywide Integrated Solid Waste Management Plan
CMAs	congestion management agencies

CMP	Congestion Management Program
CMU	concrete masonry unit
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
CO-CAT	California Climate Action Team
County	San Mateo County
CP	criteria pollutants
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPAs	Certified Unified Program Agencies
CWA	Clean Water Act
cy	cubic yards
dB	decibel
dBA	A-weighted decibels
DCP	Dust Control Plan
Department	Menlo Park Community Services Department
DHS	Department of Health Services
DOE	Department of Energy
DOF	Department of Finance
DPM	diesel particulate matter
Draft EIR	Draft Environmental Impact Report
DTSC	Department of Toxic Substance Control
du	dwelling unit
DWR	Department of Water Resources
EA	Environmental Assessment
EIR	Environmental Impact Report
EMFAC	EMission FACtor model
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
ESA	Endangered Species Act
ESAs	Environmental Site Assessments
FAR	floor area ratio
FECPDA	Facebook East Campus Development Agreement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRMs	Flood Insurance Rate Maps

FTA	Federal Transit Administration
FY	fiscal year
G&D	grading and demolition
General Construction Permit	General Permit for Construction Activities
GHG	greenhouse gas
GWP	global warming potential
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCD	Housing and Community Development
HFC	hydrofluorocarbons
HI	hazard index
HRA	health risk assessment
HWCA	Hazardous Waste Control Act
I-280	Interstate 280
IBC	International Building Code
IFC	International Fire Code
IPCC	Intergovernmental Panel on Climate Change
ISA	Interim Supply Allocations
ISG	Individual Supply Guarantee
ISL	Interim Supply Limitation
JPA	joint powers authority
Kelly Park	Joseph P. Kelly Park
kWh	kilowatt hours
lb/kWh	pounds per kilowatt hour
LBP	Lead-Based Paint
Ldn	Day-Night Level
LEED	Leadership in Energy & Environmental Design
Leq	Equivalent Sound Level
LID	low impact development
Lmax	Maximum Sound Levels
LOS	level of service
LT	continuous 24-hour ambient noise measurement
LTS	Less-than-significant
LUSTs	leaking underground storage tanks
MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
mg/L	milligrams per liter
mg/m3	milligrams per cubic meter
mgd	million gallons per day
mi	miles

MM	Moment Magnitude
MMRP	Mitigation Monitoring and Reporting Program
MPCSD	Menlo Park City School District
MPFD	Menlo Park Fire Protection District
mpg	miles per gallon
mph	miles per hour
MPMWD	Menlo Park Municipal Water Department
MPN/100 mL	most probable number per 100 milliliters
MPPD	Menlo Park Police Department
MPPS	Menlo Park Pumping Station
MRF	materials recovery facility
MRZ	Mineral Resource Zones
MS4	NPDES General Permit for Municipal Separate Storm Sewer Systems
MSA	Master Water Sales Contract
msl	mean sea level
MTC	Metropolitan Transportation Commission
MUN	municipal supply
Municipal Code	City of Menlo Park Municipal Code
N_2O	Nitrogen dioxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHSTA	National Highway Traffic Safety Administration
NI	No impact
NMFS	National Marine Fisheries Service
NO	nitric oxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTU	nephelometric turbidity unit
NWIC	Northwest Information Center
O&M	operation and maintenance

O3	ozone
OFFROAD	Offroad Emissions Inventory Program model
OPR	Office of Planning and Research
Ox Mountain	Ox Mountain/Corinda Los Trancos Landfill in Half Moon Bay
PCB	polychlorinated biphenyls
PEIR	Program Environmental Impact Report
Peninsula	San Francisco Peninsula
PFC	perfluorinated carbons
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PMIS	Particulate Matter Implementation Strategy
ppb	parts per billion
pph	persons per household
pphm	parts per hundred million
ppm	parts per million
ppt	parts per trillion
PPV	peak particle velocity
PRC	Public Resources Code
Project	Commonwealth Corporate Center Project
Project Sponsor	Sobrato Organization
PS	Potentially significant
R&D	research and development
RCNM	roadway construction noise model
RCRA	Resource Conservation and Recovery Act
RCSD	Ravenswood City School District
Regional Water Board	Regional Water Quality Control Board
RES	Renewable Energy Standard
RethinkWaste	South Bayside Waste Management Authority
RHNA	Regional Housing Needs Allocation
RMS	root-mean-square
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWD	Report of Waste Discharge
RWQCB	Regional Water Quality Control Board,
RWS	Regional Water System
SamTrans	San Mateo County Transit District
SB	Senate Bill
SB 50	Senate Bill 50

SBR	South Bay Recycling
SBSA	South Bayside Systems Authority
SBx7-7	Senate Bill x7-7
SCAQMD	South Coast Air Quality Management District
SCL	Santa Clara County
SCS	Sustainable Communities Strategy
SDWA	Safe Drinking Water Act
sf	square feet
SF Bay MS4 Permit	San Francisco Bay Region Municipal Regional Stormwater NPDES Permit No. CAS029718
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
Shoreway	Shoreway Environmental Center
SHS	State Highway System
SIL	Significant Impact Level
SIP	State Implementation Plan
SMCEHD	San Mateo County Environmental Health Division
SMCL	secondary maximum contaminant level
SMCTA	San Mateo County Transportation Authority
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SR	State Route
ST	short-term 15-minute ambient noise measurement
State Water Board	State Water Resources Control Board
SUHSD	Sequoia Union High School District
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCM	transportation control measure
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
TIF	Transportation Impact Fee
TMDL	total maximum daily load
TNM	traffic noise model
TSCA	Substances Control Act
US Census	United States Census Bureau
USACE	U.S. Army Corps of Engineer
USAR	urban search and rescue
USC	United States Code

USFWS	U.S. Fish and Wildlife Service's
USGS	United States Geological Survey
USPS	U.S. Postal Service
UST	the Underground Storage Tank
UWMP	Urban Water Management Plan
VdB	level in decibel units
VOCs	volatile organic compounds
vpd	vehicles per day
vphpl	vehicles per hour per lane
VTA	Santa Clara Valley Transportation Authority
WBSD	West Bay Sanitary District
WCIP	Water Conservation Implementation Plan
WSA	Water Supply Assessment
WSAP	Water Shortage Allocation Plan
WTP	Water Treatment Plant

Chapter 1
Introduction

1.1 Purpose of This Environmental Impact Report

This Draft Environmental Impact Report (Draft EIR) for the Commonwealth Corporate Center Project (Project) has been prepared by the Project's Lead Agency, the City of Menlo Park (City), in conformance with the provisions of the California Environmental Quality Act (CEQA) Guidelines, as amended. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project.

This Draft EIR assesses potentially significant impacts that could result from the Project. As defined in the State CEQA Guidelines Section 15382, a "significant effect on the environment" is:

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

As stated in the State CEQA Guidelines, an EIR is an "informational document" intended to inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The purpose of this Draft EIR is to provide the City, responsible and trustee agencies, other public agencies, and the public with detailed information about the environmental effects that could result from implementing the Project, to examine and institute methods of mitigating any adverse environmental impacts should the Project be approved, and to consider feasible alternatives to the Project. The City will use the EIR, along with other information in the public record, to determine whether to approve, modify, or deny the Project, and to specify any applicable environmental conditions or mitigation measures as part of the Project approvals.

1.2 Project Overview

The Sobrato Organization (Project Sponsor) is proposing to redevelop the properties at 151 Commonwealth Drive and 164 Jefferson Drive (collectively referred to as the Project site) in the City of Menlo Park. The 12.1-acre Commonwealth Site was formerly occupied by Diageo North America and has been unoccupied since July 2011. The 1.17-acre Jefferson Site is directly adjacent to the Commonwealth Site to the north. This site consists of an operational warehouse building used for office and light industrial uses and associated surface parking.

The Project would demolish the existing buildings at the Project site and construct two office, biotech, and/or research and development (R&D) buildings, a surface parking lot, onsite linkages, and landscaping. The Project Sponsor's conceptual site plan proposes two separate buildings located in the southwest corner of the Project site, towards the main entrance at Commonwealth Drive. Building 1 would be arranged in an east–west orientation, and Building 2 would be arranged in a north-south orientation, to the east of Building 1. Each building would have a footprint of approximately 34,535 square feet (sf). Together, the two buildings would have a total floor area of approximately 259,920 sf.

The proposed structures would be surrounded by surface parking, landscaping, pedestrian paths, and water features. A courtyard with café tables and chairs would be situated in between the two buildings and would provide a social space for the Project. Two covered trash and generator enclosures would be located within the parking lots to the northwest of Building 1 and to the southeast of Building 2. Bicycle lockers would also be provided within the parking lot to the north of the two buildings. One depressed truck loading dock per building would be located in the northwest and southwest corners of Buildings 1 and 2, respectively. The northern portion of the Project site (the Jefferson Site) would include an entrance and driveway from Jefferson Drive, a lawn area for active recreation, picnic tables, a stormwater treatment area, and landscaping.

The Project site is currently zoned M-2 and designated Limited Industry in the City's General Plan. Under the current land use designation, the Project site could be built out to approximately 260,313 sf, with a floor area ratio (FAR) of 0.45, as identified in the City's zoning ordinance. The Project would comply with these requirements; however, the two proposed buildings would exceed the 35-foot maximum height limit in the M-2 zoning district. In order to comply with the M-2 zoning, the increase in height from 35 feet (allowed) to 61.3 feet (proposed) would require rezoning the Project site to M-2(X). In addition, a Conditional Development Permit (CDP) would be required to modify existing M-2 development regulations in order to establish a new height limit. The Project site would require a tentative map or lot merger to reconfigure the Commonwealth Site and the Jefferson Site.

The Project would also require a tree removal permit for each heritage tree proposed for removal per Municipal Code Section 13.24.040 and a Below Market Rate Housing Agreement for the payment of in-lieu fees associated with the City's Below Market Rate Housing Program.

1.3 CEQA Process

Notice of Preparation

The Notice of Preparation (NOP) was released for the Project on August 6, 2012 for a 30-day public review period. A public scoping meeting was held on August 20, 2012 before the Planning Commission. The NOP noted that the Project may have a significant effect on the environment and that an EIR would be prepared for the Project. A copy of the NOP is provided in Appendix 1 of this Draft EIR.

The NOP was sent to individuals, local interest groups, adjacent property owners, and responsible and trustee state and local agencies having jurisdiction over or interest in environmental resources and/or conditions in the vicinity of the Project site. The purpose of the NOP was to allow various private and public entities to transmit their concerns and comments on the scope and content of the Draft EIR, focusing on specific information related to each individual's or group's interest or agency's statutory responsibility early in the environmental review process.

In response to the NOP, letters were received from the following agencies.

- Governor's Office of Planning and Research, State Clearinghouse and Planning Unit
- California Department of Transportation
- California Department of Fish and Game
- San Mateo County Department of Public Works
- Santa Clara Valley Transportation Authority

- Town of Atherton
- Menlo Park Fire District

In addition, one letter was received from an individual, and members of the public made oral comments at the Planning Commission hearing. Copies of these NOP comment letters and the comments recorded at the Planning Commission hearing are included in Appendix 1 of this Draft EIR.

The NOP concluded that the following environmental resource areas would be addressed as separate sections in this Draft EIR.

- Land Use
- Aesthetics
- Transportation
- Air Quality
- Greenhouse Gas Emissions
- Noise
- Cultural Resources
- Geology and Soils
- Hydrology/Flood Hazards
- Hazardous Materials
- Population and Housing
- Public Services and Recreation
- Utilities and Service Systems
- Biological Resources

The Project would not result in significant environmental impacts on agricultural, forestry, or mineral resources because none of these resources exist at the Project site. A detailed analysis of these topics is therefore not included in the Draft EIR; however, these topics are briefly discussed in Section 3.0, *Environmental Impact Analysis*.

Draft EIR

Impact Analysis

This Draft EIR analyzes significant effects that could result from the Project. As explained in Section 15002(g) of the State CEQA Guidelines, a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by a project. Preproject environmental conditions (the environmental baseline) are considered in determining impact significance. The impact significance thresholds for each environmental resource areas presented in this Draft EIR are based on the State CEQA Guidelines Appendix G, *Environmental Checklist Form*. In addition, this Draft EIR uses City-adopted significance criteria for traffic impacts. Where significant impacts are identified, the Draft EIR recommends feasible mitigation measures to reduce, eliminate, or avoid the significant impacts and identifies which significant impacts are unavoidable. Cumulative impacts—two or more individual effects that, when considered together, compound or increase other related environmental impacts—are discussed for each environmental resource area. This document also discusses alternatives to the Project in Chapter 4, *Alternatives*.

In accordance with Section 15143 of the State CEQA Guidelines, this Draft EIR provides an analysis of the significant effects on the environment that could result from construction and operation of the Project. Section 15131 of the State CEQA Guidelines specifies that "the intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Therefore, this Draft EIR does not treat economic or social effects of the Project as significant effects on the environment. In addition, if it is determined that a

potential impact is too speculative for evaluation, this condition is noted, and further discussion of the impact is not necessary.

Public Review

This Draft EIR is considered a draft under CEQA because it must be reviewed and commented upon by public agencies, organizations, and individuals before being finalized. This document is being distributed for a minimum of a 45-day public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects. Written comments should be submitted to:

David Hogan, Contract Planner
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Email: dwhogan@menlopark.org

A public hearing to take oral comments on the Draft EIR will be held before the Planning Commission on March 24, 2014. Hearing notices will be mailed to responsible agencies and interested individuals.

Final EIR and Project Approval

Following the close of the public review period, the City will prepare responses to all substantive comments that relate to potential physical changes to the environment. The Draft EIR, along with the responses to the substantive comments received during the review period, will comprise the Final EIR and will be considered by the City Council in making the decision to certify the Final EIR and to approve or deny the Project.

Certification of the Final EIR by the City Council as complete and adequate in conformance with CEQA does not grant any land use approvals or entitlements for the Project. The merits of the Project will be considered by the City Council in tandem with review of the Final EIR. The State CEQA Guidelines require that, for one or more significant and unavoidable impact that cannot be substantially mitigated, the lead agency must prepare a Statement of Overriding Considerations that balances the social, economic, technological, and legal benefits of approving a project against the significant and unavoidable environmental impacts that would result from project implementation. The City Council must approve the Lead Agency Statement of Overriding Considerations in order for the Project to be approved.

1.4 Report Organization

This Draft EIR is organized into the following sections.

- *Executive Summary*: Provides a summary of the Project and the impacts that would result from its implementation and describes mitigation measures recommended to reduce, eliminate, or avoid significant impacts. The Executive summary also discusses alternatives to the Project.
- *Chapter 1—Introduction*: Discusses the overall Draft EIR purpose, provides a summary of the Project and the CEQA process, and summarizes the organization of the Draft EIR.

- *Chapter 2—Project Description*: Provides a description of the Project site, site development, Project objectives, required approvals process, and Project characteristics.
- *Chapter 3—Environmental Impact Analysis*: Describes the existing conditions/setting, analyzes the environmental impact, and provides mitigation measures (if applicable) for each environmental resource area.
- *Chapter 4—Alternatives*: Evaluates one alternative to the Project in addition to the No Project Alternative.
- *Chapter 5—Other CEQA Considerations*: Provides additional, specifically required analyses of the Project's effects, significant irreversible changes, cumulative impacts, and effects not found to be significant.

Chapter 2
Project Description

The Sobrato Organization (Project Sponsor) is proposing to redevelop the properties at 151 Commonwealth Drive and 164 Jefferson Drive (collectively referred to as the Project site) in the City of Menlo Park (City). The 12.1-acre Commonwealth Site was formerly occupied by Diageo North America and has been unoccupied since July 2011. The 1.17-acre Jefferson Site is directly adjacent to the Commonwealth Site to the north. This site consists of an operational warehouse building used for office and light industrial uses and associated surface parking. The Commonwealth Corporate Center Project (Project) would demolish the existing structures and construct two four-story buildings with approximately 259,920 square feet (sf) of space. Flexible floor plans would be developed for office, biotech, and/or research and development (R&D) space with a capacity of approximately 1,300 employees.

2.1 Project Location and Setting

The Project site, which includes the Commonwealth Site and the Jefferson Site, is located in the City of Menlo Park, north of US 101. The two parcels currently comprising the Project site total approximately 13.27 acres (578,472 sf). Both parcels are zoned M-2 (General Industrial) and are located within the City's Limited Industry land use designation in the City's General Plan.

Figure 2-1 depicts the Project location. The Project site is generally bound to the north and west by commercial buildings, to the south by US 101, and to the southeast by the Dumbarton Rail Corridor.[1] To the east of the Dumbarton Rail Corridor is Joseph P. Kelly Park. Within the Project site, the Commonwealth Site currently contains three buildings and support space that totals approximately 217,396 sf; the Jefferson Site contains one building that totals 20,462 sf. In addition, the Project site includes parking, pavement, and minor landscape features. The area is highly developed, mixed with industrial, commercial, and residential uses. Table 2-1 summarizes the existing building uses at the Project site, and Figure 2-2 depicts the existing site plan.

Table 2-1. Existing Uses at the Project Site

Building Uses	Total Floor Area (sf)	Number of Floors
Commonwealth Site		
Manufacturing	163,058	1
Warehouse/Garage	38,527	1
Office	15,811	1
Total	217,396	--
Jefferson Site		
Warehouse	17,100	1
Office	3,362	1
Total	20,462	--
Total Project Site	237,858	--
Source: Arc Tech 2012.		

[1] For the purposes of this analysis, true northeast is project north, and US 101 runs in an east-west direction.

Commonwealth Site

The 12.1-acre (527,289-sf) Commonwealth Site is bound by office parks to the north and west, the Jefferson Site to the north, and US 101 to the south. In addition, the site is directly adjacent to the southeast by the Dumbarton Rail Corridor and with Joseph P. Kelly Park further to the east. The Commonwealth Site is relatively flat and lies at an elevation of approximately 6.7 to 11.9 feet above mean sea level (msl). The site consists of Assessor's Parcel Number (APN) 055-243-240 and is accessible from 151 Commonwealth Drive.

The Commonwealth Site was formerly occupied by Diageo North America and was used as a spirits distilling, bottling, and distribution plant. The main manufacturing building was constructed in 1956, with an addition constructed in 1970.[2] When in full operation, the Commonwealth Site consisted of three single-story buildings, a tank farm, processing equipment areas, a 500,000-gallon fire suppression water tank, storage areas, and associated parking and landscaped areas. Facility operations were discontinued on July 9, 2011, and closure activities were completed October 31, 2011. The Commonwealth Site has remained unoccupied since. Onsite buildings include 163,058 sf of manufacturing space (including a boiler room), 38,527 sf of warehouse and garage areas, and 15,811 sf of office space, for a total of approximately 217,400 sf of formerly usable space. Additional structures are located in the northern portion of the Commonwealth Site, including water storage structures and outdoor storage sheds. The Commonwealth Site is currently zoned M-2 (General Industrial) and is located within the City's Limited Industry land use designation in the General Plan.

Jefferson Site

The 1.17-acre (51,183-sf) Jefferson Site is bound by Jefferson Drive to the north, office parks to the east, south, and west, and the Commonwealth Site to the south. The Jefferson Site is relatively flat and lies at an elevation of approximately 6.6 to 7.4 feet above msl. The site consists of APN 055-243-050 and is accessible from two driveways in the northern portion of the site along Jefferson Drive.

One building, which is currently operational, is located on the Jefferson Site. This one-story, 20,462-sf building is used as warehouses and offices for storage and light industrial uses. Approximately 30 people are currently employed at the Jefferson Site. The site features 47 existing parking spaces and minor landscaping. Like the Commonwealth Site, the Jefferson Site is zoned M-2 and is located within the City's Limited Industry land use designation in the City's General Plan.

2.2 Project Objectives

This Draft Environmental Impact Report (Draft EIR) addresses the physical impacts of the Project as required by the California Environmental Quality Act (CEQA). The Project Sponsor has identified the following project objectives that are relevant to the physical impacts considered in this document.

- Redevelop an underutilized property in Menlo Park that is visible from US 101 into an economically viable, flexible, and adaptable R&D/office campus.
- Develop two equivalent-sized buildings within the allowable floor area ratio (FAR) for the M-2 zone.

[2] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment Former Diageo North American Facility, 151 Commonwealth Drive, Menlo Park, California. November 29.

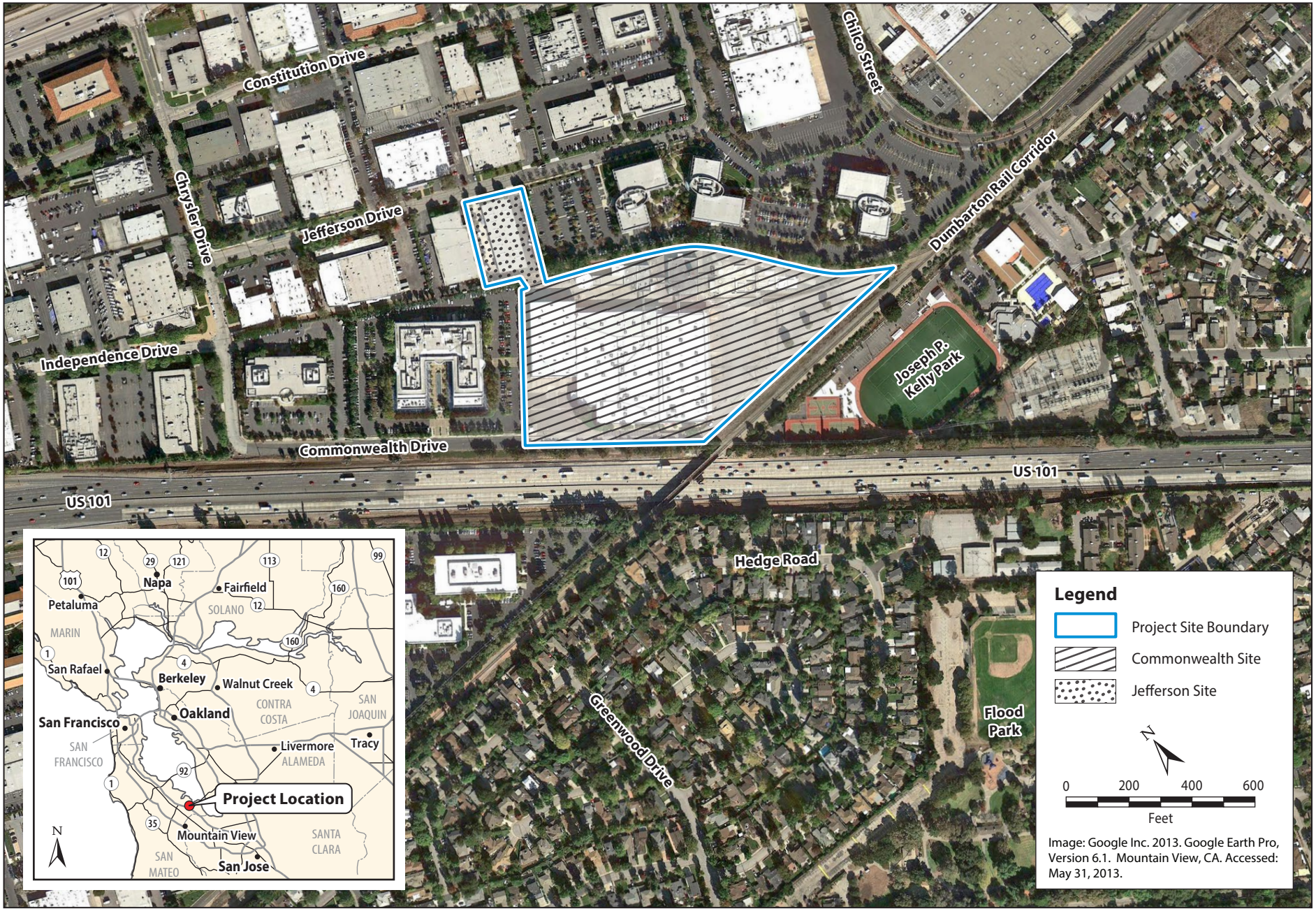

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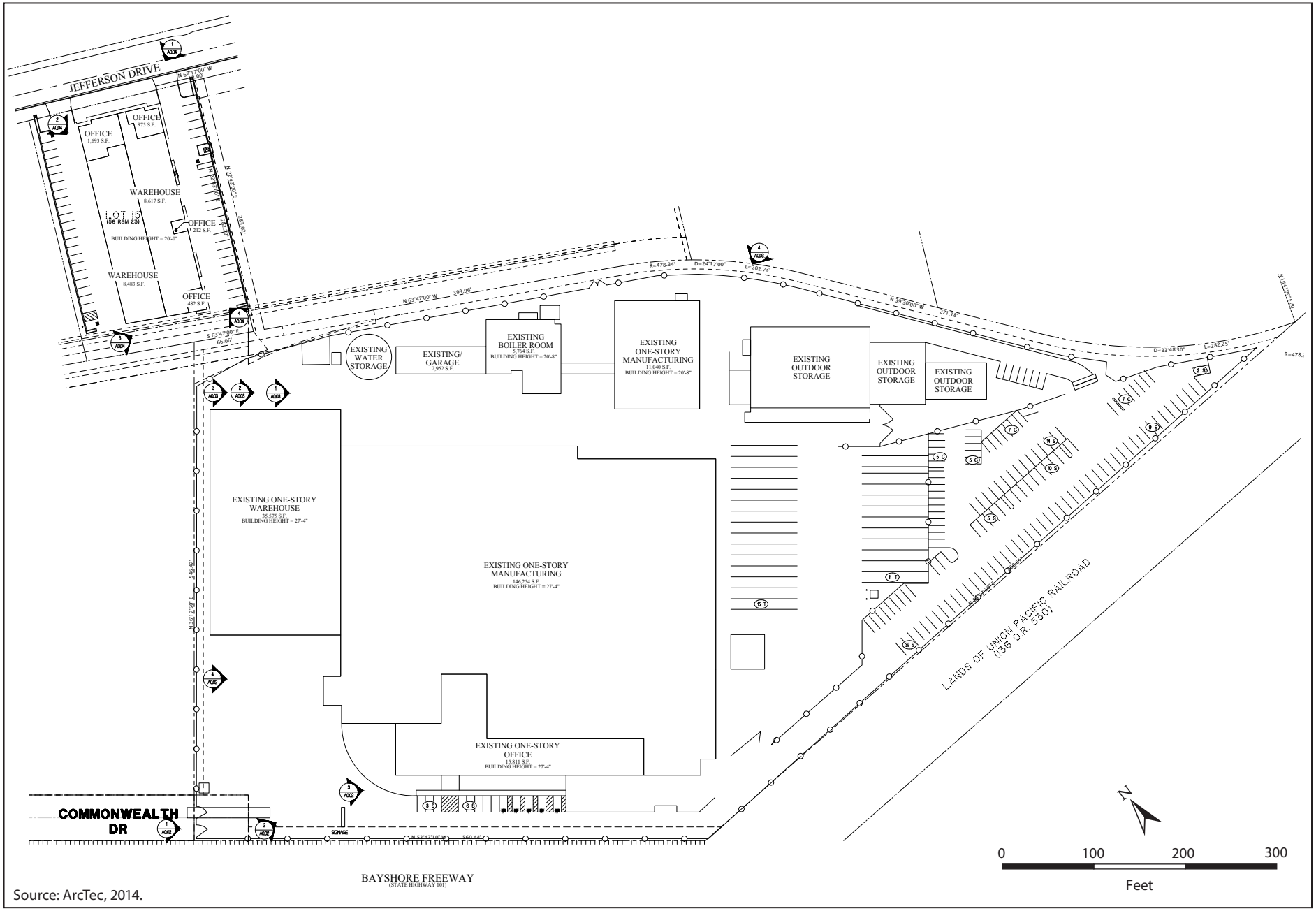
Figure 2-1
Project Location



Source: ArcTec, 2014.

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Figure 2-2
Existing Site Plan

- Maximize the amount of onsite landscaping.
- Achieve economies of scale and attract significant corporate tenants.
- Maintain convenient access to and from US 101.
- Create jobs and tax revenues for the City of Menlo Park.

2.3 Project Characteristics

The Project would include the demolition of the existing buildings and paved features and the construction of new structures. In order to develop the Project site to the desired height, the Project would require rezoning to the M-2(X) (Conditional Development Overlay) zoning district with a corresponding Conditional Development Permit (CDP). Table 2-2 summarizes the allowed development under current M-2 zoning and the proposed development.

Table 2-2. Allowed and Proposed Development at the Project Site[a]

	Allowed Development (M-2 Zoning)	Proposed Development (M-2[X]Zoning)
Floor Area Ratio	0.45	0.45
Total Square Feet	260,313	259,920
Site Coverage	50%	11.9%[a]
Max. Building Heights	35’	61’4”[b]

Sources: City of Menlo Park 2012; Arc Tech 2012.

Notes:

a. Building footprints would occupy 11.9 percent of the site (69,070 sf). In addition, landscaping would constitute 25.6 percent of the site, and paving would make up 62.5 percent of the site.

b. According to Section 16.04.330 of the Municipal Code, height of a structure is defined as “the vertical distance from the average level of the highest and lowest points of the natural grade… to the topmost point of the structure, excluding elevator equipment rooms, ventilating and air conditioning equipment and chimneys.” As such, the screened mechanical areas are excluded from the height calculations. Including roof screen, elevator shaft, and stairwell, the buildings would be approximately 72’4.”

Entitlements

The Project site is currently zoned M-2 and designated Limited Industry in the City’s General Plan. Under the current land use designation, the Project site could be built out to approximately 260,313 sf, with a FAR of 0.45, as identified in the City’s zoning ordinance.[3] The Project would comply with these requirements; however, the two proposed buildings would exceed the 35-foot maximum height limit in the M-2 zoning district. In order to comply with the M-2 zoning, the increase in height from 35 feet (allowed) to 61.3 feet (proposed) would require rezoning the Project site to M-2(X). In addition, a CDP would be required to modify existing M-2 development regulations in order to establish a new height limit. The Project site would require the approval of a tentative map to reconfigure the Project site into multiple parcels.

[3] City of Menlo Park. 2010. Menlo Park Municipal Code, Section 16.46.030(7). December 14.

The Project would also require a tree removal permit for each heritage tree proposed for removal per Municipal Code Section 13.24.040 and a Below Market Rate Housing Agreement for the payment of in-lieu fees associated with the City's Below Market Rate Housing Program.

Proposed Site Plan

The Project would require the demolition of the existing buildings at the Project site and would entail the construction of two office/biotech/R&D buildings, a surface parking lot, onsite linkages, and landscaping.[4] Table 2-3 shows a summary of the proposed buildings.

Table 2-3. Proposed Development at the Project Site

Building	Building Use	Total Floor Area (sf)	Number of Floors
Building 1	Office/R&D/Biotech	129,960	4
Building 2	Office/R&D/Biotech	129,960	4
Total	--	259,920	--

Source: Arc Tec, 2012.

The Project Sponsor's conceptual site plan, as shown in Figure 2-3, proposes two separate buildings located in the southwest corner of the Project site towards the main entrance at Commonwealth Drive. Building 1 would be arranged in an east–west orientation while Building 2 would be arranged in a north–south orientation to the east of Building 1. Each building would have a footprint of approximately 34,535 sf. Together, the two buildings would have a total floor area of 259,920 sf. Building elevations are shown in Figures 2-4 and 2-5.

The proposed structures would be surrounded by surface parking, landscaping, pedestrian paths, and water features. A courtyard with café tables and chairs would be situated in between the two buildings and would provide a social space for the Project. Two covered trash and generator enclosures would be located within the parking lots to the northwest of Building 1 and to the southeast of Building 2.

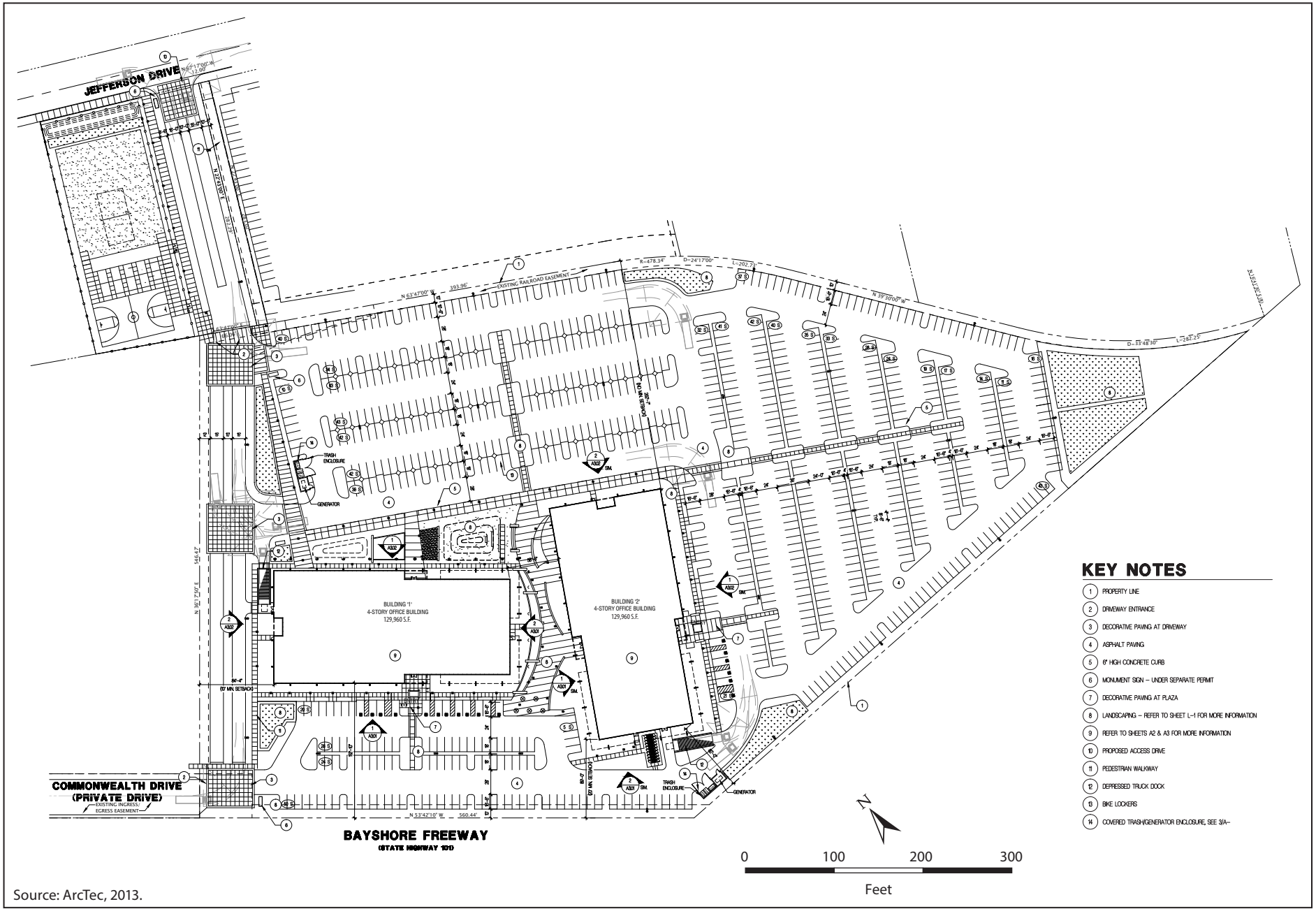
Bicycle lockers would also be provided within the parking lot to the north of the two buildings. One depressed truck loading dock per building would be located in the northwest and southwest corners of Buildings 1 and 2, respectively. The northern portion of the Project site (the Jefferson Site) would include an entrance and driveway from Jefferson Drive, a lawn area for active recreation (including a volleyball court), a basketball court, picnic tables, a stormwater treatment area, and landscaping, including a fence approximately 7 feet in height.

The Project would provide a flexible floor plan and building design that could ultimately accommodate office, biotech, and/or R&D uses. In addition, approximately 5,000 sf per building would be dedicated to cafeterias that would be closed to the public.

Site Access, Circulation, and Parking

Vehicular Access and Circulation. The Project site would be accessible from two driveways: the main access point at Commonwealth Drive in the southwest corner of the Project site and the secondary access point at Jefferson Drive in the northern portion of the Project site. Both entrances would include

[4] Unless otherwise stated, all information from this section is from: The Sobrato Organization and Arc Tec. 2012. "A Planning Department Submittal for: Commonwealth Corporate Center." July 17.



Source: ArcTec, 2013.

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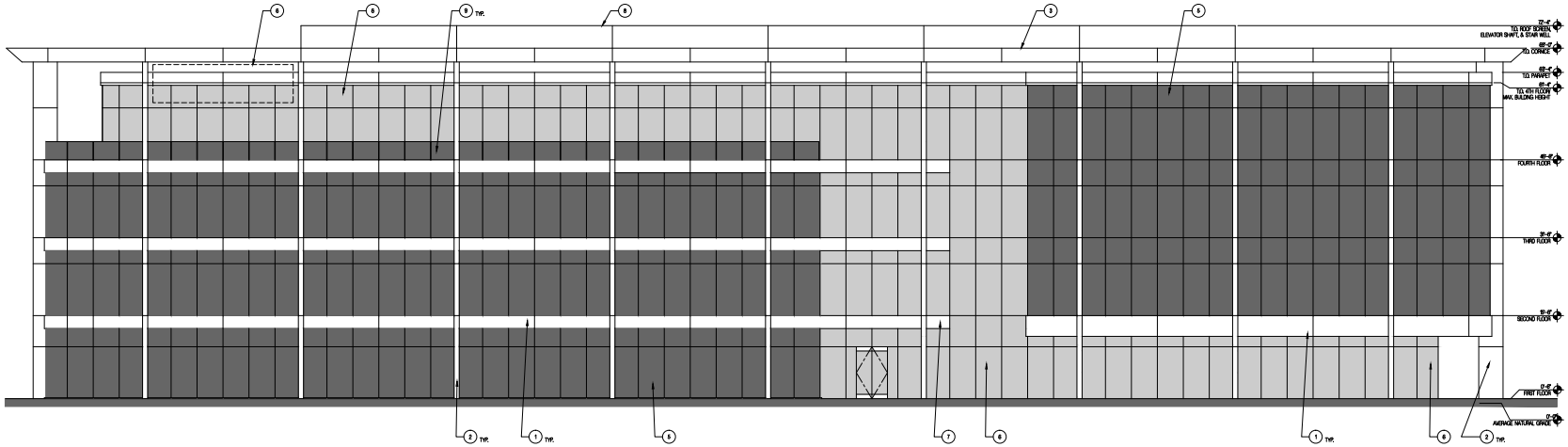
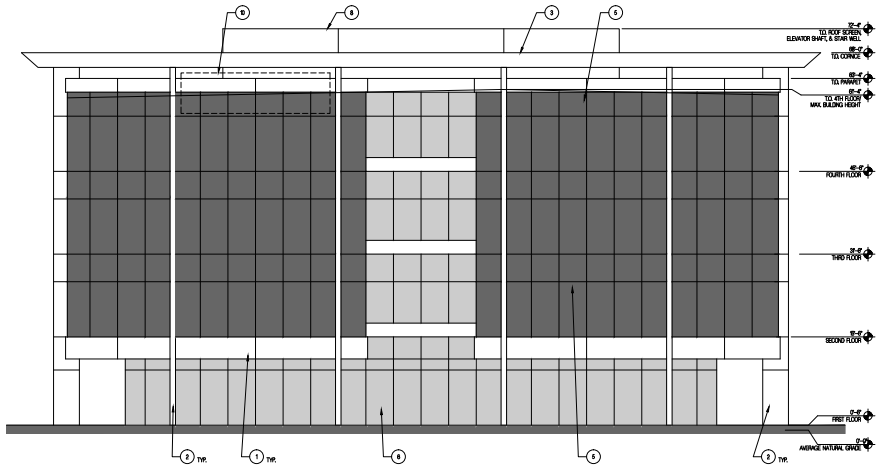
Figure 2-3
Proposed Conceptual Site Plan



1 BUILDING '1' SOUTH ELEVATION / BUILDING '2' WEST ELEVATION

KEY NOTES

1. SILVER COMPOSITE ALUMINUM PANELS OVER STEEL FRAME
2. FIN COLUMNS – SILVER COMPOSITE ALUMINUM PANELS OVER STEEL FRAME
3. CORNICE – SILVER COMPOSITE ALUMINUM PANELS OVER STEEL FRAME
4. SILVER ALUMINUM CAP
5. 1" INSULATED LOW E GLAZING SYSTEM W/ BLUE TINT GLASS IN ALUMINUM FRAMES WITH BUTT GLAZED JOINTS
6. 1" INSULATED LOW E GLAZING SYSTEM W/ CLEAR GLASS IN ALUMINUM FRAMES WITH BUTT GLAZED JOINTS
7. 8"W X 2'-6"H SILVER ALUMINUM HORIZONTAL BAND
8. METAL ROOF SCREEN – COLOR 'SILVER' TO MATCH COMPOSITE ALUMINUM PANELS
9. 42" HIGH GLASS GUARDRAIL
10. PROPOSED SIGNAGE 27'-0" X 7'-4" (200 SQ.FT. MAX)



2 BUILDING '1' EAST ELEVATION / BUILDING '2' SOUTH ELEVATION

Source: ArcTec, 2013.

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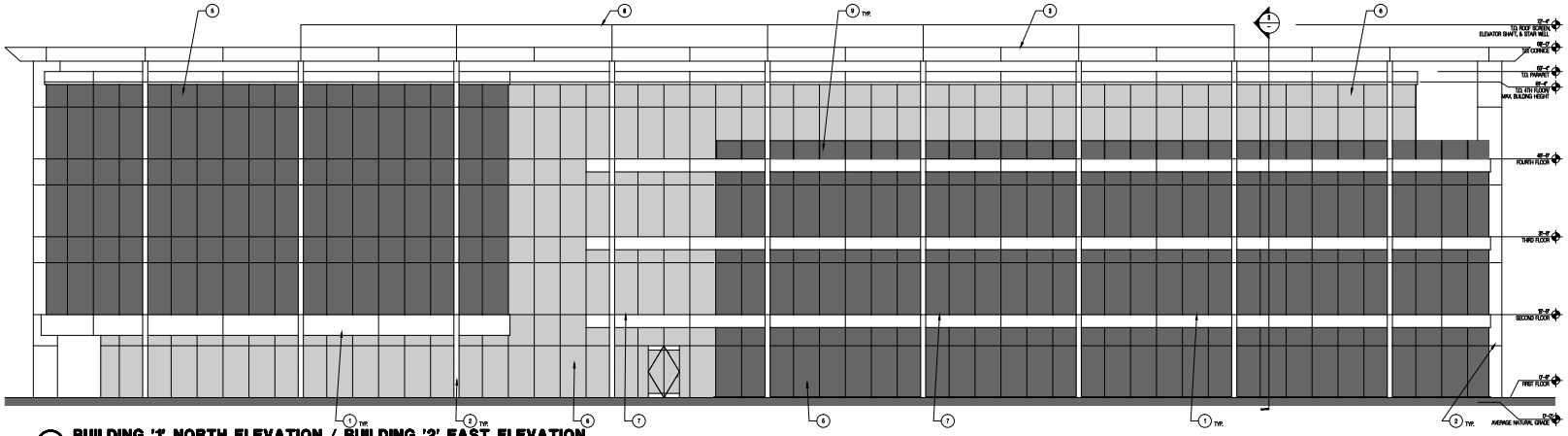
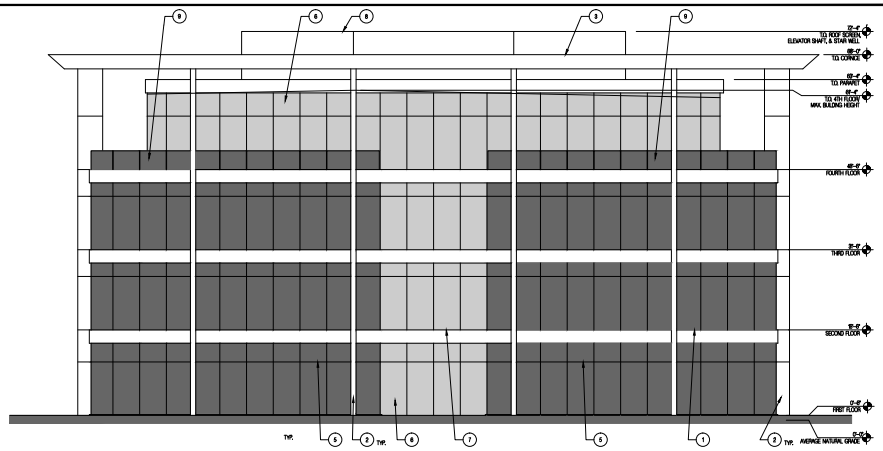
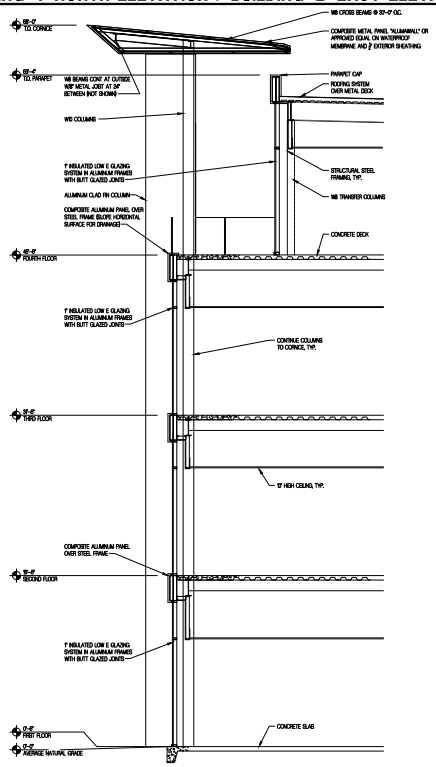
Figure 2-4
Building Elevations



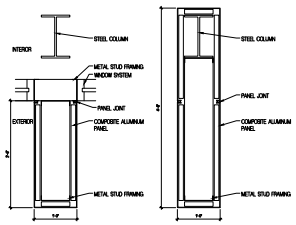
1 BUILDING '1' NORTH ELEVATION / BUILDING '2' EAST ELEVATION



2 BUILDING '1 WEST ELEVATION / BUILDING '2' NORTH ELEVATION



3 WALL SECTION



4 FIN DETAIL

KEY NOTES

1. SILVER COMPOSITE ALUMINUM PANELS OVER STEEL FRAME
2. FIN COLUMNS – SILVER COMPOSITE ALUMINUM PANELS OVER STEEL FRAME
3. CORNICE – SILVER COMPOSITE ALUMINUM PANELS OVER STEEL FRAME
4. SILVER ALUMINUM CAP
5. 1" INSULATED LOW E GLAZING SYSTEM W/ BLUE TINT GLASS IN ALUMINUM FRAMES WITH BUTT GLAZED JOINTS
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7. 8"W X 2'-6"H SILVER ALUMINUM HORIZONTAL BAND
8. METAL ROOF SCREEN – COLOR SILVER TO MATCH COMPOSITE ALUMINUM PANELS
9. 42" HIGH GLASS GUARDRAIL

Source: ArcTec, 2013.

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Figure 2-5
Building Elevations

monument signs. A two-lane boulevard would be located along the western boundary of the Project site and would connect the Commonwealth Drive entrance, the Jefferson Drive entrance, and the surface parking lot. This boulevard would include decorative/accent paving, a pedestrian walkway, signage, and a landscaped center median. Entrances to the surface parking would be provided in three locations along the boulevard.

Bicycle and Pedestrian Circulation. Pedestrian walkways would be included between the internal boulevard and the proposed buildings. In addition, as shown in Figure 2-3, several walkways with enhanced paving at crosswalks would traverse the Project site in east–west and north–south directions leading from the proposed buildings to the parking lot. The Project site will include 6 bike racks (Class II spaces) placed at convenient and well-lit locations near the main entrance of each building. Each of these racks can accommodate 2 bikes, for a total of 24 bicycle spaces (12 at each building). In addition, bicycle lockers (Class I spaces), with a capacity of 20 bikes, would be provided adjacent to Building 2. Additional onsite bicycle amenities would include showers and changing rooms, as described in the Project's Transportation Demand Management (TDM) Plan included in Appendix 3.3-D.

Emergency Access. Emergency access to the Project site would be provided from both access points at Commonwealth Drive and Jefferson Drive. Emergency vehicles would enter the site at Commonwealth Drive and continue along the northern portion of the Project site, adjacent to the proposed buildings. Emergency vehicles would travel around the buildings and exit at Jefferson Drive. Fire hydrants and fire department connections would be located along the emergency access route in the vicinity of the proposed buildings.

Parking. Parking would be provided in surface lots to the north, east, and south of the proposed buildings. The M-2 zoning requires one parking stall per 300 sf of building space. As such, the Project would include 849 standard parking stalls, 16 Americans with Disabilities Act (ADA) stalls, and two van-accessible stalls. As part of the Project's TDM Plan, approximately 5.5 percent of the total parking spaces (approximately 48 stalls) would be dedicated to carpool parking. In total, approximately 867 parking spaces would be provided at the Project site.

Alternative Transportation. The Project's TDM Plan would provide services, incentives, facilities, and actions that would reduce single-occupant vehicle trips. The plan would encourage the use of public transportation and other forms of alternative transportation. The Project site is currently served by the Marsh Road Shuttle, which is a free shuttle service with timed connections to many of the AM/PM peak period trains at the Menlo Park Caltrain station in both the northbound and southbound directions. The existing shuttle service includes a stop on Commonwealth Drive, less than 100 feet from the Project site. In order to encourage employees to use Caltrain and the Marsh Road Shuttle, subsidized transit passes, such as a Caltrain Go Pass, would be provided to employees at the Project site. The Caltrain Go Pass is an employer-sponsored annual pass that offers unlimited rides on Caltrain through all zones, 7 days per week. Carpooling and vanpool programs would also be encouraged through free ride matching services, carpool incentive programs, vanpool formation incentives, vanpool seat subsidies, and vanpool participant rebates. Emergency ride home programs would also be implemented. Refer to Appendix 3.3-D for a full discussion of the Project's TDM Plan.

Landscaping

As shown in Figure 2-6, landscaping would be provided throughout the Project site. The areas adjacent to the proposed buildings would include bamboo clusters, a variety of trees, wall water features, pedestrian paving, a sunken lawn with seat walls, lighting, tree grates, curved and raised seatwalls, lounging steps, and café tables and chairs. A variety of shade trees would be planted in the surface parking lot within 24-

inch boxes. The portion of the Project site adjacent to Jefferson Drive would include a lawn, active recreation spaces with a basketball court and a lawn volleyball court, planting areas, picnic tables, fencing, and other vegetation.

Currently, there are 45 trees at the Project site. The Project would remove 44 of these trees, 23 of which are considered Heritage Trees per Section 13.24 of the City's Municipal Code.[5] One Heritage Tree, a native oak tree, would remain upon implementation of the Project. However, approximately 474 trees would be planted to offset the Heritage Tree removal. A variety of tree species would be planted.

The existing Project site is covered with approximately 540,577 sf of impervious surfaces (93.4 percent). Implementation of the Project would reduce impervious surfaces to 74.4 percent (approximately 430,278 sf). Up to eight stormwater treatment areas would be located throughout the Project site in order to limit stormwater runoff. These biotreatment areas would be open, level, vegetated areas that would allow runoff to be distributed evenly across the area. They would be designed to treat runoff by filtering raw runoff through the soil media in the treatment area. These biotreatment areas would trap particulate pollutants (suspended solids and trace metals) and promote infiltration.

Building Features, Signage, and Lighting

The final design of the Project, including lighting, would be determined as part of the City's land use entitlement process by the Planning Commission and City Council, which would include input from the public. With regard to lighting, the performance standards set by Leadership in Energy & Environmental Design (LEED) would be followed, and light pollution would be considered and minimized. The proposed building façade would incorporate silver composite aluminum panels, low-e glazing, and high-performance glass set in aluminum frames. This façade would provide energy saving benefits for the buildings. Other building features would include fin columns, cornices, metal roof screens, and guardrails. Signage would be provided at the two entrances and on the facades of each building. The maximum sign area for the Project site would be 300 sf.

California Code of Regulations (CCR) Title 24, Part 11 is the California Green Building Standard Code (CALGreen), which was adopted in 2010 and became effective January 1, 2011. CALGreen is the first statewide mandatory green building code and significantly raised the minimum environmental standards for construction of new buildings in California. CALGreen requires nonresidential building construction to consider deconstruction and reuse of existing structures, energy efficiency, water efficiency and conservation for both indoor and outdoor water use, material conservation and resource efficiency, efficient framing techniques, material sources, and construction waste reduction.[6] The 2013 Building Energy Efficiency Standards, effective July 2014 as CCR Title 24, Part 6, also focus on several key areas to improve the energy efficiency of newly constructed buildings and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations. The most significant efficiency improvements to nonresidential standards are proposed for lighting controls, windows, unitary HVAC equipment, and building commissioning.[7] The Project would be designed to meet CCR Title 24 and any amendments required by the City. In addition, the Project would be designed to accommodate potential future installation of measures that would reduce greenhouse gas emissions, including: installing conduit in the parking lots to accommodate potential electric vehicle

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5 McClenahan Consulting, LLC. 2012. "Tree Survey." 151 Commonwealth and 164 Jefferson. March 27.

6 California Department of Housing and Community Development. 2012. "CALGreen." Available: <http://hcd.ca.gov/CALGreen.html>. Accessed: December 13, 2013.

7 California Energy Commission. 2013. "2013 Building and Energy Efficiency Standards." Available: <http://www.energy.ca.gov/title24/>. Accessed: December 13, 2013.

Source: ArcTec, 2013.

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Figure 2-6
Proposed Landscape Plan

charging stations, "quick chargers", and potential photovoltaic arrays; designing the electrical panels to account for the future load of potential charging stations; structurally accounting for rooftop loads for potential photovoltaic arrays or a potential solar thermal hot water system; and locating future shafts for tubing of a thermal hot water system.

Activity/Employment

The Project could be used as an office, biotech, and/or R&D campus, or any combination thereof. If the Project only includes office uses, then it is estimated that office spaces for approximately 1,300 employees would be generated.[8] In general, office uses generate the need for more employees than do biotech and R&D uses. The administrative areas of biotech and R&D companies would have a density similar to a corporate office; however, the research and laboratory spaces would have lower employee densities. As such, this document assumes and analyzes the most conservative scenario of approximately 1,300 office employees at the Project site.

Utilities

Onsite utility usage would include energy, domestic water, wastewater, and storm drainage. All onsite utilities would be designed in accordance with applicable codes and current engineering practices.

Energy. Pacific Gas and Electric Company (PG&E) would provide gas and electrical power for the proposed facilities. Existing electricity and gas lines in the vicinity of the Project site would continue to serve the Project.

Domestic Water. Onsite water lines would connect to the Menlo Park Municipal Water District (MPMWD). There is one existing 6-inch domestic water main that serves the Project site. This main would be reduced to 3 inches to serve Building 1. In addition, there is one existing 8-inch easterly fire service line and one existing 10-inch westerly fire service line. The easterly line would be reused for domestic water for Building 1 and the new fire loop road. The westerly line would be reused for domestic water for Building 2 and the new fire loop road. The water lines would connect to the existing 10-inch domestic water main that parallels the southern boundary of the Project site.

Wastewater. The sanitary sewer system in this area of the City is owned and operated by the West Bay Sanitary District (WBSD). The proposed buildings would connect to the wastewater system via a 6-inch sanitary sewer main located at 180 Jefferson Drive. Wastewater from the Project site would ultimately be discharged to the South Bayside Systems Authority (SBSA) pump station in Redwood City.

Storm Drainage. The stormwater collected at the Project site would continue to be conveyed in a piped system to the existing 36-inch storm drain in Jefferson Drive. The drainage system would consist of a combination of existing and new onsite storm drains. This system would collect runoff from the parking lots, roofs, and hardscape areas and convey it to a pump. The pump would be sized to discharge the stormwater to biotreatment ponds for treatment in accordance with the C.3 MRP requirements. For larger storm events the excess flows would directly to Jefferson Drive via a pipe system. The Project would have a larger landscaped area than under existing conditions; therefore, the Project would result in a net decrease in the amount of runoff leaving the site.[9]

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8 The Sobrato Corporation. 2012. This estimate assumes 200 sf per employee based on similar office density rates on similar office density rates on the San Francisco Peninsula. 259,920 sf of office/200 sf = ~1,300 employees.

9 Kier & Wright Civil Engineers and Surveyors. 2012. "Stormwater Report: 151 Commonwealth Drive & 164 Jefferson Drive, Menlo Park, California." July 20.

2.4 Project Construction

Schedule

Construction of the Project would include the demolition of the existing features at the Project site and the construction of the proposed building. It is anticipated that the construction process would start in April 2014[10] with the demolition of the existing buildings and subsequent construction of the Project would continue over approximately 15 months, with full buildout by mid-2015. It is assumed that maximum occupancy would be reached within 2 to 3 years thereafter. The following summarizes the construction schedule by phase.

- **Phase 1**–Demolition: Mid-2014 (60 days).
- **Phase 2**–Grading: Mid-2014 (6 days).
- **Phase 3**–Building construction: Mid-2014 to Mid-2015 (265 days).

Equipment and Staging

Typical equipment that would be used during construction would include, but not be limited to, concrete crushers, cranes, tractors, excavators, pile drivers, forklifts, off-highway tractors and trucks, material-handling equipment, pavers, pumpers, rollers, bulldozers, surfacing and grading equipment, backhoes, and trenchers. All construction equipment, employee vehicles, and import material would be staged onsite at the Jefferson Site.

Spoils, Debris, and Materials

Demolition. Construction would require the demolition and removal of the existing buildings, paved areas, other impervious surfaces, and vegetation at the Project site. Approximately 75 percent of all debris would be recycled. Based on this assumption, the demolition work would generate approximately 10,800 cubic yards (cy) of concrete debris, 4,500 cy of asphalt concrete debris, and 725 cy of construction and demolition (C&D) debris, which includes wood, metal roofing, and steel work.

Concrete debris could be shredded onsite prior to offhaul. Any portion of material that could not be crushed onsite would be hauled to a local recycling site, likely the facility at the Port of Redwood City.

Grading/Excavation. Approximately 12,700 cy of cut and 6,000 cy of fill would be generated by the Project. In addition, approximately 6,700 cy of export materials would be generated. No dewatering would be required.

[10] When the NOP for this Project was issued in August 2012, a start date of April 2014 was anticipated. Therefore, the analysis presented in this EIR assumes an April 2014 construction start date. However, due to unforeseen delays, it is anticipated that the actual start date will be later. The construction dates are estimates and used for analytical purposes only; the delayed construction start date does not impact the accuracy of the analysis.

2.5 Project Approvals

City Approvals

The following discretionary approvals by the City would be required prior to development at the Project site.

- **Environmental Review.** Certification of the EIR (including the mitigation measures identified in the EIR), the Mitigation Monitoring and Reporting Plan, and approval of a Statement of Overriding Considerations.
- **Rezoning from M-2 to M-2(X).** A Conditional Development District would be required to exceed the standard M-2 zoning district's 35-foot height limit and build office buildings up to 62 feet in height.
- **Conditional Development Permit.** A CDP would be required to establish project specific development regulations, such as a new height limit.
- **Tentative Parcel Map.** A Tentative Parcel Map for a three-lot subdivision that would allow each four-story building to be constructed on an individual lot while sharing the use of the onsite parking and the shared project amenities.
- **Heritage Tree Removal Permit.** A tree removal permit would be required for each heritage tree proposed for removal per Municipal Code Section 13.24.040.
- **Below Market Rate Housing Agreement.** A Below Market Rate Housing Agreement would be required for the payment of in-lieu fees associated with the City's Below Market Rate Housing Program, as outlined in Chapter 16.96 of the Municipal Code.
- **Grading Permit.**
- **Building Permit.**
- **Encroachment Permit.**

Consultations with Responsible Agencies

Consultations with other agencies that may be needed for the Project are identified below. These agencies are expected to review this Draft EIR in evaluating the Project. These various agencies will need to approve certain parts of the Project prior to full implementation; however, their approval is not required for EIR certification.

- **Bay Area Air Quality Management District (BAAQMD)**—permitting of asbestos abatement activities, if any, and the operational permit for the emergency generator(s).
- **California Department of Transportation (Caltrans)**—review of traffic circulation effects and consultation on potential traffic improvements affecting state highway facilities, ramps, and intersections.
- **California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB)/San Mateo Countywide Water Pollution Prevention Program—**approval of National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharge.
- **City/County Association of Governments (C/CAG)**—review of potential effects on Routes of Regional Significance and the Project's TDM Plan.

- **Menlo Park Fire Protection District**—approval of proposed fire prevention systems and emergency vehicle access.
- **San Mateo County Environmental Health Division**—review of food service functions.
- **San Mateo County Transit District**—review of site plans adjacent to the Dumbarton Rail Corridor.
- **West Bay Sanitary District**—approval of wastewater connection.

Chapter 3
Environmental Impact Analysis

Chapter 3 of the Draft Environmental Impact Report (Draft EIR) presents an analysis of the potential impacts that the Commonwealth Corporate Center Project (Project) could have on existing environmental conditions. The environmental analysis has been prepared in accordance with California Environmental Quality Act (CEQA), as amended (Public Resources Code Section 21000, et seq.), and the State CEQA Guidelines.

Organization of This Chapter

Each CEQA topic or environmental issue in this chapter is given its own section, each containing the following subsections.

- **Regulatory Setting**—describes the federal, state, and local regulations regarding the impact topic that would be applicable to the construction and operation of the Project.
- **Environmental Setting**—describes existing baseline conditions, including the environmental context and background. The environmental baseline for purposes of the analysis is discussed in detail below. As discussed in Chapter 2, *Project Description*, the existing Project site includes the Commonwealth Site at 151 Commonwealth Drive and the Jefferson Site at 164 Jefferson Drive. Currently, these two properties are not connected and include different land uses. Therefore, where appropriate, the properties are discussed separately under the environmental setting.
- **Environmental Impacts**—identifies standards of significance and evaluates how the Project would affect the baseline conditions. If the change to the baseline conditions would exceed the significance thresholds, this would constitute a significant impact and mitigation measures to reduce, eliminate, or avoid the significant impacts are suggested. Under the Project, the Commonwealth Site and the Jefferson Site would be merged to form one property. Therefore, the analysis of the Project discusses the two existing properties as one combined Project site. This section also analyzes cumulative impacts, as described in detail below.

CEQA Methodology

State CEQA Guidelines Section 15151 provides guidance for the preparation of an adequate EIR.

- An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information that enables them to make a decision that intelligently takes account of environmental consequences.
- An evaluation of the environmental impacts of a project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.

In practice, this guidance suggests that EIR preparers adopt a reasonable methodology upon which to estimate impacts and make reasonable assumptions using the best information reasonably available.

Classification of Impacts

In accordance with Section 15022(a) of the State CEQA Guidelines, the City of Menlo Park (City) uses the impact significance criteria designated by CEQA and the State CEQA Guidelines (Appendix G). These criteria, as well as City-adopted significance criteria for traffic impacts, are used to evaluate project impacts throughout this document. These criteria are listed at the beginning of the *Environmental Impacts* subsection under "Thresholds of Significance" throughout this chapter.

For each impact identified, a level of significance is determined using the following classifications.

- *Potentially significant (PS)* impacts are those cases in which it is not precisely clear whether a significant effect would occur. The analysis in these instances conservatively assesses the credible worst-case conditions, but the discussion acknowledges that there is some uncertainty regarding the credible extent of the impact.
- *Less-than-significant (LTS)* impacts are effects that are noticeable but do not exceed established or defined thresholds, or are mitigated below such thresholds.
- *No impact (NI)* denotes situations in which there is no adverse effect on the environment.

For each impact identified as being potentially significant (PS), the Draft EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the Draft EIR. However, if the mitigation measures would not diminish these effects to less-than-significant levels, then the Draft EIR classifies the impacts as "significant and unavoidable (SU)."

In Chapter 3, impacts are defined using an alphanumeric system that identifies the environmental topic of the impact. For example, NOI-1 denotes the presentation of the first impact in the Noise section. The abbreviated codes used to identify the environmental issues discussed in this chapter are listed below.

- LU—Land Use
- AES—Aesthetics
- TRA—Transportation
- AQ—Air Quality
- GHG—Greenhouse Gas Emissions
- NOI—Noise
- CUL—Cultural Resources
- GEO—Geology and Soils
- WQ—Hydrology and Water Quality
- HAZ—Hazardous Materials
- BIO—Biological Resources
- POP—Population and Housing
- PS—Public Services
- UT—Utilities and Service Systems

Mitigation Measures

Mitigation measures identified in this Draft EIR were developed during the analysis and are designed to reduce, minimize, or avoid potential environmental impacts associated with the Project. According to State CEQA Guidelines Section 15126.4:

> The discussion of mitigation measures shall distinguish between measures that are proposed by the project proponents to be included in the project and other measures proposed by the lead, responsible, or trustee agency or other persons who are not included, but the agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.

In this Draft EIR, mitigation measures are provided immediately following each potentially significant impact. The mitigation measures are numbered to correspond to the impacts they address. For example, Mitigation Measure CUL-2.1 refers to the first mitigation measure for Impact CUL-2 in the Cultural Resources section.

If the Project is approved by City Council, then a Mitigation Monitoring and Reporting Program (MMRP) must be adopted. Pursuant to CEQA Guidelines Section 15097, an MMRP is a mechanism used for the monitoring and reporting of revisions to the Project or conditions of approval that the public agency has required as mitigation measures to lessen or avoid a significant environmental effect. The City can conduct the reporting or monitoring, or it can delegate the responsibilities to another public agency or private entity that accepts the delegation. The MMRP for the Project will identify: the specific monitoring actions that shall be done, the various City departments or other entities that shall oversee the completion of the mitigation, and a timeline for implementation of the measures. The responsible departments shall ensure that due diligence is carried out during implementation of the measures. Execution of the MMRP would reduce the severity or eliminate the significant impacts identified in this EIR.

Environmental Baseline

In determining whether impacts are significant, an EIR ordinarily compares the potential impacts of the project with preproject environmental conditions. Sections 15125(a) and 15126.2(a) of the State CEQA Guidelines specify that the baseline normally consists of the physical conditions that exist at the time the Notice of Publication (NOP) is published or the time the environmental analysis begins.

The approach to the analysis of the Project is consistent with the State CEQA Guidelines. As discussed above, the Project site is currently comprised of two separate properties: the Commonwealth Site and the Jefferson Site. At the time the NOP was released (August 6, 2012), the existing buildings at the Commonwealth Site were vacant and have been vacant since 2011. These buildings, which total 217,396 square feet (sf), are designed for a traditional industrial use and could not be reoccupied without significant modification. The Project Sponsor proposes to demolish the existing development and construct a new corporate campus. Therefore, the baseline, and the point from which all impacts are measured for the Commonwealth Site, is as an unoccupied site with vacant buildings.

The existing building at the Jefferson Site is occupied and operational, with approximately 30 employees, at the time of the NOP release. This is considered the baseline for the Jefferson Site. This 20,462-sf building continues to be used for offices, storage, and light industrial uses, which would be eliminated as part of the Project.

Approach to Cumulative Impacts

In addition to the evaluation of project-specific impacts, CEQA also requires an evaluation of cumulative impacts. In accordance with CEQA, the discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. According to Section 15355 of the State CEQA Guidelines:

> "Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
>
> (b) 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.

Throughout this Draft EIR, cumulative impacts are denoted by a "C" (i.e., Impact C-NOI-1). An analysis of cumulative impacts follows the Project-specific impact evaluation and recommendation of mitigation measures in each section. An introductory statement defining the cumulative context that is being analyzed for respective sections (e.g., the City, the San Francisco Bay Area Air Basin) is included at the beginning of each cumulative impacts section. In some instances, a Project-related impact may be considered less than significant but would be considered potentially significant in combination with development of the surrounding area. Similarly, a Project-specific potentially significant impact may not result in a cumulatively considerable impact.

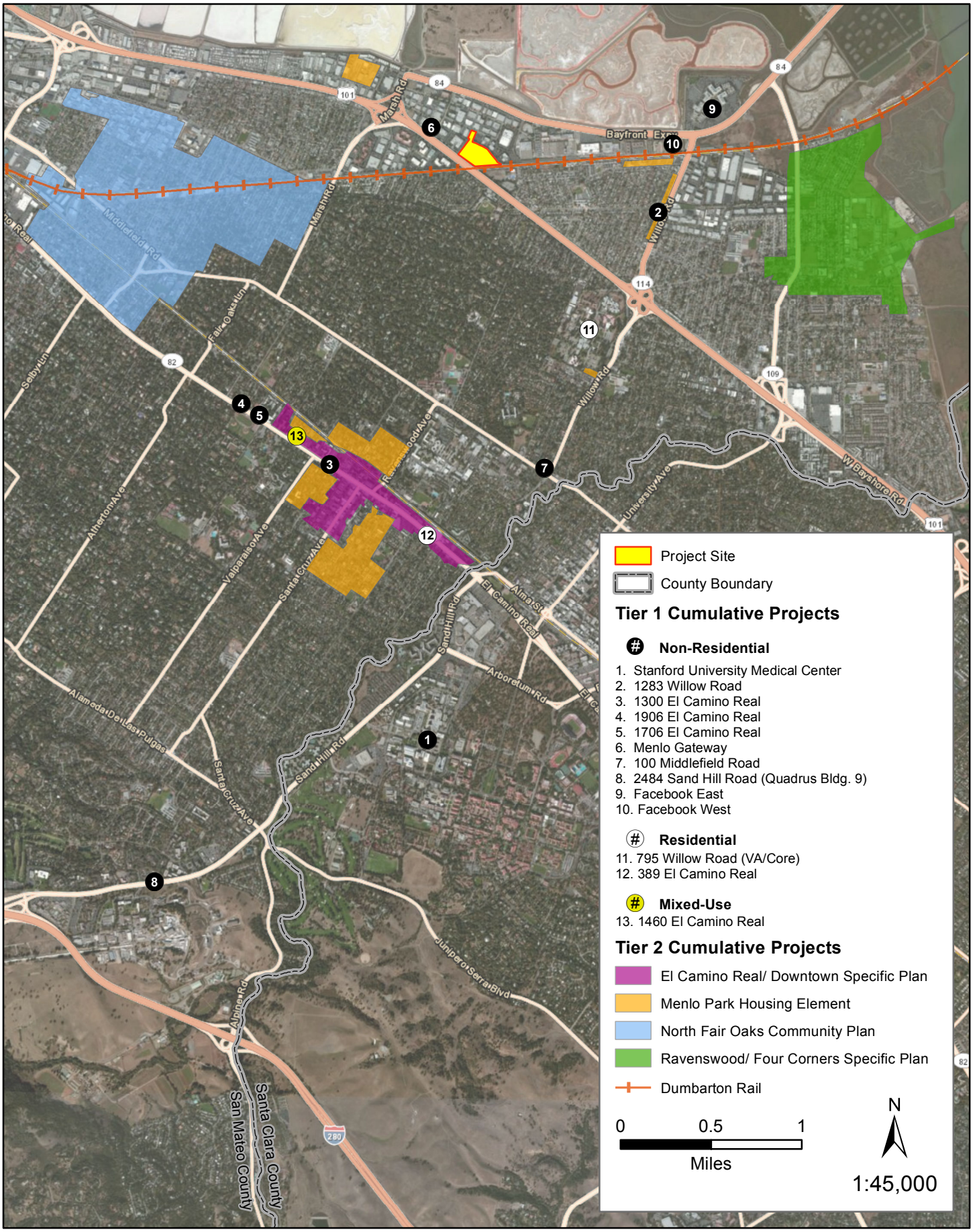
The closely related past, present, and reasonably foreseeable probable future projects considered in this Draft EIR consist of two categories, Tier 1 and Tier 2, as shown in Table 3.0-1 and Table 3.0-2, and depicted in Figure 3.0-1.

Tier 1 projects consist of reasonably foreseeable development projects identified by the City and generally within City limits (with the exception of the Stanford University Medical Center Project, which is located in the City of Palo Alto). Where appropriate, the cumulative effect of the Tier 1 projects is quantified and discussed in detail. For purposes of the quantitative cumulative analyses in the Transportation, Air Quality, and Noise sections, an ambient growth rate of 1 percent per year is applied in addition to the analysis of the Tier 1 cumulative projects. This percentage has been determined by City staff to reasonably represent regional growth in traffic.

Tier 2 encompasses a larger geographic area, not necessarily within the boundaries of the City, and includes projects that are in the early stages of planning or whose development could be considered somewhat speculative. The cumulative analysis in this Draft EIR qualitatively considers the Tier 2 projects to the extent feasible.

Impacts Requiring No Further Analysis

Section 15128 of the State CEQA Guidelines states, "An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." Implementation of the Project would not result in significant



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Source: Imagery, ESRI 2013; City of Menlo Park, ICF 2013

Figure 3.0-1
Cumulative Projects

environmental impacts on agricultural and forestry resources or mineral resources. Therefore, these issues are not discussed further in Chapter 3 of this Draft EIR and are briefly summarized below.

Agricultural and Forestry Resources

There are approximately 5,483 acres of farmland in San Mateo County. However, the Project site is not on or adjacent to any farmland and is considered "Urban and Built-Up Land."[1] Therefore, the Project would not convert or have the potential to convert existing farmland to a nonagricultural use. In addition, the Project site is not currently protected under the Williamson Act or zoned for agricultural uses.[2] All properties to be directly or indirectly impacted by the Project are currently zoned for office, research and development, and industrial uses. Therefore, the Project would result in no impact on agricultural resources.

There are currently about 45 ornamental and/or landscaping trees at the Project site; however, these are not considered to be forestry resources per the definitions of Public Resources Code Section 12220(g), timberland as defined by Public Resources Code Section 4526, or timberland zoned Timberland Production per Government Code Section 51104(g). Based on a review of maps and aerial photographs of the Project site, as well as site visits, the Project site is not on or in the immediate vicinity of forest lands. The surrounding area is characterized by light industrial and office uses and, therefore, implementation of the Project would have ***no impact*** on forest resources.

Mineral Resources

The Surface Mining and Reclamation Act of 1975 is the state legislation that protects mineral resource zones. Part of the purpose of the act is to classify mineral resources in the state and to transmit the information to local governments which regulate land use in each region of the state. Local governments are responsible for designating lands that contain regionally significant mineral resources in local general plans to assure resource conservation in areas of intensive competing land uses. The law has resulted in the preparation of Mineral Land Classification Maps delineating Mineral Resource Zones (MRZ) 1 through 4 for aggregate resources (sand, gravel, and stone).

The Project site is not delineated as a locally important mineral resource by the California Geological Survey (CGS) or on any County or City land use plan. The *San Mateo County General Plan* Mineral Resources Map does not specify that the Project site contains any significant mineral resources. However, according to this map, the Project site is approximately 0.3 mile south of an area delineated as Salines, which are salt evaporation ponds.[3] Nonetheless, construction and operational activities associated with the Project would have ***no impact*** on mineral resources.

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1 State Department of Conservation, Farmland Mapping and Monitoring Program. 2011. "San Mateo County Important Farmland 2010." October. Available: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/smt10.pdf.> Accessed: March 12, 2013.

2 State Department of Conservation, Division of Land Resource Protection. 2012. "San Mateo County Williamson Act FY 2006/2007." Available: <ftp://ftp.consrv.ca.gov/pub/dlrp/wa/sanmateo_06_07_WA.pdf.> Accessed: March 12, 2013.

3 San Mateo County Department of Environmental Management, Planning and Development Division. 1986. San Mateo County General Plan. Mineral Resources Map. Available: <http://www.co.sanmateo.ca.us/planning/genplan/index.html.> Accessed: March 12, 2013.

Table 3.0-1. Cumulative Projects—Tier 1

ID	Address	Type of Use	Size (net)	Unit	Status
		Office/Retail/Commercial/Etc.			
1	Stanford University Medical Center (300 Pasteur Drive, Palo Alto)[a]	Medical	1.3M	sf	Approved New Construction
2	1283 Willow Road (Police/City Service Center)	Office	3,800	sf	Approved New Construction
		Retail	5,096	sf	
3	1300 El Camino Real	Commercial	110,065	sf	Approved New Construction
4	1906 El Camino	Medical Office	9,825	sf	Complete, no tenant improvements
5	1706 El Camino	Medical Office	10,166	sf	Approved New Construction
6	100–155 Constitution Drive and 100–190 Independence Drive (Menlo Gateway)	Office/Health Club/Restaurant/ Hotel (includes 230 Rooms)	941,354	sf	Approved New Construction
7	100 Middlefield	Office	8,936	sf	Complete, no tenant improvements
8	2484 Sand Hill Road (Quadrus Bldg. 9)	Office	8,774	sf	Approved New Construction
9	1 Hacker Way (Facebook East)	Office	n/a[b]		Approved
10	312–313 Constitution Drive (Facebook West)	Office	433,700	sf	Approved New Construction
		Subtotal Non-Residential Uses	2,831,716	sf	
		Residential			
11	795 Willow Road (VA/Core)	Residential	60	du	Proposed Construction
12	389 El Camino	Residential	22	du	Approved New Construction
		Subtotal Residential Units	82	du	
		Mixed-Use			
13	1460 El Camino Real	Office/Residential	26,800/16	sf/du	Approved New Construction
		Subtotal Mixed-Use	26,800/16	sf/du	
		TOTAL RESIDENTIAL	98	du	
		TOTAL NON-RESIDENTIAL	2,858,516	sf	

Notes: square feet (sf); dwelling unit (du).

a. This project is included due to its adjacency to Menlo Park and its large-scale nature.

b. The buildings at 1 Hacker Way (formerly 1601 Willow Road) are existing and no new construction would occur. However, employees at the site would increase from approximately 3,600 to approximately 6,600 with a new trip cap of 15,000 trips per day and 2,600 trips during the two-hour peak periods.

Table 3.0-2. Cumulative Projects—Tier 2

Project	Type of Use	Size	Unit	Status	Location
El Camino Real/Downtown Specific Plan	Retail	91,800	sf	Approved	West Menlo/Downtown/El Camino Real
	Office	240,820	sf		
	Hotel	380	rooms		
	Residential	680	du		
Ravenswood/ Four Corners Specific Plan	Residential	835	du	Approved	City of East Palo Alto, University/Dumbarton/Ravenswood/Bay Road
	Office	1,268,500	sf		
	Retail	112,400	sf		
	R&D/Industrial	351,820	sf		
	Civic	61,000	sf		
	Parks/Trails	30	ac		
North Fair Oaks Community Plan	Residential (net new)	3,024	du	Approved	Redwood City to north, west, southwest, Atherton to the east, Menlo Park to the northeast
	Retail (net new)	180,000	sf		
	Office (net new)	155,000	sf		
	R&D/Industrial (net new)	210,000	sf		
	Institutional (net new)	110,000	sf		
	Parks/Trails (net new)	4	ac		
Menlo Park Housing Element	Residential	638[a]	du	Proposed	The entire City of Menlo Park
Dumbarton Rail Corridor Project	Rail Corridor from East Bay to Peninsula	20.5	mi	Proposed	Rail corridor from the East Bay to the Peninsula. Potential stations on the Peninsula include: East Palo Alto/Menlo Park, Downtown Menlo Park, North Fair Oaks, and Redwood City.
	Total Residential	5,177	du		
	Total Nonresidential	2,781,340	sf		
	Total Hotel	380	rooms		
	Parks/Trails	34	ac		
	Rail Corridor	20.5	mi		

Notes: square feet (sf); dwelling unit (du); acre (ac); miles (mi).

a. As presented in the Housing Element, the total number of housing units projected by 2035 is 1,318. This table reflects a small number of units (638) since the units included in the El Camino Real/Downtown Specific Plan (680) are included in the Housing Element projections.

3.1 Land Use and Planning

This section describes the existing and proposed land uses within and around the Commonwealth Corporate Center Project (Project) site and evaluates the potential for land use incompatibilities to occur as a result of development of the Project. New development adjacent to existing land uses, particularly if it is much more intensive or involves operations or activities that have effects that extend beyond the property, may create land use incompatibilities. This section also addresses the consistency of the Project with applicable land use goals and policies from the City of Menlo Park (City) General Plan (adopted in 1994 and amended through 2013),[1] the City Municipal Code, and Title 16 Zoning Ordinance (current through Ordinance 979, effective July 2012), which were specifically adopted to mitigate, or avoid, significant environmental effects that can result from development. The General Plan and Municipal Code consistency analysis is provided for environmental review purposes only. The City Council will ultimately determine the Project's consistency with the goals and policies contained in the General Plan and other City requirements and planning documents.

Land use and planning analyses under the California Environmental Quality Act (CEQA) generally consider the compatibility of a project with neighboring areas, change to or displacement of existing uses, and consistency of a project with relevant local land use policies that have been adopted with the intent to mitigate or avoid an environmental effect. With respect to land use conflicts or compatibility issues, the magnitude of these impacts depends on how a project affects the existing development pattern, development intensity, and local air quality, noise, and visual setting in the immediate area. Specific environmental-related issues (e.g., visual, transportation, air quality, noise) and their potential significance are discussed in detail in the associated topical resource sections of this Draft Environmental Impact Report (EIR) (e.g., Section 3.2, *Aesthetics*; Section 3.3, *Transportation and Traffic*; Section 3.4, *Air Quality*; and Section 3.6, *Noise*).

No comments pertaining to land use issues were received in response to the Notice of Preparation (Appendix 1).

Existing Conditions

Regulatory Setting

City of Menlo Park General Plan

The General Plan guides the physical development and character of the City. The General Plan sets forth City policies regarding the types and locations for future land uses and activities and is used by the City Council and Planning Commission in considering planning and land use decisions. 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."

General Plan – Land Use Designations. The Land Use Diagram in the General Plan depicts the land use pattern for future development in the City. The boundaries of the land use designations on the Land Use

[1] City of Menlo Park. 2013. City of Menlo Park General Plan. Last revised and adopted on May 21, 2013. Available: <http://www.menlopark.org/departments/pln/gp/> Accessed June 4, 2013.

Diagram are depicted generally. The land use designations are meant to outline building intensity and population density for the various land uses.

The Project site is designated as Limited Industry in the General Plan. The Limited Industry designation allows for light manufacturing and assembly, distribution of manufactured products, research and development facilities, industrial supply, incidental warehousing, offices, limited retail sales (such as sales to serve businesses in the area), public and quasi-public uses, and similar and compatible uses. The maximum floor area ratio (FAR) allowed should be in the range of 0.45 for office uses to 0.55 for related office uses (such as amenities). Under the Limited Industry designation, hotel and other commercial uses are not allowed.

General Plan – Goals and Policies. The City adopted amendments to the General Plan in June 2013 associated with the Housing Element Update. Revisions include amendments to the goals and policies in the Housing Element as well as the Land Use and Circulation Element, Open Space and Conservation Element, Noise Element, and Safety Element. Applicable land use goals, policies, and programs from these elements are discussed under Impact LU-1, below. In addition, applicable policies are outlined in the relevant sections of this Draft EIR.

City of Menlo Park Municipal Code (Title 16, Zoning Ordinance)

The Zoning Ordinance implements the land uses designated in the General Plan. Title 16 of the Municipal Code was adopted as a precise zoning plan for the City and is designed to

> . . . preserve and extend the charm and beauty inherent to the residential character of the city; to regulate and limit the density of population; encourage the most appropriate use of land; to conserve land and stabilize the value of property; to provide adequate open space for light, air, and fire protection; to lessen traffic congestion; to facilitate the provision of community facilities; to encourage tree and shrub planting; to encourage building construction of pleasing design; and to provide the economic and social advantages of a planned community.

The Zoning Ordinance defines the City's zoning districts and identifies the land uses permitted and conditionally permitted in each. The ordinance also establishes development regulations such as building height, land cover by buildings, and floor area restrictions.

Project site is currently zoned M-2 (General Industrial). The M-2 District permits warehousing, manufacturing, printing, assembling, and office uses. Conditional uses allowed in the M-2 District include cafés, convenience stores, personal services (such as barbers, beauty, launderette, dry cleaning, and shoe repair), and daycare facilities, which are all intended to serve the employees in the immediate area. Development regulations for the M-2 district include a maximum land cover by structures of 50 percent of the site and a maximum of 0.45 FAR for office buildings and 0.55 FAR for general industrial uses. In addition, the maximum building height should not exceed 35 feet; however, additional height may be permitted with a conditional development permit.

City/County Association of Governments Congestion Management Program

The City/County Association of Governments (C/CAG) has prepared a Congestion Management Program (CMP) to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide solutions. Three of the intersections included in the transportation analysis for the Project are CMP-designated intersections and monitored by C/CAG: Bayfront Expressway/Marsh Road, Bayfront Expressway/University Avenue, and Bayfront

Expressway/Willow Road.[2] Project consistency with the CMP is discussed further in Section 3.3, *Transportation and Traffic*.

Environmental Setting

Adjacent Uses

The City encompasses an area of about 19 square miles, including nearly 12 square miles of the Bay and wetlands. The approximately seven-square-mile urbanized portion of the City is virtually built out. The Project site is located within a large office park and industrial area that includes businesses involved in the science and technology sector (including biotech, research and development [R&D], and high-tech firms), law firms, business services, warehouses for storage, fitness centers, and wholesale retail. This area is in the process of transitioning from 1960s and 1970s industrial and warehousing uses to corporate campuses and office uses. Many of the older buildings in the area consist mainly of large industrial warehouses approximately one to two stories in height with surface parking lots and street trees. Several newer office buildings are scattered throughout the area, including to the west of the Project site along Commonwealth Drive and to the northeast of the Project site along Jefferson Drive. This area is primarily designated as Limited Industry under the General Plan and zoned M-2, General Industrial District. However, nine properties that are proposed to be developed under the Menlo Gateway Project along Independence Drive adjacent to US 101 and along Constitution Drive adjacent to Bayfront Expressway, and are zoned M-3(X), Commercial Business Park. The Menlo Gateway Project includes buildings that will be seven and eight stories tall.

Within the Project vicinity/area (within a 0.5-mile radius of the Project site), land uses include industrially zoned areas with warehouses and office buildings generally not exceeding three stories in height to the north, east, and west of the Project site. This area includes an industrial park and office complexes to the north of the Dumbarton Rail Corridor and single-family residential units to the south. Further to the north is Bayfront Expressway, the San Francisco Bay (Bay), salt ponds, and Bedwell–Bayfront Park. To the east, south across the Dumbarton Rail Corridor, is the Belle Haven neighborhood with residential, commercial, school, and park uses. US 101 is located to the south of the Project site with the Suburban Park–Lorelei Manor–Flood Park Triangle neighborhood farther to the south.

The Belle Haven neighborhood, to the southeast of the Project site, generally consists of one- to two-story single-family units, with the Belle Haven Elementary School, parks, as well as low-intensity commercial retail areas adjacent to Willow Road. The majority of the Belle Haven neighborhood is zoned as R-1(U), Single Family Urban Residential District, with a General Plan land use designation of Low Density Residential. However, along US 101 to the north are areas that are zoned R-2 (Low Density Apartment District) and R-3 (Apartment District). Along the southern border of Dumbarton Rail Corridor and along US 101, zoning includes R-3, M-1 (Light Industrial District), and C-2(S) (Neighborhood Commercial District, Special). Similarly, along Willow Road, zoning includes C-2(S), R-3, R-4S (High Density, Special), and C-2-B (Neighborhood Commercial District, Restrictive). Other zoning in the Belle Haven neighborhood includes PF (Public Facilities) for Belle Haven Elementary School and Joseph B. Kelly Park (Kelly Park) and OSC (Open Space and Conservation) for Hamilton Park. Kelly Park is directly adjacent to the Project site (separated by the Dumbarton Rail Corridor), and features a large

[2] City/County Association of Governments of San Mateo County. 2011. "Final San Mateo County Congestion Management Program 2011." November 2011. Available: <http://www.ccag.ca.gov/pdf/Studies/Final%202011%20CMP_Nov11.pdf> Accessed April 4, 2013.

soccer field, tennis courts, an exercise track, a swimming pool, a private school, and a recreation center. Surrounding land uses and zoning are depicted in Figure 3.1-1.

The Dumbarton Rail Corridor, which is to the east and south of the Project site, is a rail line that crosses the northern-most portion of the City from east to west. The Dumbarton Rail Corridor separates the Belle Haven neighborhood from the Project site to the west. This segment is part of a former Union Pacific line that once crossed the Bay. This railway currently consists of a single track; however, the rail bridge that served as the connection for this line is no longer functional. At this time, the railroad line is no longer in use.[3]

Project Site

As described in Chapter 2, *Project Description*, for the purposes of this analysis, the Project site refers to both the Commonwealth Site and the Jefferson Site. These two properties collectively comprise 13.27 acres. The Project site is in the northeastern portion of the City, north of US 101. The Project site is zoned M-2 (General Industrial) and is located within the City's Limited Industry land use designation under the General Plan. Under the current land use designation, the Project site could be built out to approximately 260,313 square feet (sf), with a FAR of 0.45 and a height of 35 feet, as identified in the City's Zoning Ordinance.[4]

The 12.1-acre Commonwealth Site consists of Assessor's Parcel Number (APN) 055-243-240 that is 12.1 acres in size and accessible via the access point at 151 Commonwealth Drive. The Commonwealth Site was formerly occupied by Diageo North America and was used as a spirits distilling, bottling, and distribution plant. The site currently consists of three single-story buildings, a tank farm, processing equipment areas, a 500,000-gallon fire suppression water tank, storage areas, and associated parking and landscaped areas. Facility operations were discontinued in 2011, and the Commonwealth Site has remained unoccupied since.

The 1.17-acre Jefferson Site consists of one parcel, APN 055-243-050, which is 1.17 acres in size. Access is provided at two driveways in the northern portion of the site along Jefferson Drive. This single-story, 20,462-sf building is occupied and is used as warehouses and offices for storage and light industrial uses.

Environmental Impacts

This section describes the impact analysis relating to land use and planning for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Physically divide an established community.

[3] City of Menlo Park. 2013. City of Menlo Park General Plan – Open Space, Conservation, Noise, and Safety Elements. Adopted May 21, 2013.

[4] City of Menlo Park. 2013. Menlo Park Zoning Ordinance. Adopted July 11, 2013.

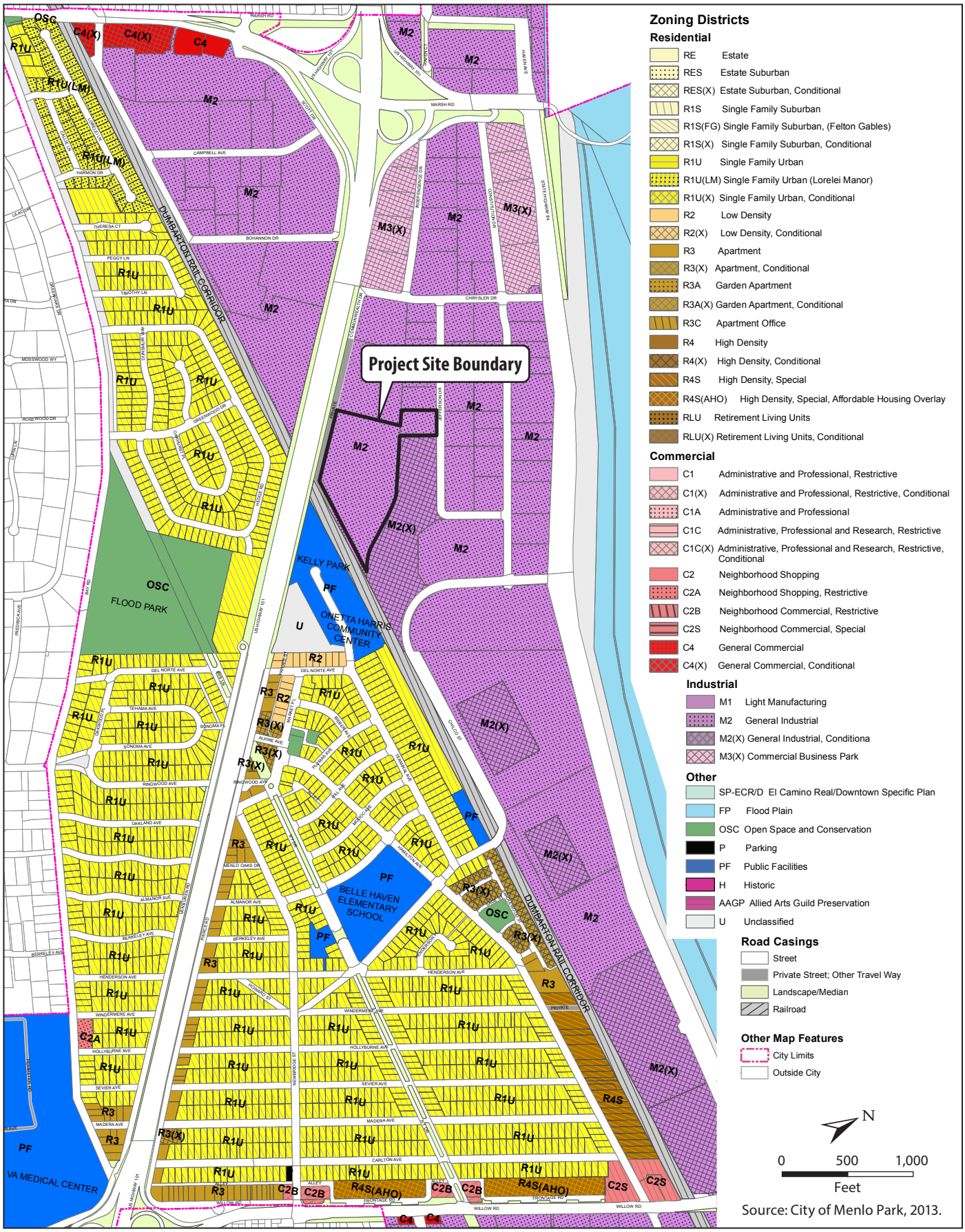

Figure 3.1-1
Zoning Map and General Plan Land Use Diagram

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a 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.

Methods for Analysis

CEQA requires that an EIR consider whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan. The former determination (that is intended for consideration in a CEQA document) is based on, and limited to, a review and analysis of environmental effects. The latter determination, by comparison, is made by the decision-making body of the jurisdiction and is based on the jurisdiction's broad discretion to assess whether a proposed project would conform to the policies and objectives of its general plan/specific plan as a whole. In addition, the broader general plan consistency determination takes into account all evidence in the record concerning the project characteristics, its desirability, as well as its economic, social, and other non-environmental effects.

Conflicts of a project with land use policies do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered environmental impacts only when they would result in direct environmental effects. Decision-makers (City Council, in this case) will need to consider the consistency of the proposed development with applicable plans and policies that do not directly relate to physical environmental issues when determining whether to approve or deny the Project.

Impacts Not Evaluated in Detail

Division of an Established Community. The Project would redevelop a site that is already developed and would not change the site boundaries. The Project site is located to the north of the Dumbarton Rail Corridor in an area that is characterized by light-industrial and office uses. The Project would include the construction of two new office buildings with surface parking and landscaping. Although this would add new development to the area, the development would be located in an area of similar uses and be physically separated by the Dumbarton Rail Corridor from the Belle Haven neighborhood. The Project would not divide the established community, resulting in ***no impact***; therefore, this impact is not evaluated further.

Impacts on an Adopted Habitat Conservation Plan or Natural Community Conservation Plan. The Project site is not a part of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The Project site is within 0.3 miles of the salt marshes to the north that are a part of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge). The Refuge is actively pursuing expansion and the protection of the habitats and associated plant and wildlife species contained therein. The Refuge is also closely involved with the South Bay Salt Pond Restoration Project that has active restoration sites near the Project site. However, implementation of the Project would not involve any construction outside the currently developed boundaries of the Project site; therefore, none of the construction activities would interfere with the management and/or expansion of the Refuge or with the restoration of the salt ponds. The Project would result in ***no impact*** on an adopted habitat conservation plan, natural community conservation

plan, or other approved local, regional, or state habitat conservation plan; therefore, this impact is not evaluated further.

Impacts and Mitigation Measures

Impact LU-1: Conflicts with Adopted Land Use Plans and Policies. The Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (LTS)

Consistency with the General Plan

Land Use Designations. The Project is required to be consistent with the land use designations described in the General Plan. As described above, the Project site has a land use designation of Limited Industry, which allows for light manufacturing and assembly, distribution of manufactured products, research and development facilities, industrial supply, incidental warehousing, offices, limited retail sales (such as sales to serve businesses in the area), public and quasi-public uses, and similar and compatible uses. The maximum FAR shall be in the range of 0.45 to 0.55, depending on the land use. The Project would include office or R&D uses with ancillary uses such as cafés and surface parking. These uses are permitted under the Limited Industry designation. As such, the Project would not conflict with the existing land use designation, resulting in a ***less-than-significant*** impact.

Goals and Policies. The determination of whether or not the Project would conflict with applicable policies is based on either the Project Description (Chapter 2) or, for policies adopted for the purpose of mitigating an environmental impact, on the environmental analysis provided in the applicable resource sections of this Draft EIR. The following describes the general consistency with each of the relevant General Plan elements.

Land Use Element. This element addresses the future physical development to maintain the City's character as a residential community that includes a broad range of residential, business, and employment opportunities. The Project is consistent with the General Plan's vision for the City by developing office and employment uses in an area separated from the existing residential neighborhoods.

Policy I-E-4 requires new office buildings to include adequate off-street parking, support alternatives to auto commuting, and protect adjacent residential uses. The Project would provide approximately 867 parking spaces within an onsite surface parking lot consistent with the requirements in the Zoning Ordinance and would not result in the demand for parking on the surrounding public streets. In addition, the Project includes a Transportation Demand Management (TDM) Program that would provide incentives for employees to use alternate modes of transportation, including shuttles, vanpools, subsidized public transit, and carpooling.

Landscaping, pedestrian facilities, and sustainable features are addressed in Policies I-G-10, I-G-11, and Policies I-H-1 through I-H-12. As described in Chapter 2, *Project Description*, the Project would include bamboo clusters, a variety of trees, wall water features, pedestrian paving, a sunken lawn with seat walls, lighting, tree grates, curved and raised seatwalls, lounging steps, and café tables and chairs. The portion of the Project site adjacent to Jefferson Drive would include a lawn, active recreation space, trellises, planting areas, picnic tables, fencing, and other vegetation. Up to eight stormwater treatment areas would be located throughout the Project site in order to limit stormwater runoff. These

biotreatment areas would be open, level areas vegetated to allow runoff to be distributed evenly across the area.

The Project would undergo review by the Planning Commission and City Council regarding architectural control to ensure that building design is not detrimental to the surrounding area and would be compatible with the character of adjacent residential neighborhoods.

Circulation Element. This element seeks to provide the policy framework for the regulation and development of the City's circulation system. This element balances the need to provide the safe and efficient movement of people and goods through the City while preserving its character. The Project would not alter the alignment of any roads. However, the increase in onsite employment could result in additional traffic in the area. In an effort to decrease traffic congestion during peak traffic times, the Sobrato Organization (Project Sponsor) would implement a TDM Program. Nonetheless, the Project would still add traffic to local roadways, as discussed in Section 3.3, *Transportation and Traffic*. Goals II-D and II-E pertain to bicycle and pedestrian facilities. The Project would include onsite pedestrian and bicycle linkages between the internal boulevard and the proposed buildings. In addition, bicycle lockers would be provided within the surface parking lot to the north of the buildings, and bicycle racks would be positioned near the main entries.

Open Space and Conservation Element. This element seeks to ensure the comprehensive preservation and management of open space and natural resources in and around the City. The Project site currently does not contain open spaces, natural resources, or historic resources. As such, the Project would not affect these resources. However, consistent with Goal OSC2, the Project would provide an onsite urban open space area for the proposed employees. In addition, the new buildings would promote environmentally sustainable building practices and climate action planning, as outlined in Goal OSC4. The Project would promote environmentally sustainable building practices that would attempt to conserve water and energy, prevent stormwater pollution, reduce landfilled waste, reduce fossil fuel consumption, and promote renewable energy pursuant to Policies OSC4.2 through OCS4.8.

Noise Element. The purpose of this element is to identify sources of noise generation in the community and to establish goals, policies, and actions to minimize problems from intrusive sound. The Noise Element also aims to ensure that new development does not generate unacceptable noise levels. The Project would temporarily generate noise during the 15-month construction period by requiring the use of heavy equipment. However, no sensitive receptors (such as schools or residents) would be affected by construction noise. Mitigation Measure NOI-1.1, which would implement noise control measures, would decrease construction noise impacts to less than significant. This mitigation measure would be in compliance with local and regional noise standards, consistent with Policy N1.1. However, the Project would have the potential to result in significant ground-borne vibration that would disturb nearby businesses. Mitigation Measures NOI-4.1 and NOI-4.2 would notify property owners of construction activities and would implement Best Management Practices. These mitigation measures would be consistent Policies N1.4 and N1.7, which require the protection of nearby uses from vibration impacts. Regardless, the vibration impacts during construction would be significant and unavoidable. Operational noise that could be generated by the Project includes noise from stationary mechanical equipment, parking lot activities, truck loading activities, and increases in traffic. However, these noise impacts would be less than significant, consistent with the goals and policies of the Noise Element.

Safety Element. This element provides information about the risks in the City due to natural and manmade hazards and contains policies designed to protect the community from earthquakes, floods, fires, toxic waste, and other hazards. The buildings constructed under the Project would be required to

conform to the standards set forth in the California Building Code (CBC) and amendments, as stated in the City's Municipal Code (Section 12.06) and Policy S1.7. In addition, the Project would implement the recommendations of the Geotechnical Investigation (Policy S1.13), the Phase I Environmental Site Assessment (Policy S1.18), and the Stormwater Report (Policy S1.27) prepared for the Project. Geotechnical (Section 3.8), hydrologic (Section 3.9), and hazardous (Section 3.10) impacts, which could possibly affect human health and safety, are discussed in detail within this document and would not result in significant impacts. Pursuant to Policy S1.10, the Project would be subject to safety review and would require hazard mitigation, crime prevention, fire prevention, and adequate access for emergency vehicles.

General Consistency with Plans and Policies. The Project would be consistent with the goals and policies contained in the General Plan. The ultimate determinations of General Plan consistency can and will be made by City Council. In addition, the ultimate finding of General Plan consistency does not require that a project be entirely consistent with each individual General Plan policy. A proposed project can be generally consistent with a general plan even though the project may not promote every applicable goal and policy. Assuming the approval, the Project would generally be consistent with applicable goals, policies, and actions, resulting in a ***less-than-significant*** impact.

Compliance with the Zoning Ordinance

The Project site is currently zoned M-2, which permits warehousing, manufacturing, printing, assembling, and office uses. The Project would require rezoning to M-2(X) in order to allow a maximum building height in excess of 35 feet. Table 3.1-1, below, summarizes the allowed development under current M-2 zoning and the development proposed for the Project site.

Table 3.1-1. Allowed, and Proposed Development at the Project Site

	Allowed Development (M-2 Zoning)	Proposed Development (M-2(X) Zoning)
Floor Area Ratio (FAR)	0.45	0.45
Total Square Feet	260,313	259,920
Site Coverage	50%	11.9%[a]
Max. Building Heights	35'	61'4"[b]

Sources: City of Menlo Park, 2012; Arc Tech, 2012.

Notes:

a. Building footprints would occupy 11.9 percent of the site (69,070 sf). In addition, landscaping would constitute 25.6 percent of the site and paving would make up 62.5 percent of the site.

b. According to Section 16.04.330 of the Municipal Code, height of a structure is defined as "the vertical distance from the average level of the highest and lowest points of the natural grade to the topmost point of the structure, excluding elevator equipment rooms, ventilating and air conditioning equipment and chimneys." As such, the screened mechanical areas are excluded from the height calculations. Including roof screen, elevator shaft, and stairwell, the buildings would be approximately 72'4."

Floor Area Ratio. The M-2 District currently allows a FAR of between 0.45 and 0.55, depending on the land use. However, for office buildings, the FAR must not exceed 0.45. The office buildings proposed for the Project site would be built in accordance of the allowable FAR. Therefore, the Project would not conflict with the existing FAR requirements outlined in the Zoning Ordinance or, as discussed above, the

General Plan designation. The Project would have ***less-than-significant*** impacts relating to FAR requirements.

Gross Floor Area and Site Coverage. Per the Zoning Ordinance, and based on the size of the Project site, buildings can occupy up to 260,313 square feet of gross floor area. The proposed Project would include 259,920 sf for office uses and associated amenities and, therefore, would be within the allowed floor area. The proposed buildings would occupy 11.9 percent of the Project site. In addition, open space and landscaping would constitute 25.6 percent of the site and paving would make up 62.5 percent of the site. As such, the Project would be consistent with the gross floor area and site coverage requirements and ***less-than-significant*** impacts would occur.

Building Heights. The M-2 zone has a height limit of 35 feet, which does not include the screened mechanical areas on rooftops. The two proposed buildings would be four stories in height, with the Project Sponsor proposing an overall height limit of 61.3 feet for the entire Project site. This increase in the height limit from 35 feet to 61.3 feet would require rezoning the site to M-2(X). In addition, a Conditional Development Permit (CDP) would be required to authorize the increase in height and deviation from standard development regulations in the M-2 zone. The proposed new zoning and CDP would allow the Project to be consistent with the Zoning Ordinance, resulting in ***less-than-significant*** impacts.

Consistency with the C/CAG Congestion Management Plan

As shown in Table 3.3-12 (Near Term 2015 Plus Project Conditions Routes of Regional Significance) in Section 3.3, *Transportation and Traffic*, several Routes of Regional Significance under the CMP would be affected by the Project. The Project would implement Mitigation Measure TRA-3.1, which would make improvements to the Routes of Regional Significance. A typical mitigation measure would seek to widen the road to add travel lanes and capacity. However, impacts on Routes of Regional Significance would remain significant and unavoidable because these roadways are not under the jurisdiction of the City, and there are currently right-of-way constraints. In addition, freeway improvement projects, which add travel lanes, are planned and funded on a regional scale and would be too costly for a single project to be expected to fund. Regardless, the Project would be generally consistent with the CMP, resulting in ***less-than-significant*** impacts. The Project's impacts are considered transportation-related impacts and are fully evaluated in the Section 3.3, *Transportation and Traffic*.

Cumulative Impacts

Because land use policies are regional in scope, the geographic context for the cumulative impacts associated with land use issues is broader than the City and would include regional development under the jurisdiction of the Association of Bay Area Governments (ABAG). Past, present, and future cumulative development within this geographic context assumes full buildout of the General Plan of the nine ABAG counties, as well as development envisioned in the Land Use Element of the City's General Plan. Cumulative impacts are only addressed for those thresholds that have a Project-related impact, whether it is less than significant, significant, or significant and unavoidable. If the Project results in no impact under a particular threshold, it is not considered to contribute to any cumulative impact, and no analysis is required. This cumulative analysis examines the effects of the Project in the relevant geographic area, in combination with other current projects, probable future projects, and projected future growth.

Impact C-LU-1: Cumulative Land Use Impacts. The Project, in combination with other foreseeable development in the nine-county ABAG region, would not be inconsistent with applicable land use plans, policies, and regulations. (LTS)

Tier 1 and Tier 2

As noted, CEQA requires that an EIR consider whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan. Regional growth in general is reviewed for consistency with adopted land use plans and policies by the individual cities and counties in the geographic context in accordance with the requirements of CEQA, which require findings of plan and policy consistency prior to approval of entitlements for development. This process applies to all cumulative projects identified in Tables 3.0-1 and 3.0-2. Analysis of project consistency with land use policies or regulations adopted for the purpose of avoiding or mitigating an environmental impact is similarly evaluated for each individual project and would be addressed in the analysis for each specific resource area. For example, if an individual project resulted in the division of an established community, this would be addressed in the land use section of that project's EIR or other environmental document. The environmental evaluation for the project would also include an analysis of the division of an established community on a cumulative basis.

Because consistency with land use plans and policies is inherently a project-specific issue, and each jurisdiction would decide on project consistency at the project level, there would be no cumulative impact as a result of cumulative development in the ABAG region. As discussed above, implementation of the Project at the Project site would be generally consistent with the General Plan, Municipal Code, and the C/CAG plans. Therefore, the Project's cumulative impact would be ***less than significant***.

3.2 Aesthetics

This section describes the existing aesthetic resources and visual characteristics of the Project site and its immediate vicinity along with existing plans and policies that are relevant to visual resource issues within the City of Menlo Park (City). This section also evaluates the effect on existing visual resources associated with implementation of the Commonwealth Corporate Center Project (Project). Potential impacts on aesthetic and visual resources due to implementation of the Project are evaluated based on a review of photographs, visual simulations, site reconnaissance, and Project data. The specific impacts examined in this section pertain to the Project's potential to change the visual quality and character of the Project area and to create new sources of light and glare.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified pertain to building heights and landscaping.

Existing Conditions

Regulatory Setting

City of Menlo Park General Plan. The General Plan guides development and use of land within the City. Several goals and policies of the General Plan apply broadly to aesthetics across the City. The following policy from the Land Use Element of the General Plan pertain to the Project.

> *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.

The following policies from the Open Space and Conservation Element of the City's General Plan pertain to the Project.

> *OSC1.12:* Landscaping and Plazas. Include landscaping and plazas on public and private lands, and well-design pedestrian and bicycle facilities in areas of intensive non-vehicular activity. Require landscaping for shade, surface runoff, or to obscure parked cars in extensive parking areas.
>
> *OCS1.13*: Yard and Open Space Requirements in New Development. Ensure that required yard and open spaces are provided for as part of new multi-family residential, mixed-use, commercial, and industrial development.
>
> *OCS1.15*: Heritage Trees. Protect Heritage Trees, including during construction activities through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code).

Menlo Park Municipal Code, Chapter 13.24, Heritage Trees. Chapter 13.24 protects the health and maintenance of Heritage Trees, which are trees or groups of trees of historical significance, special character, or community benefit. Heritage Trees include oak trees native to California (Genus *Quercus*) that have trunks of 31.4 inches or greater circumference and all trees other than oaks that have a trunk with a circumference of 47.1 inches or more, measured 54 inches above natural grade.

Menlo Park Municipal Code, Chapter 16.64, Fences, Walls, Trees, and Hedges. The Zoning Ordinance, Chapter 16.64, includes standards for fences in nonresidential and residential areas. In

nonresidential areas, fences, walls, hedges, and similar structures located between the building and front lot line are required to obtain approval by the Community Development Director. The following features must be considered when obtaining approval: structural stability; aesthetics; general health, safety, and welfare of the community; and clear lines of sight for vehicular and pedestrian traffic or other safety factors.

Design Guidelines for Signs. The Design Guidelines for Signs[1] provides regulations for the design of signs in residential and nonresidential areas. The stated intent of the guidelines is to

> . . . encourage signage that helps maintain the positive image of the area enjoyed by the residents and businesses of the City. Every Menlo Park business is encouraged to post an attractive sign stating the name of the business. The sign should be at a scale appropriate to the pedestrian and vehicular streetscape and the nature of the business.

All new and modified signs require approval by the Director of Community Development or his/her designee. At this time, no plans for signage have been submitted to the City.

Architectural Control. Per Section 16.68.020 of the Municipal Code, any proposal for a new structure, addition to an existing structure, or change to the exterior of a structure that requires a building permit (with the exception of single-family dwellings, duplexes, and accessory buildings) also requires that the Planning Commission and, for this Project, the City Council, conduct architectural control review with regard to the following findings.

1. That the general appearance of the structures is in keeping with character of the neighborhood.
2. That the development will not be detrimental to the harmonious and orderly growth of the City.
3. That the development will not impair the desirability of investment or occupation in the neighborhood.
4. That the development provides adequate parking as required in all applicable City ordinances and has made adequate provisions for access to such parking.

Environmental Setting

Regional Context

The City of Menlo Park is a 19-square-mile municipality situated approximately 30 miles south of San Francisco and about 20 miles north of San Jose on the San Francisco Peninsula (Peninsula). Menlo Park is one of over a dozen cities located on the flatter portions of the western and southern margins of San Francisco Bay (Bay). The municipalities of Atherton and Redwood City border Menlo Park to the north, and Palo Alto and East Palo Alto border Menlo Park to the south.

Urban development within the region is largely concentrated between the Bay and the Interstate 280 (I-280) corridor. In general, the Peninsula is developed with low-density uses within distinct neighborhoods that include commercial, retail, and residential buildings. Larger-scale development, such as office parks and industrial buildings, tend to be located between the Bay and US 101. Some high-rise office, apartment, and hospital buildings are located between US 101 and I-280; however, these buildings are mainly concentrated along the US 101 and El Camino Real corridors.

[1] City of Menlo Park Community Development Department, Planning Division. 2008. "Design Guidelines for Signs." August. Available: <http://www.menlopark.org/departments/pln/signdesgnguide.pdf.> Accessed: May 7, 2013.

The Bay and its natural features are key visual components in the eastern and northern portions of the City. The principal topographic feature visible from the City is the Santa Cruz Mountain Range, which runs the length of the Peninsula and forms a barrier between the Pacific Ocean and the Bay. The mountain range is visible from adjacent cities and the majority of Menlo Park, especially to the north and east of US 101. The portion of the mountain range visible from Menlo Park and the adjacent cities is Skyline Ridge, rising over 2,400 feet in height and located approximately 7 miles southwest of the Project site.

Project Vicinity

The mix of developed uses, including industrial and office uses, in the immediate Project vicinity influences the visual and urban design character of the Project site. The Project site is part of an urbanized, largely built-out, portion of the City characterized by free-standing buildings. With recent construction of office buildings and the approval of the Menlo Gateway Project, this area is transitioning from low-scale manufacturing, industrial, and warehousing buildings to larger-scale corporate and office campuses. The Menlo Gateway Project, located a quarter-mile north along US 101, will include seven and eight story office buildings and a hotel. Construction is expected to begin on this project in late 2015.

The Project vicinity is currently characterized by one- to two-story, mostly tilt-up construction with several two-to three-story newer office buildings adjacent to the Project site along Commonwealth Drive and Jefferson Drive. These newer buildings are surrounded by manicured landscaped setbacks, tree-lined streets, and surface parking lots. The older industrial uses are often located on large parcels of land with low-rise, boxy buildings that have limited windows and no decorative façades. The buildings are surrounded by paved parking lots and sparse landscaping. Overhead utility lines are visible in most areas, and sidewalks are typical; however, there are no designated bicycle lanes or pedestrian trails. No scenic resources, such as rock outcroppings, cliffs, or knolls are present in the Project vicinity, although mature trees are present throughout the area.

The Project vicinity is relatively flat with limited long-range views, in part due to the prevalence of existing buildings that block views of the surroundings. In addition, mature trees and vegetation provide a visual separation and screening between existing buildings, the Belle Haven neighborhood to the east, and US 101 and the Suburban Park-Lorelei Manor-Flood Park Triangle neighborhood to the south. Visual resources to the north, such as the San Francisco Bay, the hilly open space of Bedwell-Bayfront Park, salt marshes, and the Dumbarton Bridge, are not visible from the majority of the Project vicinity; these resources are only visible from areas immediately adjacent to Bayfront Expressway.

The Belle Haven neighborhood, to the south of the decommissioned Dumbarton Rail Corridor and east of the Project site, generally consists of one- to two-story houses on medium-sized lots, with ample street setbacks, landscaped front yards, mature street trees, and well-maintained sidewalks. The neighborhood also features open space areas, parks, and a small commercial retail area adjacent to Willow Road/State Route (SR) 114.

Project Site

As described in Chapter 2, *Project Description*, the Commonwealth Site comprises approximately 13.27 acres. The Project site is immediately bordered by Jefferson Drive to the north; industrial uses and office parks to the north, east, and west; the Dumbarton Rail Corridor to the southeast; and US 101 to the south.

Commonwealth Site. The Commonwealth Site is currently accessible by a gated entrance on Commonwealth Drive. The 12.1-acre Commonwealth Site is bound by office parks to the north and west, the Jefferson Site to the north, and US 101 to the south. In addition, the site is directly adjacent to the southeast by the Dumbarton Rail Corridor, with Joseph P. Kelly Park (Kelly Park) further to the east. The site is enclosed by a chain-link fence topped with barbed wire and dense landscaping along its north, south, and west perimeter. Limited landscaping is located on the eastern perimeter, allowing for full views of the Dumbarton Rail Corridor.

Visual Character. The Commonwealth Site was formerly occupied by Diageo North America and was used as a spirits distilling, bottling, and distribution plant. The main manufacturing building was constructed in 1956, with an addition constructed in 1970.[2] As depicted in Figures 3.2-1a, 3.2-1b, and 3.2-1c, the Commonwealth Site includes three single-story buildings, a tank farm, processing equipment areas, a 500,000-gallon fire suppression water tank, storage areas, and associated parking and unkempt landscaped areas. Additional structures are located in the northern portion of the Commonwealth Site, including water storage, a garage, a boiler room, and outdoor storage. In total, the Commonwealth Site consists of approximately 217,396 square feet (sf) of building area.

The Commonwealth Site has remained unoccupied since the site's closure in 2011. Consequently, the site is generally not maintained and features rundown industrial buildings and cracked paved surfaces. An abandoned railroad spur from the Dumbarton Rail Corridor (Figure 3.2-1d) bisects the Commonwealth Site and connects to the main manufacturing building. Utility poles and wires run along the site's southern perimeter, adjacent to US 101.

Onsite Topography. The Commonwealth Site is relatively flat and lies at an elevation of approximately 6.7 to 11.9 feet above mean sea level (msl). The parking lots are generally graded towards the existing drainage facilities. There are several feet of fill within the building footprints, elevating the interior floor above the surrounding exterior grade.[3]

Vegetation. The existing Project site (including the Jefferson Site) is comprised of approximately 93.4 percent (540,577 sf) impervious surfaces with limited vegetation. Small ruderal weeds grow between the cracked pavement. In addition, as shown in Figure 3.2-1a, a lawn with some mature trees is located at the entrance of the office area of the manufacturing building. The north, south, and west perimeter is covered in moderate to dense trees and bushes, providing a visual barrier between the site and the exterior uses. In total, the arborist report prepared for the Commonwealth Site (included as Appendix 3.2) evaluated 27 trees, 13 of which qualify as heritage trees under the City's Tree Ordinance.[4]

Lighting and Glare. Light sources at the Commonwealth Site are extremely limited due to the unoccupied nature of the site. Although there are some light fixtures on the existing buildings and flood lights around the paved parking areas and the manufacturing areas, these are not currently in use. Light sources in the surrounding areas include lighting in the office building parking lots to the north and west, field lighting at Kelly Park to the east, cobra-style street lighting along Commonwealth Drive, and vehicular headlights on US 101. Limited glass or metallic surfaces, or other sources of glare, are present. Figure 3.2-1d depicts some of the lighting fixtures within and bordering the site.

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[2] PES Environmental, Inc. 2011. "Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California." November 29.

[3] Cornerstone Earth Group. 2012. "Preliminary Geotechnical Investigation: Commonwealth Office Complex." March 14.

[4] McClenahan Consulting, LLC. 2012. "Tree Survey." 151 Commonwealth and 164 Jefferson. March 27.

a. Main Building Entrance

b. Existing Structures

c. Existing Structures

d. Existing Structures and Railroad Spur

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Figure 3.2-1
Existing Conditions at the Commonwealth Site

Jefferson Site. The Jefferson Site is currently accessible by two driveways in the northern portion of the site along Jefferson Drive. The 1.17-acre (51,183-sf) site is bound by Jefferson Drive to the north, office parks to the east, south, and west, and the Commonwealth Site to the south. The site is enclosed by a chain-link fence and dense landscaping along its eastern, southern, and western perimeters. The northern boundary along Jefferson Drive is open to the street.

Visual Character. The Jefferson Site currently is occupied by a one-story, 20,462-sf building that is used as warehouses and offices for storage and light industrial uses. The northern (front) façade of the building (Figure 3.2-2a), which is setback from Jefferson Drive, includes glass doors, concrete awnings, and decorative paint. The western and eastern façades (Figures 3.2-2b and 3.2-2c) include glass doors, solid doors, and roll-up service doors with decorative painting and no articulation. The southern façade (the back of the building) (Figure 3.2-2d) features one window. Surrounding the building is a surface parking lot for 47 vehicles and mature perimeter landscaping. Utility poles and wires traverse the northern portion of the site along Jefferson Drive.

Onsite Topography. The Jefferson Site is relatively flat and lies at an elevation of approximately 6.6 to 7.4 feet above msl. The onsite surface parking lot and the existing building are at equal grade. However, a gentle slope rises from Jefferson Drive to the front of the building.

Vegetation. The majority of the Jefferson Site consists of impervious surfaces and limited vegetation. As shown in Figure 3.2-2a, a sloping lawn is located between Jefferson Drive and the existing building with three mature trees and manicured hedges. The eastern, southern, and western perimeters are covered in moderate to dense trees and bushes, providing a visual barrier between the site and the exterior uses. In total, the Jefferson Site evaluated 18 trees, 11 of which qualify as heritage trees under the City's Tree Ordinance.[5]

Lighting and Glare. The Jefferson Site includes mounted light fixtures on the existing building, parking lot lighting, and accent lighting at the front of the building. Light sources in the surrounding areas include offsite parking lot lights and cobra-style street lighting along Jefferson Drive. Although the building includes some glass doors, reflective surfaces are minimal and blocked from exterior areas by vegetation and fencing.

Onsite Visibility

Commonwealth Site. Within the interior of the Commonwealth Site, views are limited due to distance, flat topography, existing onsite buildings, and perimeter fencing and vegetation. Foreground views include the decommissioned distillery buildings and vast expanses of impervious surfaces. Looking north (Figure 3.2-3a) and west, views consist of the neighboring two- to three-story office buildings largely screened by mature vegetation, fencing, and surface parking lots. Facing east (Figure 3.2-3b), views outside of the Commonwealth Site include the tracks of the Dumbarton Rail Corridor, vegetation surrounding Kelly Park, and lighting for the park's tennis courts and athletic fields. Views facing south (Figure 3.2-3c) encompass US 101 and the Dumbarton Rail Corridor overcrossing. However, because the site is above grade from US 101, the freeway is only visible from the southernmost portion of the site. Across US 101, some development on the border of the Suburban Park-Lorelei Manor-Flood Park Triangle neighborhood is visible through the mature vegetation. Background views from certain locations of the Commonwealth Site, looking south, include mainly obstructed and channelized views of the Santa Cruz Mountain Range (Figure 3.2-3d).

[5] McClenahan Consulting, LLC. 2012. "Tree Survey." 151 Commonwealth and 164 Jefferson. March 27.

Jefferson Site. Similar to the Commonwealth Site, there are no topographic features at the Jefferson Site; consequently, views from this site are limited to the immediate built environment. Facing north and west (Figure 3.2-4a), foreground views include the onsite vegetation and views of the neighboring warehouse buildings of similar architectural style as the existing onsite building. Properties to the east and southwest (Figures 3.2-4b and 3.2-4c) include newer two- to three-story office buildings and surface parking lots. Views to the southeast encompass the manufacturing buildings at the Commonwealth Site (Figure 3.2-4d). No background views are visible.

Public View Corridors

Although portions of the Project site are visible from public streets, the whole Project site is not visible in its entirety from a single, ground-level vantage point due to its large size, flat topography, and surrounding low-rise buildings. However, there are three public vantage points with views towards the Project site, as discussed below.

US 101. The Project site is visible from both northbound and southbound US 101,[6] which is a four-lane freeway in each direction. From the northbound direction, the Commonwealth Site becomes briefly visible after the Dumbarton Rail Corridor overcrossing. However, the site is located above grade from the freeway and is separated by a vegetated slope, dense trees and shrubs, and fencing. Consequently, the existing buildings are only visible through intermittent breaks in the vegetation and are not prominent features.

From the southbound direction, after the Marsh Road overcrossing, the Commonwealth Site appears to the northeast of the freeway within the context of the existing urban development pattern, including a three-story office building. Due to distance and thick vegetation, the existing buildings are mainly obscured from passing vehicles. The Jefferson Site and the onsite building are not visible from either direction of US 101. In addition, no background views can be seen from this segment of US 101.

Kelly Park and the Belle Haven Neighborhood. Kelly Park is located at 100 Terminal Avenue in the Belle Haven neighborhood and is owned and operated by the City of Menlo Park. The 8.3-acre park is well-maintained and was renovated in 2011 with a synthetic turf soccer field, a full-size track with various exercise apparatuses, tennis courts, basketball courts, and restroom facilities.[7] The park is adjacent to the Onetta Harris Community Center, the Menlo Park Senior Center, and the Beechwood School, which is a private, nonprofit school for students in kindergarten through eighth grade. The Belle Haven neighborhood contains mainly single-family residential units setback from the streets with mature and well-maintained landscaping. Background views of the areas surrounding the Belle Haven neighborhood are not visible at pedestrian level because of the flat topography, existing structures, and dense vegetation.

Although the Dumbarton Rail Corridor provides a physical barrier between the Project site and Kelly Park, the existing buildings are visible from the park looking west, behind the trees planted along the perimeter of the park. Due to the limited development directly abutting the Dumbarton Rail Corridor, there are limited channelized views of the Commonwealth Site from select locations in the Kelly Park area, particularly from the soccer field. However, the orientation of the streets in the Belle Haven

[6] This segment of US 101 runs in a northwest–southeast direction. However, US 101 is considered a north–south freeway and, therefore, is referred to as such in this document.

[7] City of Menlo Park. 2013. "Kelly Park." Available: <http://www.menlopark.org/departments/com/parks/kelly.htm.> Accessed May 23, 2013.

a. Front Building Facade

b. Western Building Facade

c. Eastern Building Facade

d. Back of the Building

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Figure 3.2-2
Existing Conditions at the Jefferson Site

a. View of Adjacent Office Building Facing North

b. View of Kelly Park Facing East

c. View of US 101 and Dumbarton Rail Overcrossing Facing South

d. View of Santa Cruz Mountains Facing South

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Figure 3.2-3
Views from the Commonwealth Site

a. Adjacent Warehouse Building to the West

b. Adjacent Office Campus to the East

c. Adjacent Office Complex to the Southwest

d. Commonwealth Site to the Southeast

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Figure 3.2-4
Views from the Jefferson Site

neighborhood do not allow for direct views of the built features at the Commonwealth Site from other locations.

Suburban Park–Lorelei Manor–Flood Park Triangle Neighborhood. US 101 separates the Project site from the residential areas to the south. However, the Project site is directly across US 101 from the Suburban Park–Lorelei Manor–Flood Park Triangle neighborhood. Currently, ground-level views are blocked by dense foreground and mid-ground vegetation and residential development. However, the utility poles and wires in the southeast corner of the Commonwealth Site are visible from Hedge Road. Due to the surrounding residential units and flat topography, no background views are visible.

Environmental Impacts

This section describes the impact analysis relating to aesthetics for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a 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 that would adversely affect daytime or nighttime views in the area.

Methods for Analysis

The visual quality of an area is based on the physical appearance and characteristics of the built environment; the proximity and balance of man-made structures with open space or landscaping; and views of public open space or of more distant landscape features such as hills, water bodies, or built landmarks. These elements help define a sense of place and a physical orientation in a larger visual setting. Visual conditions within the vicinity of the Project are defined by a mix of regional roadways and industrial, office, recreational, residential, and commercial development. The interplay of these elements of the visual setting varies, depending on viewer location. Implementation of the Project would change the appearance of the Project site and the surrounding community as a result of the construction of new and taller buildings at the Project site.

To illustrate the general appearance of the development proposed at the Project site, photomontages (massing studies) from three vantage points were prepared, as shown in Figure 3.2-5. A *photomontage* is a photograph of the existing conditions with an image of the proposed buildings superimposed over the photograph using computer imaging techniques. The photomontages have been constructed in a photo-realistic fashion to show how the proposed development would look and provide a reasonable representation of the buildings' general massing, scale, and height upon Project completion and include landscaping features. Since façade articulations and architectural designs have not yet been developed,

these features are not included in the photomontages. The photomontages, as included in Figures 3.2-6 through 3.2-8, depict views of the Project from the following locations.

- Viewpoint 1: Project site looking northeast from southbound US 101.
- Viewpoint 2: Project site looking west from Kelly Park.
- Viewpoint 3: Project site looking north from Suburban Park–Lorelei Manor–Flood Park Triangle Neighborhood.

Prior to preparing the photomontages, field investigations were conducted to determine those locations that would offer maximum visual exposure of the Project from public vantage points. The photomontage locations include both "existing" (without the Project) and "proposed" (with the Project) views.

Impacts Not Evaluated in Detail

Impacts on Scenic Vistas. For the purposes of this analysis, a *scenic vista* is defined as a vantage point with a broad and expansive view of a significant landscape feature (e.g., a mountain range, lake, or coastline) or of a significant historic or architectural feature (e.g., views of a historic tower). A scenic vista is a location that offers a high quality, harmonious, and visually interesting view. The City does not have any officially designated scenic views or vistas; however, scenic vistas could include views of scenic water areas (such as the Bay and creeks) and open space areas.

The Project would result in additional height, bulk, and massing from the proposed buildings and associated mechanical screening areas that would interrupt existing views of the Santa Cruz Mountain Range. However, there are no areas that are considered scenic vistas that would be affected by the proposed development. Due to distance and intervening structures and vegetation, the proposed buildings as seen from Bedwell–Bayfront Park would blend with their surroundings and would be not be visible. Additionally, the proposed buildings would not be visible from the Bay Trail due to the flat topography and distance. Therefore, the Project would result in ***no impact*** on a scenic vista. Therefore, this impact is not evaluated further.

Impacts on Scenic Resources along a State Scenic Highway. The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. The Project site is visible from US 101; however, this freeway is not designated as a State Scenic Highway by the California Department of Transportation. The closest designated State Scenic Highway is I-280, which is over 5 miles southwest from the Project site.[8] No views of the Project site can be seen from any portion of I-280. Therefore, although the Project would remove trees, ***no impacts*** related to scenic resources within a State Scenic Highway corridor would occur. Therefore, this impact is not evaluated further.

Impacts and Mitigation Measures

Impact AES-1: Degradation of Visual Character or Quality. The Project would not substantially degrade the existing visual character or quality of the site and its surroundings. (LTS)

For the purposes of this analysis, a substantial degradation of the existing visual character or quality would occur if the Project would introduce a new visible element that would be inconsistent with the

[8] California Department of Transportation (Caltrans). 2013. "California Scenic Highway Mapping System, San Mateo County." Available: <http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.> Accessed: April 9, 2013.

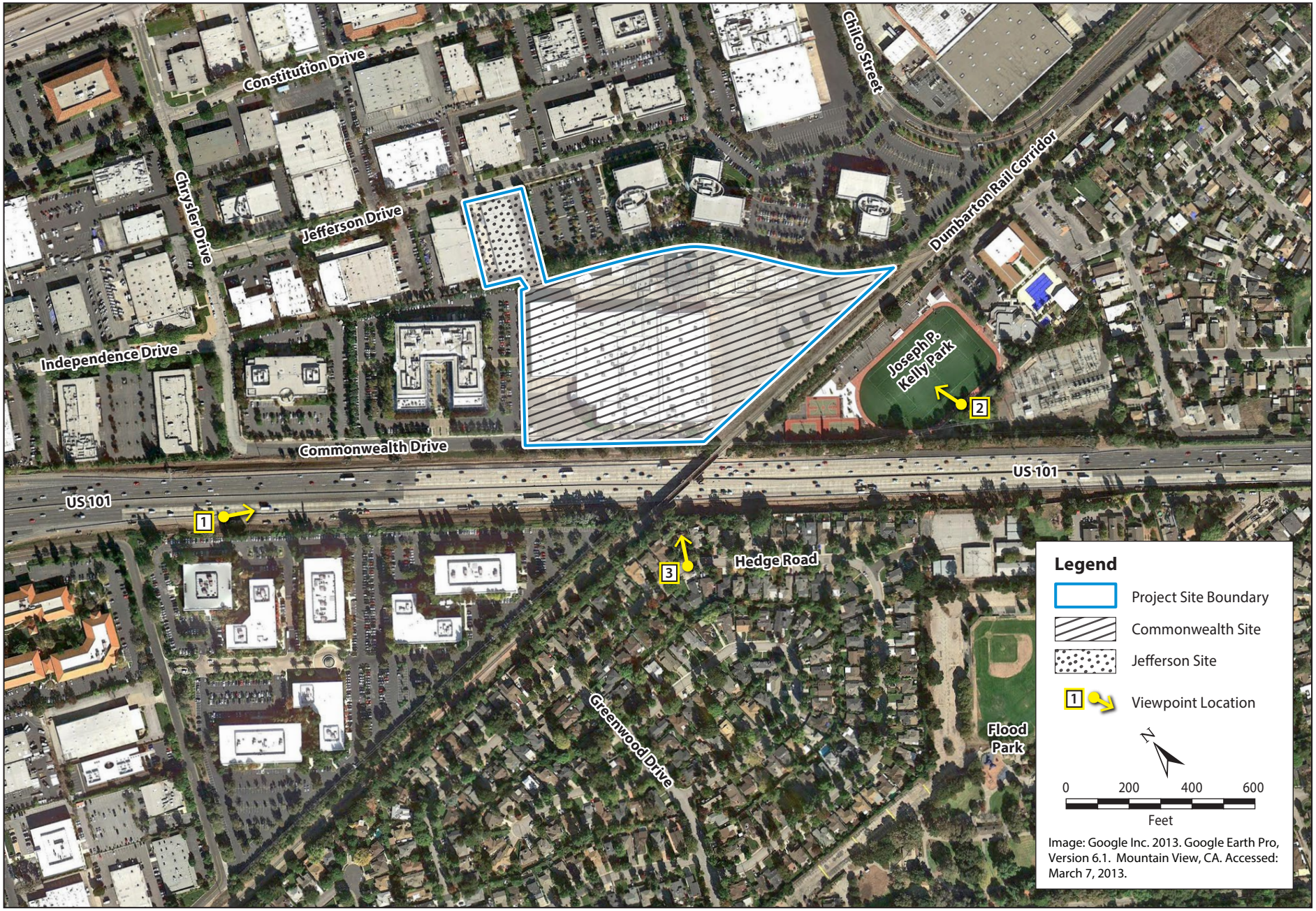

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Figure 3.2-5
Aerial Map of Viewpoints

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Figure 3.2-6
US 101 Facing Northeast (Viewpoint 1)

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Figure 3.2-7
Kelly Park Facing Northwest (Viewpoint 2)

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Figure 3.2-8
Suburban Park-Lorelei Manor-Flood Park Triangle Neighborhood
Facing North (Viewpoint 3)

overall quality, scale, and character of the surrounding development. The analysis considers the degree of contrast between the proposed features and existing features that represent the area's valued aesthetic image, in addition to the degree to which the Project would contribute to the area's aesthetic value. This analysis examines the changes in visual character and quality of the site itself and also examines how the Project would change the existing visual character and quality, as seen from sensitive areas surrounding the Project site.

The Sobrato Organization (Project Sponsor) would redevelop the Project site with two separate four-story buildings located in the southwest corner, towards the main entrance from Commonwealth Drive. Building 1 would be arranged in an east–west orientation, and Building 2 would be arranged in a north–south orientation to the east of Building 1. Each building would have a footprint of approximately 34,535 sf. Together, the two buildings would have a total floor area of approximately 259,920 sf.

Landscaping would be provided throughout the Project site in a manner that provides shading of the parking lot, supports stormwater treatment, and encourages active use of the outdoors. The Project would include bamboo clusters, a variety of trees, wall water features, pedestrian paving, a sunken lawn with seat walls, lighting, tree grates, curved and raised seatwalls, lounging steps, and café tables and chairs. The portion of the Project site adjacent to Jefferson Drive would include a lawn, active recreation space, trellises, planting areas, picnic tables, fencing, and other vegetation. Up to eight stormwater treatment areas would be located throughout the Project site in order to limit stormwater runoff. These stormwater retention and treatment areas would serve as landscape elements to reduce drainage impacts and function as soil and plant-based filtration devices to remove pollutants through a variety of physical, biological, and chemical treatment processes.

Currently, a dense vegetative barrier, which is predominantly outside of the property line, is present along the perimeter of the Project site to the north, south, and west, providing a visual buffer between the site and the adjacent streets, US 101, and the nearby office and industrial developments. Mature vegetation is located to the east of the Dumbarton Rail Corridor, buffering Kelly Park and the Belle Haven neighborhood. All of the perimeter trees and shrubs that are not on the Project site property would remain with implementation of the Project, continuing to obstruct the majority views of the Project site from adjacent areas.

There are 45 existing trees at the Project site. Of these trees, 24 trees are considered to be Heritage Trees per Section 13.24 of the City's Municipal Code. Under the existing site plans, 23 Heritage Trees and 21 non-Heritage Trees would be removed. However, one existing Heritage Tree would remain, and approximately 474 trees would be planted to offset the Heritage Tree removal. These trees would be located throughout the Project site, including around the site perimeter, throughout the surface parking lot, along the two-lane boulevard in the western portion of the site, and surrounding the proposed buildings. When first planted, the proposed trees would not sufficiently screen the buildings from surrounding areas. However, at full maturity, it is expected that the proposed trees could screen a substantial portion of the buildings. In addition, all of the existing perimeter trees not located on the Project site would remain with implementation of the Project and continue to limit views to and from the site.

Impacts on Project Site and Surrounding Area. The vicinity of the Project site is not a visually significant area as it consists of an urbanized and industrial area with several manufacturing and warehousing buildings and expansive impervious surfaces. The existing vacant buildings, limited vegetation, and unkempt landscaping do not contribute positively to the character of the industrial/business parks to the north and west or the Belle Haven neighborhood to the east. The mix of

uses in this area, which include newer office complexes to the north and west, industrial and warehouse buildings further to the north and east, and residential uses to the east and south, generally results in an inconsistent visual pattern.

The Project would increase onsite building height and mass, and alter the existing visual character of the site while remaining consistent with the surrounding area. However, the existing visual character does not support the recent and future trend of developing the area into an updated office park setting. The proposed development would support the trend of this area's transition to office campuses and increase unity with its surroundings by creating contiguous landscape areas, bicycle and pedestrian connections, and buildings that reflect a similar architectural design. Although it is unknown at this time what types of façade articulation and architectural design would be used for the buildings, it is expected that they would incorporate features and materials common in modern steel-framed buildings and would be harmonious with each other and their surroundings. The building massing, materiality, transparency of façade, and interconnectivity of buildings would attempt to link the campus visually to its broader context. In addition, the Project Sponsor would be required to adhere to the City's architectural review, as outlined in Section 16.68.020 of the Municipal Code and described above.

While the Project would increase onsite building height, mass, and bulk, the Project would not degrade the visual character and quality of the Project site and its surroundings. The Project buildings would be consistent with the neighboring office buildings in architecture and scale and would be partially screened by the existing and proposed trees. However, it is important to note that potential impacts resulting from a change in visual character are partially subjective. To some, any development and change in the existing setting, regardless of design, is considered significantly adverse, while others may consider any change in development to be beneficial. For the purposes of CEQA, the impact on visual character and quality is considered to be ***less than significant***.

Impacts on Public View Corridors. Project impacts on the public view corridors identified under *Environmental Setting*—US 101, Kelly Park and the Belle Haven neighborhood, and the Suburban Park–Lorelei Manor–Flood Park Triangle neighborhood—are discussed below.

US 101 (Viewpoint 1). As discussed above, from northbound US 101, the Project site is briefly visible after the Dumbarton Rail Corridor overcrossing. However, the site is located above grade from the freeway and is separated by a vegetated slope, dense trees and shrubs, and fencing. All of the existing perimeter trees, vegetation, and fencing would remain with the implementation of the Project. Therefore, views of the proposed buildings would only be visible through intermittent breaks in the vegetation and would not significantly alter the view as seen from northbound US 101.

As shown in Figure 3.2-6a, the existing buildings at the Project site are predominantly screened from US 101 by dense clusters of perimeter vegetation. No background views are visible. With the proposed development (Figure 3.2-6b), the Project buildings would appear to be taller than the existing surrounding development as seen from southbound US 101. The two buildings would be visible to varying degrees from US 101; however, the existing perimeter landscaping, which would remain under the Project, would soften the Project's appearance and reduce its visual contrast with the immediate landscape.

US 101 is not a designated scenic route and motorists only have fleeting views of the Project site due to permitted speeds on US 101. In addition, motorists typically direct their attention to the freeway ahead rather than views from the freeway. Therefore, the views of the Project from US 101 do not constitute sensitive views, and the development of the Project site would not significantly alter the visual character of the area.

Kelly Park (Viewpoint 2). As shown in Figure 3.2-7a, views from Kelly Park facing west consist of the park's playing field and onsite lighting in the foreground and the existing structures at the Commonwealth Site in the middleground. Perimeter vegetation and fencing obstruct the majority of ground-level views; however, the roof of the main building is highly visible. With implementation of the Project, the proposed buildings would be set back from Kelly Park and the Belle Haven neighborhood in order to reduce the visual impacts on this area. However, since the buildings would be significantly taller than the existing structures (27 feet in height compared to 61.3 feet), the proposed buildings would still be visible from Kelly Park, as depicted in Figure 3.2-7b.

Building 2 would be positioned in a north–south orientation, and Building 1 would be located to the west of Building 2 in an east–west orientation. Consequently, Building 2 would block a portion of Building 1 from view, making the buildings appear as one. This would limit some of the perception of mass and bulk at the Project site from Kelly Park. The increase in building mass and height would not obstruct any existing visual features since no background views are currently visible. Nonetheless, the Project would alter the existing aesthetic character of the area by constructing a significantly taller building at the Project site. The existing 27-foot-tall industrial buildings would be demolished and replaced with two 61.3-foot-tall buildings. However, as shown in Figure 3.2-7b, the existing perimeter vegetation, which would remain with implementation of the Project, would screen portions of the proposed building. In addition, as discussed above, the Project Sponsor would plant approximately 474 new trees, many of which would be in the parking lot between the proposed buildings and Kelly Park. Although these trees, when first planted, may not provide a significant visual buffer, at maturity they would screen a substantial portion of the buildings. Figure 3.2-7b does not depict the proposed vegetation; therefore, this view represents a conservative scenario.

The proposed buildings would add building height, mass, and bulk to the Project site, as seen from Kelly Park, altering the existing built environment. However, the existing Project site includes industrial buildings that are inconsistent with the surroundings. In addition, the Project site does not comprise of a visually significant area and does not include views. Although the Project would change current visual conditions, the buildings would be consistent with surrounding development and would be partially screened by existing and proposed vegetation.

Suburban Park–Lorelei Manor–Flood Park Triangle Neighborhood (Viewpoint 3). US 101 separates the Project site from the residential areas of the City to the south. Therefore, views of the Project site are generally blocked by existing buildings and vegetation along US 101, as depicted in Figure 3.2-8a. The only existing feature at the Project site that is visible from this residential neighborhood is the approximately 60-foot-tall utility pole at the southwest corner of the Project site.

The buildings proposed under the Project would be partially visible over residential rooftops from Hedge Road and the backyards of the residential properties along this street. Although the buildings would be visible to residents, they would not substantially alter the existing visual character of the area. The buildings, as seen in Figure 3.2-8b, would be at a distance of approximately 400 feet to the north, across US 101, which is a distance slightly longer than a football field (including the end zones). While this distance is relatively close, views of the buildings would be limited and consist of mainly blocked background views; therefore, the buildings would not be a dominant feature in the area. Additionally, since there are no significant background views further to the north (such as the Bay or the East Bay Hills) visible from this area, the buildings would not obstruct any valued view corridors. The perception of privacy in the rear yards of the residential units is not expected to change since there would be screening due to distance, existing vegetation, and the soundwall between these residential properties and US 101.

Overall Degradation of Existing Visual Character or Quality. The proposed development at the Project site would provide increased unity with its surroundings by creating contiguous landscape areas and office buildings that reflect a similar architectural design. The existing site consists of outdated industrial buildings and warehouses. The Project would construct new buildings that would be a continuation of the existing pattern of multi-story office buildings in the area to the north and west of the Dumbarton Rail Corridor. Implementation of the Project would change the visual character of the Project site but would not significantly alter the quality of the surrounding areas due to the dense perimeter vegetation, proposed trees, flat topography, and the modern architectural detailing on the exterior of the building. The upper levels of the proposed buildings would be visible from surrounding areas, altering the visual character. However, this would not change the overall views to the extent that the visual quality of the area and public view corridors would be substantially degraded. Therefore, the impact would be ***less than significant***.

Impact AES-2: New Sources of Light and Glare. The Project could create a new source of substantial light or glare that could adversely affect daytime or nighttime views in the area. (PS)

Exterior Lighting. Exterior lighting would be added to an area where there currently is little to no lighting. The Project site is visible from US 101 and could be a nuisance or distraction to the motorists if substantial lighting sources were introduced to the area. Increased lighting at the site could also affect residents in the Belle Haven neighborhood and the Suburban Park–Lorelei Manor–Flood Park Triangle neighborhood.

Proposed development would result in nighttime lighting from vehicles, the onsite boulevard, the parking lots, security lighting, and the interior illumination of the building. The increase in building heights would make building lights visible to motorists along US 101 and surrounding neighborhoods, but some of the interior lights for the lower floors would be screened by the perimeter vegetation and potentially by window overhangs and awnings.

Due to the urbanized nature of the surrounding area, a significant amount of ambient nighttime lighting currently exists, affecting views of the nighttime sky. The lighting performance standards set by Leadership in Energy and Environmental Design (LEED) would be followed through lighting specifications, shielding techniques, automatic lighting controls, and light pollution considerations. Nonetheless, the new buildings and increased onsite activity would result in a ***potentially significant*** increase in lighting in the area.

Glare from Buildings. Glare is caused by light reflections from pavement, vehicles, and building materials, such as reflective glass and polished surfaces. During the daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can create hazards to motorists and be a nuisance for bicyclists and pedestrians and other sensitive viewers.

With implementation of the Project, highly reflective surfaces at the Project site could pose the most significant impacts along major road corridors, such as US 101. At this time, the specific types of building materials and glass surfaces are unknown. However, the proposed building façade could incorporate silver composite aluminum panels, steel frames, low-e glazing with blue tint glass and clear glass, metal roof screens, and high-performance glass set in aluminum frames. This façade would provide energy saving benefits for the buildings. Other building features could include fin columns, cornices, metal roof screens, and guardrails. Since building material specifics are currently unknown, it is conservatively assumed that the Project would result in ***potentially significant*** glare impacts.

Vehicle Headlights. The proposed surface parking lot would be located adjacent to office uses to the north and west, Kelly Park to the east, and US 101 to the north. The light and glare from vehicle headlights and windshields could be a nuisance to the motorists and the adjacent uses. The existing chain-link fence and vegetation along the perimeter of the Project site would remain. In addition, new trees and hedges would be planted that would block vehicle headlight spillage. The uses to the north and west of the Project site currently include corporate office complexes and surrounding surface parking lots; therefore, these uses would not be affected by vehicle headlights. Lower-story shrubs would be planted adjacent to US 101, limiting light impacts on motorists, and proposed and existing landscaping on both sides of the Dumbarton Rail Corridor would block vehicle headlights from Kelly Park. Therefore, the Project would result in ***less-than-significant*** impacts from vehicle headlight spillage.

MITIGATION MEASURES. Implementation of Mitigation Measures AES-2.1 and AES-2.2 would reduce potential light and glare impacts of the Project to a ***less-than-significant*** level.

AES-2.1: *Design Lighting to Meet Minimum Safety and Security Standards.* Concurrent with the building permit submittal, the Project Sponsor shall incorporate lighting design specifications to meet minimum safety and security standards. The comprehensive site lighting plans shall be subject to review and approval by the City's Community Development Department Planning Division prior to building permit issuance of the first building on that site. The following measures shall be included in all lighting plans.

- Luminaries shall be designed with cutoff-type fixtures or features that cast low-angle illumination to minimize incidental spillover of light onto adjacent private properties. Fixtures that shine light upward or horizontally shall not spill any light onto adjacent private properties.
- Luminaries shall provide accurate color rendering and natural light qualities. Low-pressure sodium and high-pressure sodium fixtures that are not color-corrected shall not be used, except as part of an approved sign or landscape plan.
- Luminary mountings shall be downcast and pole heights minimized to reduce potential for back scatter into the nighttime sky and incidental spillover light onto adjacent properties and undeveloped open space. Light poles shall be no higher than 20 feet. Luminary mountings shall be treated with non-glare finishes.

AES-2.2: *Treat Reflective Surfaces.* The Project Sponsor shall ensure application of low-emissivity coating on exterior glass surfaces of the proposed structures. The low-emissivity coating shall reduce visible light reflection of the visible light that strikes the glass exterior and prevent interior light from being emitted brightly through the glass.

Cumulative Impacts

The geographic context for cumulative aesthetic impacts is generally confined to areas visible to and from the Project site that could combine to cause a cumulative impact. For the Project, the cumulative context includes the Project site plus adjacent development north of US 101 and west of the Dumbarton Rail Corridor. Proposed projects in the City on the other side of US 101 and the Dumbarton Rail Corridor are not included because the distance, flat topography, and intervening development serve as visual barriers between the areas.

Impact C-AES-1: Cumulative Degradation of Visual Character or Quality. The Project, in combination with other foreseeable development in the surrounding area, would not have a significant cumulative impact on visual character or quality. (LTS)

Tier 1

Cumulative Tier 1 projects consist of 2 residential developments, 10 non-residential projects, and 1 mixed-use project. Only cumulative projects that are in the immediate vicinity of the Project site could contribute to degradation of the visual character or quality of the existing neighborhood. The other cumulative projects are too far from the Project site to combine with the Project to degrade visual character or quality. The public view corridors identified under *Environmental Setting* include US 101, Kelly Park, and the Suburban Park–Lorelei Manor–Flood Park Triangle neighborhood. Within the geographic context described above, the only project visible from these view corridors is the Menlo Gateway Project, which is considered together with the Project to determine the Project's cumulative impact on visual character and quality.

The Menlo Gateway Project, the Project, and any other future development in the Project area, would constitute further intensification of an already urban and relatively built-out area and would generally occur through infill development. Most projects in the City are required to undergo architectural review pursuant to Section 16.68.020 of the Municipal Code. Any proposal for a new structure, addition to an existing structure, or change to the exterior of a structure that requires a building permit (with the exception of single-family dwellings, duplexes, and accessory buildings) requires that the Planning Commission conduct architectural control review to ensure that the general appearance of the structures is in keeping with character of the neighborhood. Thus, as with the Project, the Menlo Gateway Project will be expected to be consistent with architectural and design guidelines and would not substantially degrade the visual character or quality of its surroundings.

As described above, the Project area is part of the trend of this area's redevelopment of some existing industrial and warehousing uses to corporate office campuses. The existing Project site and the Menlo Gateway site include vacant manufacturing buildings, warehouses, and unkempt land adjacent to newer office developments. The Project would provide increased unity with its existing and planned surroundings by creating contiguous landscape areas and buildings that reflect a similar architectural design. Therefore, the Project, together with Menlo Gateway, would not result in a substantial degradation of visual character or quality of the surroundings, and the cumulative impact would be ***less than significant***.

Tier 2

The Dumbarton Rail Corridor Project is the only Tier 2 project that could cumulatively contribute to a change in visual character of the surrounding area of the Project. The Dumbarton Rail Corridor Project passes through several jurisdictions and abuts the Project site to the east. Although no stations are proposed in the vicinity of the Project site that could alter the existing visual setting, this project could result in the removal of the existing vegetation that lines the corridor and provides a visual buffer from Kelly Park. However, development along the Dumbarton Rail Corridor would be subject to the City's General Plan and Municipal Code, particularly with regard to tree removal. Adherence to these policies would ensure that development of this project would be aesthetically compatible with adjacent development. As noted, the proposed development at the Project site would provide increased unity with its surroundings by creating contiguous landscape areas and buildings that reflect a similar architectural design. Therefore, the Project, together with the Tier 2 project, would not result in a

substantial degradation of visual character or quality of the surroundings, and the cumulative impact would be ***less than significant***.

Impact C-AES-2: Cumulative Sources of Light and Glare. Implementation of the Project, in combination with foreseeable development, would not create new sources of light or glare that could adversely affect day or nighttime views. (LTS)

Tier 1

Cumulative development could include direct illumination of Project structures, features, and/or walkways, and could increase ambient nighttime lighting levels in the Project area. Menlo Gateway is large enough to contribute to a cumulative lighting impact and would include direct illumination of project structures, features, and/or walkways, as well as increased light and glare from vehicle headlights entering and exiting the site. Building surfaces could also increase glare if they are reflective or if the structures contain large expanses of windows. Since the final design and architecture of Menlo Gateway is unknown, the increase in ambient nighttime lighting levels and glare in the area could be significant, even though a substantial amount of ambient light and glare currently exists as a result of the urbanized nature of the area. This is a potentially significant impact. Similar to the Project, Menlo Gateway would be required to comply with all requirements of the Municipal Code with respect to lighting and architectural surfaces. However, Mitigation Measures AES-2.1 and AES-2.2 would reduce potential Project-level and cumulative light and glare impacts, and the Project's contribution to a cumulative light and glare impact would not be cumulatively considerable. Therefore, the Project's cumulative impact associated with ambient nighttime light and glare would be ***less than significant***.

Tier 2

Only the Tier 2 projects that are in the immediate vicinity of the Project site would contribute to a cumulative light and glare impact. Light and glare effects diminish with distance from the source and must be viewed directly in order to affect the viewer. Given the distance of the majority of Tier 2 projects from the Project site and due to the intervening structures and vegetation, any light and glare from these projects, in combination with the light and glare from the Project, would likely not result in substantial increases of light and glare that would affect daytime or nighttime views. Therefore, only lighting from the Dumbarton Rail Corridor Project could be cumulatively considerable in combination with the Project. Since the Dumbarton Rail Corridor is not currently operational, the Project would likely add lighting sources along some portions of the tracks. However, this lighting along the tracks would likely be minimal. In addition, the Project area is currently subject to a substantial level of light and glare due to its urban nature. All Project-related impacts with regard to light and glare are reduced to less than significant levels through Mitigation Measures AES-2.1 and AES-2.2. Therefore, the Project's cumulative impact would be ***less than significant***.

3.3 Transportation/Traffic

This section provides an evaluation of traffic and transportation related to the proposed Commonwealth Corporate Center Project. The Project site is accessible from Commonwealth Drive and Jefferson Drive in the City of Menlo Park (City). The information used for the analysis is based on current traffic volumes and traffic demand models prepared for this Draft Environmental Impact Report (EIR) by DKS Associates. The transportation analysis for the Project was prepared according to the methodology detailed in the Menlo Park *Transportation Impact Analysis* (TIA) *Guidelines* from November 2003 and from the San Mateo County Congestion Management Program (CMP) Guidelines. Potential impacts on intersections, local roadway segments, highways, transit, bicycle, and pedestrian facilities were evaluated following these standards, methodologies, and significance criteria. Particular attention is given to impacts on transportation facilities located within the City of Menlo Park and the Town of Atherton, including California Department of Transportation (Caltrans) facilities.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues pertain to the preparation of a TIA, trip distribution and assignment, applying a trip cap, bicycle and pedestrian facilities, parking, and impacts on intersections and on- and off-ramps.

The following conditions were evaluated as part of this study.

- Existing Conditions
- Near Term 2015 Conditions
- Near Term 2015 Plus Project Conditions
- Cumulative 2030 Conditions
- Cumulative 2030 Plus Project Conditions

Regulatory Setting

The following policies and agencies guide transportation planning in the San Francisco Bay Area (Bay Area) and Menlo Park.

Metropolitan Transportation Commission. The Metropolitan Transportation Commission (MTC) was created by the California state Legislature in 1970 as the transportation planning, coordinating, and financing agency for the nine-county Bay Area. It is responsible for prioritizing regional transportation projects through the Regional Transportation Improvement Program (RTIP) for state and federal funding. This prioritization is accomplished through coordination with local agencies and congestion management agencies (CMAs) and through the demonstration of need, feasibility, and conformance with federal and local transportation policies.

City of Menlo Park General Plan. The *Menlo Park General Plan* provides the framework for transportation planning within the City. The General Plan establishes goals related to the sustainability, reliability, and safety for all modes of transportation based on existing practices and future needs due to changes in land use, population changes, and influences of regional and local transportation planning policies. These transportation-related goals and policies are included in the Circulation and Transportation Element of the *Menlo Park General Plan* and include the following.

Goal II-A: To maintain a circulation system using the Roadway Classification System that will provide for the safe and efficient movement of people and goods throughout Menlo Park for residential and commercial purposes.

Policy II-A-1: Level of Service D or better shall be maintained at all City-controlled signalized intersections during peak hours, except at the intersection of Ravenswood Avenue and Middlefield Road and at intersections along Willow Road from Middlefield Road to US 101.

Policy II-A-2: The City should attempt to achieve and maintain average travel speeds of 14 miles per hour (Level of Service D) or better on El Camino Real and other arterial roadways controlled by the State and at 46 miles per hour (Level of Service D) or better on US 101. The City shall work with Caltrans to achieve and maintain average travel speeds and intersection level of service consistent with standards established by the San Mateo County Congestion Management Plan.

Policy II-A-4: New development shall be restricted or required to implement mitigation measures in order to maintain the levels of service and travel speeds specified in Policies II-A-1 through II-A-3.

Policy II-A-8: New development shall be reviewed for its potential to generate significant traffic volumes on local streets in residential areas and shall be required to mitigate potential significant traffic problems.

Goal II-B: To promote the use of public transit.

Policy II-B-1: The City shall consider transit modes in the design of transportation improvements and the review and approval of development projects.

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.

Goal II-C: To promote the use of alternatives to the single occupant automobile.

Policy II-C-1: The City shall work with all Menlo Park employers to encourage the use of alternatives to the single occupant automobile in their commute to work.

Policy II-C-2: The City shall provide information to existing and new Menlo Park employers to assist their employees in identifying potential carpools, transit alternatives and other commute alternatives.

Policy II-C-6: The City shall, to the degree feasible, assist Menlo Park employers in meeting the Average Vehicle Ridership (AVR) targets established by the Bay Area Air Quality Management District.

Policy II-C-7: Commuter shuttle service between the industrial work centers and the Downtown Transportation Center should be maintained and improved, within fiscal constraints. The City shall encourage SamTrans and other agencies to provide funding to support shuttle services.

Goal II-D: To promote the safe use of bicycles as a commute alternative and for recreation.

Policy II-D-2: The City shall, within available funding, work to complete a system of bikeways within Menlo Park.

Policy II-D-4: The City shall require new commercial and industrial development to provide secure bicycle storage facilities on-site.

Goal II-E: To promote walking as a commute alternative and for short trips.

Policy II-E-1: The City shall require all new development to incorporate safe and attractive pedestrian facilities on-site.

Policy II-E-2: The City shall endeavor to maintain safe sidewalks and walkways where existing within the public right-of-way.

Policy II-E-3: Appropriate traffic control shall be provided for pedestrians at intersections.

Policy II-E-4: The City shall incorporate appropriate pedestrian facilities, traffic control, and street lighting within street improvement projects to maintain or improve pedestrian safety.

City of Menlo Park Comprehensive Bicycle Development Plan. The 2005 *Comprehensive Bicycle Development Plan* (Bicycle Plan) provides a broad vision, strategies and actions for the improvement of bicycling in the City. The goals of the Bicycle Plan provide the context for the specific policies and actions discussed in the Bicycle Plan. The goals provide the long-term vision and serve as the foundation of the Bicycle Plan, while the policies of the Bicycle Plan provide more specific descriptions of actions to undertake to implement the Bicycle Plan.

The following are the relevant bicycle-related goals and policies.

Goal 1: Expand and Enhance Menlo Park's Bikeway Network

Policy 1.1: Complete a network of bike lanes, bike routes, and shared use paths that serve all bicycle user groups, including commuting, recreation, and utilitarian trips.

Goal 2: Plan for the Needs of Bicyclists

Policy 2.1: Accommodate bicyclists and other non-motorized users when planning, designing, and developing transportation improvements.

Policy 2.2: Review capital improvement projects to ensure that needs of bicyclists and other non-motorized users are considered in programming, planning, maintenance, construction, operations, and project development activities.

Policy 2.3: Encourage traffic calming, intersection improvements, or other similar actions that improve safety for bicyclists and other non-motorized users.

Policy 2.4: Require developers to adhere to the design standards identified in the *Comprehensive Bicycle Development Plan*.

Goal 3: Provide for Regular Maintenance of the Bikeway Network

Policy 3.3: Develop a program to ensure that bicycle loop detectors are installed at all signalized intersections on the bike network and are tested regularly to ensure they remain functional.

Goal 4: Encourage and Educate Residents, Businesses and Employers in Menlo Park on Bicycling

Policy 4.6: Encourage major Menlo Park employers and retailers to provide incentives and support facilities for existing and potential employees and customers that commute by bicycle.

Policy 4.9: Promote bicycling as a healthy transportation alternative.

City/County Association of Governments (C/CAG) of San Mateo County Congestion Management Program (CMP). C/CAG, as the CMA for San Mateo County, is required to prepare and adopt a CMP on a biennial basis. The purpose of the CMP is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide solutions.

The CMP is required to be consistent with the MTC planning process that includes regional goals, policies, and projects for the RTIP. The 2011 CMP, which was developed to be consistent with MTC's Transportation 2035 Plan, provides updated program information and performance monitoring results for the CMP roadway system.

The San Mateo County CMP roadway system is comprised of 53 roadway segments and 16 intersections, including roadway segments and intersections along state highways in the City. The roadway segment level of service (LOS) standards were adopted by C/CAG to monitor attainment of the CMP.

The LOS standards established for San Mateo County vary by roadway segment. By adopting LOS standards based on geographic differences, C/CAG signaled that it intends to use the CMP process to

prevent future congestion levels in San Mateo County from getting worse than currently anticipated. At the same time, the variations in LOS standards by geographic area conform to current land use plans and development differences between the coast and bayside, between older downtowns near Caltrain stations and other areas of San Mateo County.

LOS Standards for CMP Roadway Segments:

- SR 84 (Bayfront Expressway) from US 101 to Willow Road, LOS D.
- SR 84 (Bayfront Expressway) from SR 114 (Willow Road) to University Avenue, LOS E.
- SR 84 (Bayfront Expressway) from SR 109 (University Avenue) to Alameda County Line, LOS F.
- US 101 from Whipple Avenue to Santa Clara County Line, LOS F.
- SR 109 (University Avenue) from Kavanaugh Drive to SR 84 (Bayfront Expressway), LOS E.
- SR 114 (Willow Road) from US 101 to SR 84 (Bayfront Expressway), LOS E.

LOS Standards for CMP Intersections:

- Bayfront Expressway (SR 84)/University Avenue (SR 109), LOS F for AM and PM Peak Hours.
- Bayfront Expressway (SR 84)/Willow Road (SR 114), LOS F for AM and PM Peak Hours.
- Bayfront Expressway (SR 84)/Marsh Road, LOS F for AM and PM Peak Hours.

While these intersections are monitored by C/CAG for compliance with the CMP standards, because they fall within the City of Menlo Park's city limits, they are still subject to the City's LOS standards as described later in this document. This provides a conservative analysis, because the City standards are more stringent than the C/CAG's CMP standards.

San Mateo County Comprehensive Bicycle and Pedestrian Plan. The City/County Association of Governments of San Mateo County (C/CAG), with support from the San Mateo County Transportation Authority (SMCTA) developed the 2011 *San Mateo County Comprehensive Bicycle and Pedestrian Plan* (CBPP) to addresses the planning, design, funding, and implementation of bicycle and pedestrian projects of countywide significance.

The following are the relevant goals and policies.

> **Goal 2:** More People Riding and Walking for Transportation and Recreation
>
> *Policy 2.6:* Serve as a resource to county employers on promotional information and resources related to bicycling and walking.
>
> **Goal 4:** Complete Streets and Routine Accommodation of Bicyclists and Pedestrians
>
> *Policy 4.1:* Comply with the complete streets policy requirements of Caltrans and the Metropolitan Transportation Commission concerning safe and convenient access for bicyclists and pedestrians, and assist local implementing agencies in meeting their responsibilities under the policy.
>
> *Policy 4.5:* Encourage local agencies to adopt policies, guidelines, standards and regulations that result in truly bicycle-friendly and pedestrian-friendly land use developments, and provide them technical assistance and support in this area.
>
> *Policy 4.6:* Discourage local agencies from removing, degrading or blocking access to bicycle and pedestrian facilities without providing a safe and convenient alternative.

Caltrans Implementation of Deputy Directive 64-R1: Complete Streets—Integrating the Transportation System. Deputy Directive 64-Revision #1: Complete Streets: Integrating the Transportation System (DD-64-R1) was signed on October 2, 2008. Caltrans provides for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System (SHS). Caltrans views all transportation improvements (new and retrofit) as opportunities to improve safety, access, and mobility for all travelers and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Bicycle, pedestrian, and transit travel is facilitated by creating "complete streets" beginning early in system planning and continuing through project delivery, maintenance, and operations.

Providing complete streets increases travel options which, in-turn, reduces congestion, increases system efficiency, and enables environmentally sustainable alternatives to single driver automotive trips. Implementing complete streets and other multi-modal concepts supports the California Complete Streets Act of 2008 (AB 1358), as well as the California Global Warming Solutions Act of 2006 (AB 32) and Senate Bill 375, which outline the State's goals of reducing greenhouse gas (GHG) emissions. With AB 1358 and DD-64-R1, both Caltrans and local agencies are working to complete and address common goals.

Study Intersections and Roadway Segments

This study was prepared according to the methodology required in the City of Menlo Park's TIA Guidelines. City staff selected 28 intersections for analysis, as these are the intersections that would potentially be affected by the Project. The analysis of intersections concentrated on the AM and PM Peak Period commute times for a typical weekday. Several of the study intersections are not in the City's jurisdiction, as indicated in the following list (jurisdiction in parentheses).

1. Marsh Road and Bayfront Expressway (State)
2. Marsh Road and Independence Drive (State)
3. Marsh Road and US 101 NB Off-Ramp (State)
4. Marsh Road and US 101 SB Off-Ramp (State)
5. Marsh Road and Scott Drive (City of Menlo Park)
6. Marsh Road and Bay Road (City of Menlo Park)
7. Marsh Road and Middlefield Road (Town of Atherton)
8. Independence Drive and Constitution Drive (City of Menlo Park)
9. Chrysler Drive and Bayfront Expressway (State)
10. Chrysler Drive and Constitution Drive (City of Menlo Park)
11. Chrysler Drive and Jefferson Drive (City of Menlo Park)
12. Chrysler Drive and Independence Drive (City of Menlo Park)
13. Chilco Street and Bayfront Expressway (State)
14. Chilco Street and Constitution Drive (City of Menlo Park)
15. Willow Road and Bayfront Expressway (State)

16. Willow Road and Hamilton Avenue (State)
17. Willow Road and Ivy Drive (State)
18. Willow Road and O'Brien Drive (State)
19. Willow Road and Newbridge Street (State)
20. Willow Road and Bay Road (State)
21. Willow Road and Durham Street (City of Menlo Park)
22. Willow Road and Coleman Avenue (City of Menlo Park)
23. Willow Road and Gilbert Avenue (City of Menlo Park)
24. Willow Road and Middlefield Road (City of Menlo Park)
25. University Avenue and Bayfront Expressway (State)
26. Middlefield Road and Ravenswood Avenue (City of Menlo Park)
27. Middlefield Road and Ringwood Avenue (City of Menlo Park)
28. Marsh Road and Florence Street-Bohannon Drive (City of Menlo Park)

In addition, impacts related to average daily traffic (ADT) on local roadway segments were analyzed. The following 12 roadway segments—all under jurisdiction of the City of Menlo Park—were analyzed.

A. Marsh Road between Scott Drive and Bohannon Drive
B. Marsh Road between Bohannon Drive and Bay Road
C. Chrysler Drive between Bayfront Expressway and Constitution Drive
D. Chrysler Drive between Constitution Drive and Jefferson Drive
E. Chilco Street between Bayfront Expressway and Constitution Drive
F. Chilco Street between Hamilton Avenue and Ivy Drive
G. Constitution Drive between Independence Drive and Chrysler Drive
H. Constitution Drive between Chrysler Drive and Jefferson Drive
I. Constitution Drive between Jefferson Drive and Chilco Street
J. Jefferson Drive between Chrysler Drive and driveway
K. Jefferson Drive between driveway and Constitution Drive
L. Independence Drive between Constitution Drive and Chrysler Drive

The San Mateo County CMP Land Use Analysis Program guidelines require that Routes of Regional Significance be evaluated to determine the impact of added traffic for projects that generate more than 100 net peak hour trips on CMP facilities. The Routes of Regional Significance that are in the study area are SR 84, SR 109, SR 114, and US 101. Access between US 101 and the Project site is via Marsh Road and Bayfront Expressway (SR 84); Willow Road (SR 114); and University Avenue (SR 109). From the East Bay, the Dumbarton Bridge (SR 84) is utilized.

Existing Conditions

Roadway Network

The existing roadway network within the Project vicinity is illustrated on Figure 3.3-1**.** A mix of primary arterials, minor arterials, collectors, and local streets run through the study area. For purposes of the transportation analysis, US 101 and El Camino Real, and all streets parallel to them, are defined to run north-south; Marsh Road, Willow Road and all streets parallel to them are defined to run east-west.

Detailed descriptions of the main study area roadways are included in the following paragraphs.

US 101—US 101 is an eight-lane freeway running in the north-south direction adjacent to the Project site. The speed limit on US 101 near the Project site is 65 miles per hour (mph). US 101 runs between Los Angeles and Olympia, Washington and is a major regional freeway on the San Francisco Bay Peninsula. Access to US 101 near the Project site is located at Marsh Road, Willow Road, and University Avenue.

Bayfront Expressway (SR 84)—Bayfront Expressway is under Caltrans' jurisdiction. It is a divided roadway with three lanes in each direction connecting Marsh Road with the Dumbarton Bridge and in Menlo Park the route runs in a north-south direction. Each of the intersections along the Bayfront Expressway is signalized with the exception of one unsignalized intersection between Chilco Street and Willow Road. On-street parking is not permitted on Bayfront Expressway and the speed limit is 50 mph. The San Francisco Bay Trail, a Class I bike path, parallels Bayfront Expressway near the Project site.

Chilco Street—Chilco Street is classified as a collector street between Bayfront Expressway and Constitution Drive and as a local street between Constitution Drive and Newbridge Street. Chilco Street connects Bayfront Expressway and Newbridge Street and generally runs in an east-west direction. On-street parking is permitted in some areas and the roadway has one travel lane in each direction. Posted speed limits along the road include 25 mph in the Belle Haven neighborhood, 40 mph when the road is parallel to the railroad tracks between Constitution Drive and Terminal Avenue, and 35 mph near Bayfront Expressway. There are Class II bike lanes on Chilco Street from Bayfront Expressway to Hamilton Avenue.

Chrysler Drive—Chrysler Drive is classified as a collector street between Bayfront Expressway and Constitution Drive and as a local street west of Constitution Drive. The roadway follows an east-west alignment and on-street parking is permitted in some areas south of Constitution Drive. The speed limit on Chrysler Drive is 35 mph with one lane of travel in each direction west of Constitution Drive and two eastbound lanes and one westbound lane between Constitution Drive and Bayfront Expressway.

Commonwealth Drive—Commonwealth Drive is a north-south roadway classified as a local street for its entire length between Chrysler Street and the entrance to the Project site. Commonwealth Drive has a speed limit of 25 mph. It has one lane of travel in each direction. On-street parking is not permitted. The south end of Commonwealth Drive serves as one of the two entrances to the Project site.

Constitution Drive—Constitution Drive is a north-south roadway classified as a local street between Independence Drive and Chrysler Drive and as a collector between Chrysler Drive and Chilco Street. Constitution Drive has one lane of travel in each direction, a speed limit of 35 mph, and on-street parking permitted in some areas.

Independence Drive—Independence Drive is a north-south roadway classified as a local street between Constitution Drive and Chrysler Drive. A northward extension of Independence Drive connects

to eastbound Marsh Road allowing a right turn from Marsh Road. The speed limit is 25 mph, on-street parking is permitted in some areas, and one lane of travel is present in each direction.

Jefferson Drive—Jefferson Drive connects Chrysler Drive and Constitution Drive. Jefferson Drive is a local street and on-street parking is generally permitted on both sides of the roadway. It has one travel lane in each direction and a speed limit of 25 mph. Jefferson Drive will serve as one of the two access points to the Project site.

Marsh Road—Marsh Road is an east-west roadway between Middlefield Road in the Town of Atherton and Bayfront Expressway in the City of Menlo Park. It is a primary arterial between Bohannon Drive and Bayfront Expressway. Between US 101 and Bayfront Expressway, there are three lanes in each direction and two lanes in each direction between Bohannon Drive and US 101. No on-street parking is permitted between Bohannon Drive and Bayfront Expressway and the speed limit for this section is 35 mph. Marsh Road between Bay Road and Bohannon Drive is a minor arterial with two lanes in each direction, on-street parking permitted in some areas, and a speed limit of 35 mph. Marsh Road is under Town of Atherton jurisdiction between Middlefield Road and Bay Road with generally one travel lane in each direction, on-street parking permitted in some areas, and a speed limit of 30 mph.

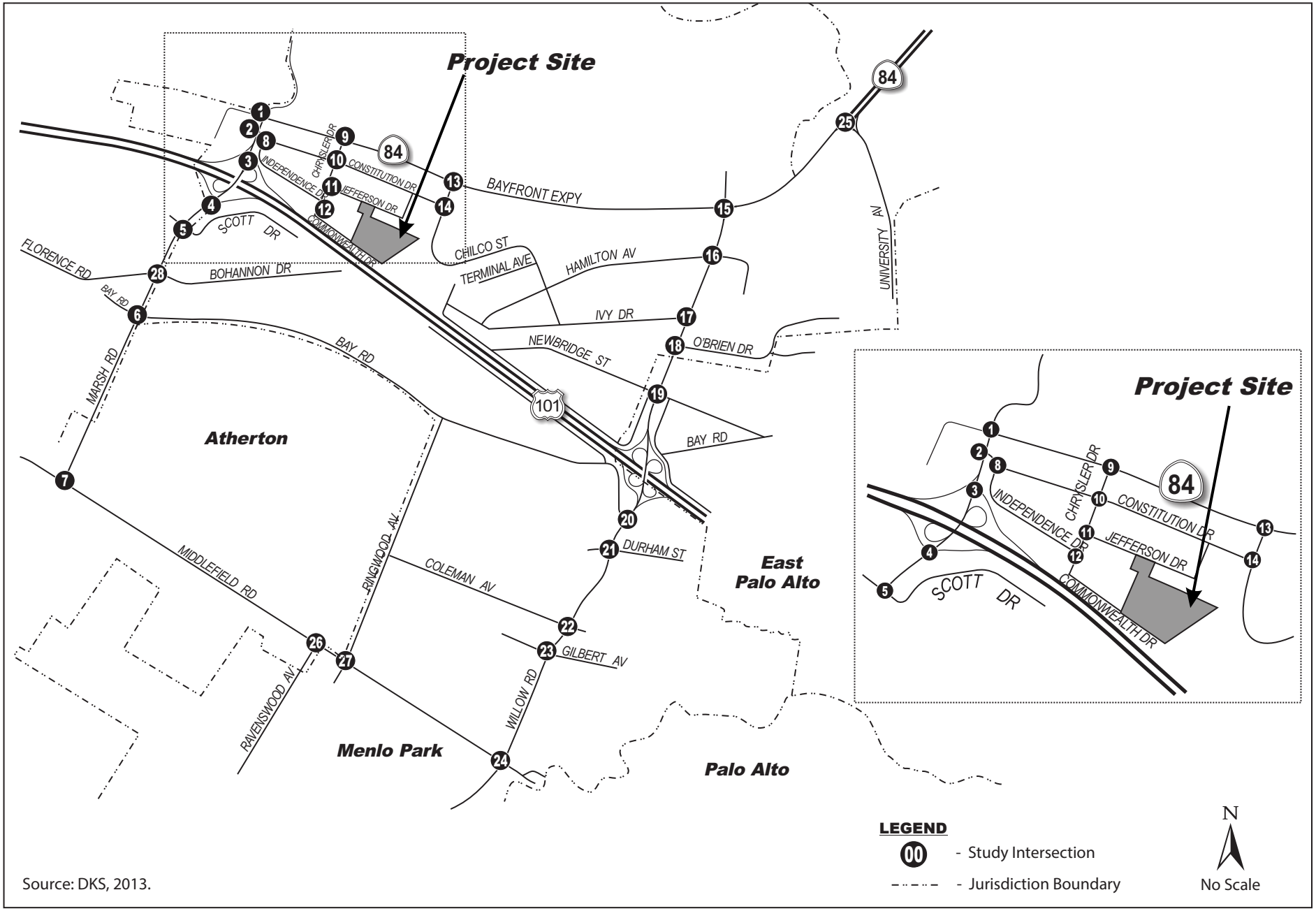
Middlefield Road—Middlefield Road is a two- to four-lane, north-south minor arterial that runs throughout the City and the Town of Atherton. Middlefield Road has one lane in each direction north of Ringwood Avenue and two lanes in each direction south of Ringwood Avenue. Near Marsh Road in Atherton, Middlefield Road is one lane in each direction. On-street parking is not permitted on Middlefield Road and the speed limit is 30 mph. Middlefield Road provides access mainly to residential, office, and school areas. There are Class II bike lanes along Middlefield Road in the study area.

Willow Road—Willow Road is an east-west street and is classified as a primary arterial between US 101 and Bayfront Expressway with two travel lanes in each direction. This section is designated as SR 114 and is under Caltrans' jurisdiction. On-street parking is not permitted and the speed limit is 40 mph. Between Middlefield Road and US 101, Willow Road is a two-lane street and is classified as a minor arterial. On-street parking is permitted in some areas along this segment and the speed limit is 25 mph. West of US 101, Willow Road generally serves residential areas. Class II bike lanes exist along the Willow Road between Middlefield Road and Bayfront Expressway except an existing gap at the US 101 interchange.

University Avenue—University Avenue is a two-lane street west of US 101 and a four-lane street east of US 101. The road runs in the east-west direction and is classified as a primary arterial between the city limits and Bayfront Expressway. Between US 101 and Bayfront Expressway, University Avenue is under Caltrans' jurisdiction, and is designated as SR 109 with a speed limit of 35 mph east of Purdue Avenue. West of Purdue Avenue, University Avenue has a speed limit of 25 mph. University Avenue serves residential and commercial areas east of US 101 and mainly residential areas west of US 101. On-street parking is not allowed along the roadway and Class II bicycle lanes are provided between Middlefield Road and Bayfront Expressway except for a section between O'Keefe Street and Newbridge Street.

Transit Facilities

Figure 3.3-2 details the existing transit and shuttle services in the area. Bus service in the Project vicinity is primarily provided by the San Mateo County Transit District (SamTrans). AC Transit, the Santa Clara Valley Transportation Authority (VTA), and Stanford University also have bus routes in the Project



Source: DKS, 2013.

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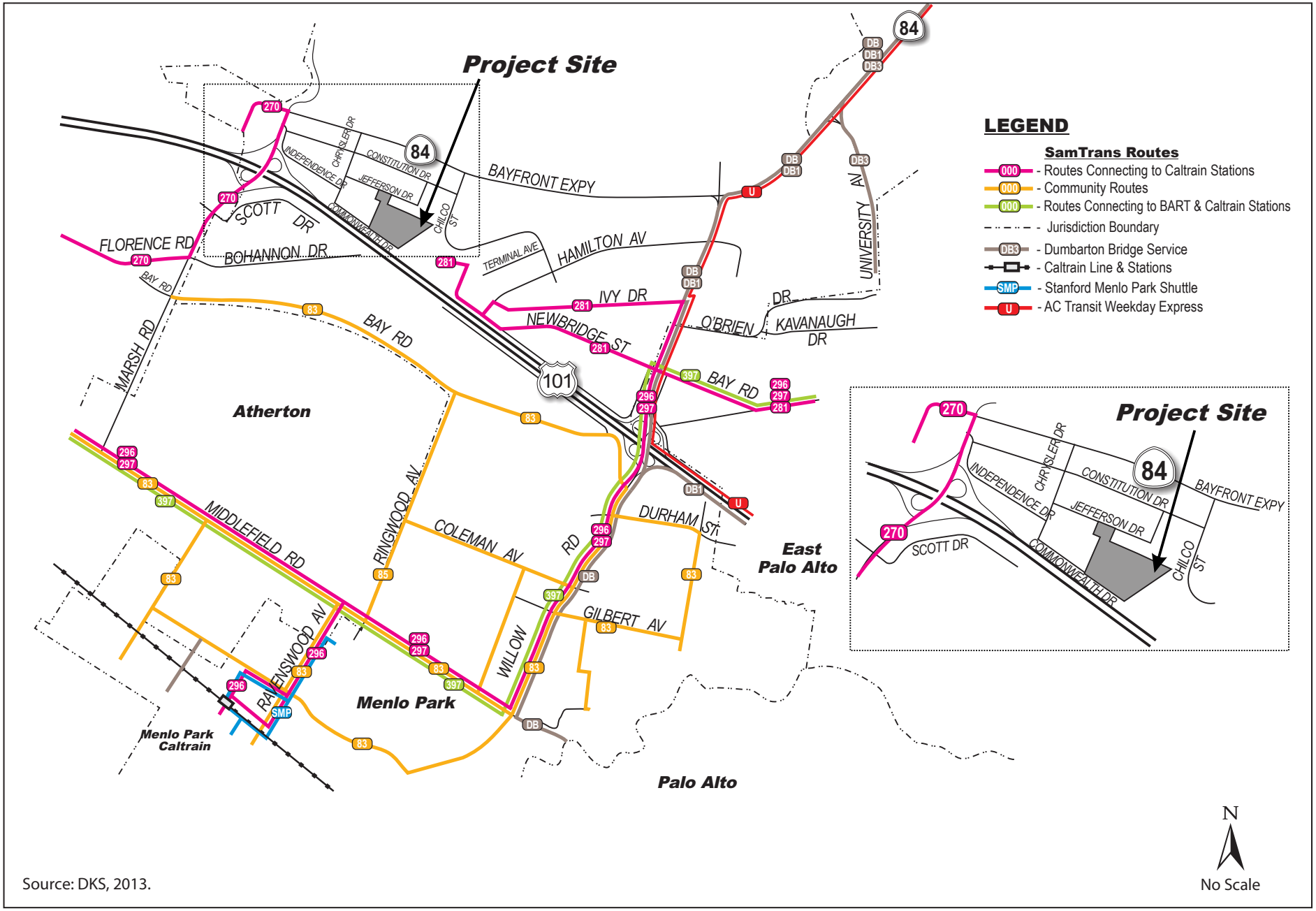
Figure 3.3-1
Study Area Map



Source: DKS, 2013.

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Figure 3.3-2
Existing Shuttle & Transit Routes

vicinity. These routes are based on service as of February 2014. SamTrans provides eight routes within the study area.

- Route 83 serves Menlo Park and Atherton. It travels along Bay Road from Marsh Road onto Willow Road, Ringwood Road, and Middlefield Road within the Project area. This route provides limited service only on school days.
- Route 270 serves the Redwood City Caltrain Station, Kaiser Hospital, Seaport Village, Harbor Village, and the City along Marsh Road. Route 270 travels along Bay Road onto Marsh Road and continues along Haven Road/Bayshore Road within the Project area. Transfers can be made to SamTrans Routes ECR, KX, 271, 274, 295–297, 397, and onto the Redwood City Caltrain. It operates on weekdays with 1-hour headways with service from 6:30 a.m. until 7:13 p.m.
- Route 281 along Newbridge Street and Bay Road to University Avenue serves the Stanford Shopping Center, the Palo Alto Caltrain Station, East Palo Alto, and the Onetta Harris Community Center. Transfers onto SamTrans Routes ECR, 280, 296, and the Dumbarton Express (described below) occur along this route. On weekdays, it operates with 15-minute headways until approximately 6:00 p.m. when it switches to 30-minute headways. Service is available from 6:00 a.m. until 10:32 p.m. in the eastbound direction and from 6:00 a.m. until 10:21 p.m. in the westbound direction. Weekend service is available with 30-minute headways.
- Route 296 serves Redwood City, Atherton, the City, and East Palo Alto. In the study area, route 296 travels along Middlefield Road, onto Willow Road continuing on Bay Road. Transfers can be made to SamTrans Routes ECR, KX, 82, 83, 84, 86, 88, 270, 271, 274, 275, 278, 280, 281, 286, and 398. Transfers can also be made to the Redwood City and Menlo Park Caltrain stations. It operates on the weekdays with 15-minute headways from 5:18 a.m. until 11:00 p.m. in the northbound direction and from 6:05 a.m. until 10:46 p.m. in the southbound direction. It operates on the weekends with 30-minute headways.
- Route 297 serves Redwood City and Palo Alto. The route travels along Middlefield Road onto Willow Road, Newbridge Street, and continues onto University Avenue. Transfers can be made onto VTA lines. The Palo Alto Caltrain, Dumbarton Express, and Marguerite shuttle (operated by Stanford University) can also be accessed along this route. On weekdays, there are four trips for the northbound and southbound directions. The northbound direction operates from 10:45 p.m. until 4:21 a.m. with trips departing the Palo Alto Caltrain station at 10:45 p.m., 11:45 p.m., 3:45 a.m., and 4:45 a.m. The southbound direction operates with 1-hour headways from 10:43 p.m. until 2:22 a.m. On weekends, it operates with 1-hour headways.
- Route 397 serves San Francisco, South San Francisco, the San Francisco Airport, Burlingame, San Mateo, Belmont, San Carlos, Redwood City, and Palo Alto. Within the Project area, the route travels along Middlefield Road onto Willow Road, Newbridge Street, and continues on to University Avenue. Transfers to SamTrans Routes KX, 250, 251, 270, 271, 274, 282, 292, 294, 295, 298, 359, 390, and 391, occur along this route. Transfers can also be made to BART, VTA, Palo Alto Caltrain, Dumbarton Express, Marguerite shuttle, Muni, AC Transit, and Golden Gate Transit. It is a late-night service route that operates with 1-hour headways from 12:48 a.m. until 4:54 a.m. in the northbound direction and from 1:06 a.m. until 6:22 a.m. in the southbound direction.

AC Transit Line "U" serves Stanford University, Palo Alto, Newark, the Centerville District, and Fremont. Within the study area, the route travels along Willow Road and US 101. The route provides access to many VTA, SamTrans, and other AC Transit routes. The route also provides access to the Ardenwood

Park & Ride facility, the ACE/Amtrak Centerville train station, and the Fremont BART station. The westbound schedule operates between 6:00 a.m. and 9:11 a.m. and between 2:50 p.m. and 7:08 p.m. in the eastbound direction.

AC Transit administers the Dumbarton Express routes DB/DB1/DB3, which serve Palo Alto, East Palo Alto, Menlo Park, and Union City. In the study area, the routes travel along University Avenue, US 101, and Willow Road onto SR 84. The stop closest to the Project site is at Willow Road and Hamilton Avenue. The Dumbarton Express operates between 5:22 a.m. and 7:55 p.m. in the eastbound direction and between 6:16 a.m. and 8:51 p.m. in the westbound direction. Transfers onto VTA bus routes along SamTrans and Dumbarton Express bus routes are available.

Caltrain serves many cities along its route connecting San Francisco to Gilroy. The route also provides access to BART, the San Francisco International Airport, and the San Jose International Airport. The Project area can be accessed via the Menlo Park Station connecting onto SamTrans Routes 296 and 85, or via City of Menlo Park Shuttles. A total of 33 trains stop at the Menlo Park Station on weekdays in the northbound direction and 32 trains stop in the southbound direction. There are four trains during the 7:00 a.m. to 9:00 a.m. Peak Period and six trains during the 4:00 p.m. to 6:00 p.m. Peak Period in the northbound direction. Six trains during the AM Peak Period stop at the Menlo Park Station while four stop during the PM Peak Period in the southbound direction. On weekends, 16 trains stop at the Menlo Park Station.

The City operates shuttle services in the study area to provide connections between the Menlo Park Caltrain station and employment centers on the eastern side of the city. The Menlo Park Caltrain Shuttles travels along Marsh Road and Middlefield Road; and along Willow Road. The shuttle service is currently operating in the vicinity of the Project site during the AM and PM Peak Periods.

Stanford University operates Marguerite, a free public shuttle service which travels around campus and connects to nearby transit and common destinations. The Stanford Menlo Park Marguerite travels from campus to the Menlo Park Caltrain Station and then along Ravenswood Avenue to the Stanford clinics in Menlo Park. The shuttle operates on weekdays, except for holidays.

Bicycle and Pedestrian Facilities

Bicycle facilities are classified into three types:[1,2]

- Class I Bikeways (bike paths) are off-street facilities that are separated from motor vehicle traffic. They may be shared with pedestrians and other non-motorized users.
- Class II Bikeways (bike lanes) are on-street facilities striped to designate right-of-way to bicyclists.
- Class III Bikeways (bike routes) are streets marked with signage for bicycle travel. Bicyclists on bike routes must share travel lanes with motorists.

In the Project vicinity, the San Francisco Bay Trail, a Class I bicycle facility, runs along Bayfront Expressway between Haven Avenue and the Dumbarton Bridge. The path provides connections to the East Bay, East Palo Alto, and Redwood City. Also, the Bay Conservation & Development Commission

[1] Per the California Vehicle Code, bikes are allowed on all streets unless expressly prohibited, but bikeways formalize preferred routes for cyclists.
[2] California Highway Design Manual, 2012.

(BCDC) Shoreline Trail follows the perimeter of the Facebook East Campus, approximately 1 mile east of the Project site.

Figure 3.3-3 details the existing bicycle and pedestrian facilities in the area. There are Class II bicycle lanes on Willow Road, although a gap exists across the US 101 interchange; on Bay Road ending just north of Willow Road; on University Avenue between O'Brien Drive and Bayfront Expressway; on Middlefield Road between Marsh Road and Willow Road; Ringwood Avenue between Middlefield Road and Bay Road connecting to the pedestrian/bicycle bridge across US 101; and Chilco Street between Hamilton Avenue and Bayfront Expressway. In the immediate vicinity of the Project site, there are no bicycle lanes on the local and collector streets, cyclists share the roadways with vehicular traffic.

Sidewalks are present along the north side of Commonwealth Drive and the south side of portions of Jefferson Drive in the vicinity of the Project site. While the existing sidewalks are in very good condition with little cracking or rutting, gaps exist along the frontage of 1150 Chrysler Drive, 138 Jefferson Drive, 160 Jefferson Drive, and 164 Jefferson Drive.

Existing Traffic Demand and Levels of Service

Intersection LOS

Existing conditions at the study intersections during the AM and PM peak periods of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively, were based on counts provided by City staff, collected in May 2012 for the 28 study intersections. Existing intersection lane geometrics are provided on Figure 3.3-4a and 3.3-4b. Existing peak hour traffic volumes and ADT estimates for the study segments are provided on Figure 3.3-5a and 3.3-5b, and Figure 3.3-6 respectively.

Existing Peak Hour intersection levels of service are summarized in Table 3.3-1. Detailed calculations are provided in Appendix 3.3-A.

During the AM Peak Hour, the intersection of Independence Drive at Constitution Drive operates at LOS D, which exceeds the City's LOS standard for local street intersections. All other study intersections currently operate at acceptable LOS during the AM Peak Hour.

During the PM Peak Hour, the intersections of Marsh Road at Bayfront Expressway (State-controlled) and Willow Road at Middlefield Road (City-controlled) operate at LOS E. The intersection of University Avenue at Bayfront Expressway (State-controlled) operates at LOS F. All other intersections operate at acceptable LOS for the PM Peak Hour.

Roadway Segment Analysis

The City's TIA Guidelines include an estimate of the ideal traffic volume at 20,000 vehicles per day (vpd) for minor arterials and 10,000 vpd for collector streets. For local streets, in order to maintain quality of life for residential neighborhoods, the desired volume is 1,500 vpd or less. Marsh Road between Bayfront Expressway and Bohannon Drive is classified as a primary arterial and is therefore not subject to roadway segment analysis according to the City's TIA Guidelines. Additionally, sections of Chrysler Drive, Chilco Street, Constitution Drive, Jefferson Drive, and Independence Drive are classified as local streets. While local street thresholds are applied to these segments, they were originally defined to preserve quality of life for residential neighborhoods adjoining local streets. Since these street segments are located within an industrial area, the application of these standards is considered conservative.

Table 3.3-1. Existing Level of Service

Study Intersection	Count Date	LOS Standard	Control Type	AM Peak Hour		PM Peak Hour	
				Delay[a]	LOS[b]	Delay[a]	LOS[b]
1. Marsh Road and Bayfront Expressway (State)	5/8/12	D	Signalized	34.1	C	**67.7**	**E**
2. Marsh Road and Independence Drive (State)	5/15/12	D	Side-Street Stop	0.0	A	0.0	A
3. Marsh Road and US 101 NB Off-Ramp (State)	5/8/12	C	Signalized	15.8	B	16.3	B
4. Marsh Road and US 101 SB Off-Ramp (State)	5/8/12	C	Signalized	23.9	C	21.0	C
5. Marsh Road and Scott Drive	5/9/12	D	Signalized	16.4	B	24.6	C
6. Marsh Road and Bay Road	5/8/12	D	Signalized	17.6	B	13.1	B
7. Marsh Road and Middlefield Road (Atherton)	5/15/12	D	Signalized	25.7	C	26.7	C
8. Independence Drive and Constitution Drive	5/15/12	C	Side-Street Stop	**29.9**	**D**	11.6	B
9. Chrysler Drive and Bayfront Expressway (State)	5/8/12	D	Signalized	8.3	A	21.4	C
10. Chrysler Drive and Constitution Drive	5/15/12	C	All Way Stop	9.6	A	10.1	B
11. Chrysler Drive and Jefferson Drive	5/15/12	C	Side-Street Stop	9.4	A	10.0	B
12. Chrysler Drive and Independence Drive	5/15/12	C	Side-Street Stop	9.3	A	9.7	A
13. Chilco Street and Bayfront Expressway (State)	5/8/12	D	Signalized	19.4	B	16.3	B
14. Chilco Street and Constitution Drive	5/15/12	C	All Way Stop	11.3	B	10.4	B
15. Willow Road and Bayfront Expressway (State)	5/8/12	D	Signalized	22.1	C	42.0	D
16. Willow Road and Hamilton Avenue (State)	5/8/12	D	Signalized	24.2	C	22.7	C
17. Willow Road and Ivy Drive (State)	5/22/12	D	Signalized	13.7	B	12.6	B

Table 3.3-1. Existing Level of Service

Study Intersection	Count Date	LOS Standard	Control Type	AM Peak Hour		PM Peak Hour	
				Delay[a]	LOS[b]	Delay[a]	LOS[b]
18. Willow Road and O'Brien Drive (State)	5/8/12	D	Signalized	14.0	B	32.0	C
19. Willow Road and Newbridge Street (State)	5/9/12	D	Signalized	50.2	D	40.7	D
20. Willow Road and Bay Road (State)	5/9/12	D	Signalized	20.0	C	19.5	B
21. Willow Road and Durham Street	5/8/12	D	Signalized	12.1	B	11.8	B
22. Willow Road and Coleman Avenue	5/8/12	D	Signalized	17.1	B	9.5	A
23. Willow Road and Gilbert Avenue	5/8/12	D	Signalized	12.9	B	9.4	A
24. Willow Road and Middlefield Road	5/8/12	D	Signalized	47.6	D	**62.2**	**E**
25. University Avenue and Bayfront Expressway (State)	5/8/12	D	Signalized	22.0	C	**124.6**	**F**
26. Middlefield Road and Ravenswood Avenue	5/8/12	D	Signalized	23.9	C	25.4	C
27. Middlefield Road and Ringwood Avenue	5/8/12	D	Signalized	27.4	C	26.3	C
28. Marsh Road and Florence Street–Bohannon Drive	5/8/12	D	Signalized	37.9	D	24.1	C

Source: DKS Associates 2013. Traffic counts: City of Menlo Park 2013.

Notes:

a. Delay = average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections, **bold** text signifies a LOS that is higher than the standard.

b. LOS = Level of service, represents average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections.

See Appendix 3.3-B for definitions of LOS for signalized and unsignalized intersections.

The existing ADT for the study area roadways was provided by the City for typical weekdays. The existing ADT is shown in Table 3.3-2. As shown, the ADT on Marsh Road increases with proximity to US 101. Both Chrysler Drive and Chilco Street show significantly higher volumes on the block adjacent to Bayfront Expressway. Constitution Drive and Jefferson Drive show consistent volumes along the length of the road.

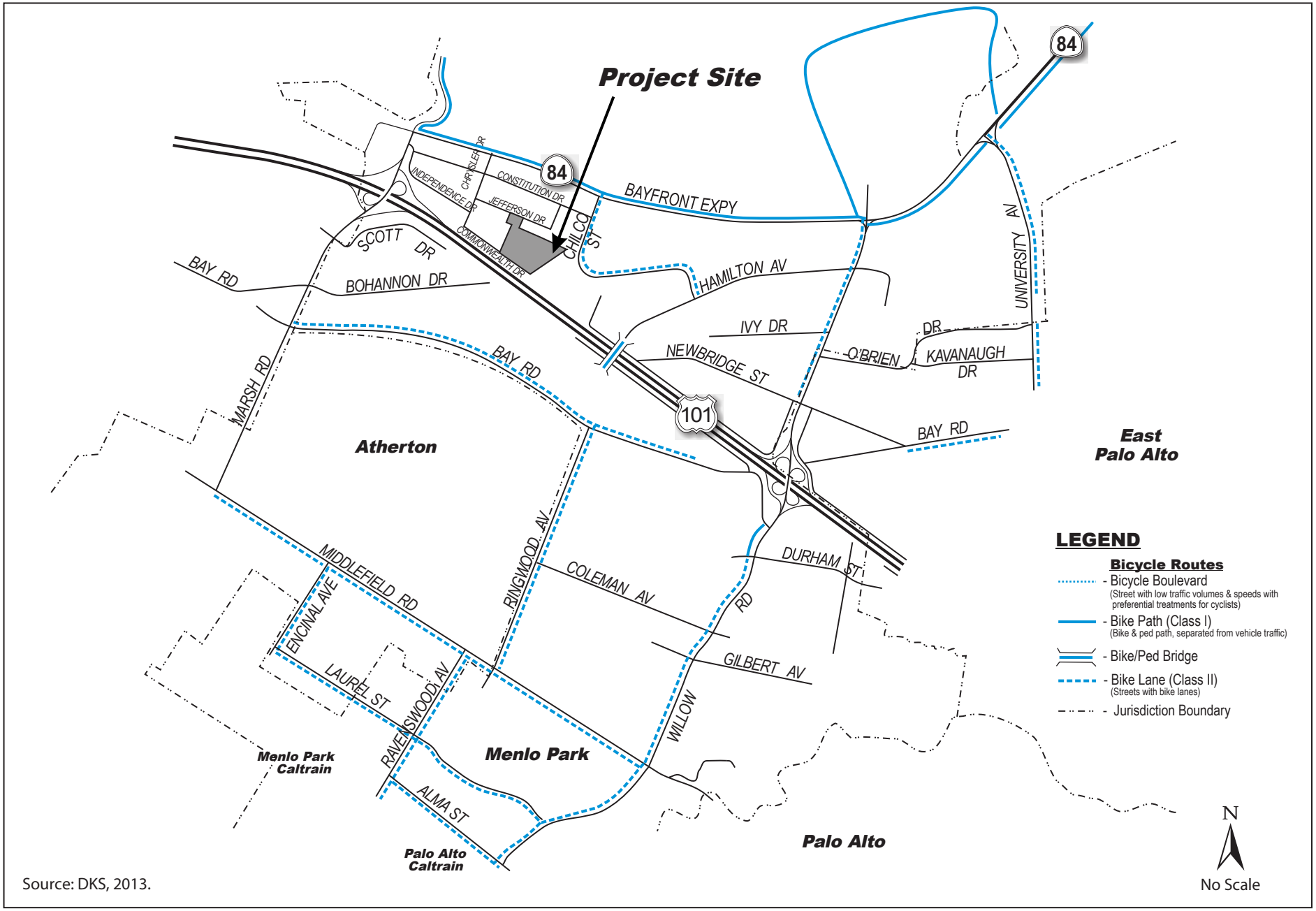
Table 3.3-2. Existing Average Daily Traffic Summary

Roadway Segment	Roadway Class	Threshold	ADT
A. Marsh Road (Scott Drive and Bohannon Drive)	PA	n/a	32,768
B. Marsh Road (Bohannon Drive and Bay Road)	MA	20,000	**27,013**
C. Chrysler Drive (Bayfront Expressway and Constitution Drive)	C	10,000	7,084
D. Chrysler Drive (Constitution Drive and Jefferson Drive)	L	1,500	**2,625**
E. Chilco Street (Bayfront Expressway and Constitution Drive)	C	10,000	6,939
F. Chilco Street (Hamilton Avenue and Ivy Drive)	L	1,500	**2,213**
G. Constitution Drive (Independence Drive and Chrysler Drive)	L	1,500	**2,342**
H. Constitution Drive (Chrysler Drive and Jefferson Drive)	C	10,000	1,997
I. Constitution Drive (Jefferson Drive and Chilco Drive)	C	10,000	2,084
J. Jefferson Drive (Chrysler Drive and Project driveway)	L	1,500	1,288
K. Jefferson Drive (Project driveway and Constitution Drive)	L	1,500	851
L. Independence Drive (Constitution Drive and Chrysler Drive)	L	1,500	1,015

Source: DKS Associates 2013. Traffic counts: City of Menlo Park May 2012.

Notes: Roadway traffic volume for each roadway classification is detailed in the City of Menlo Park TIA Guidelines. **Bold** type indicates ADT volumes that exceed threshold.

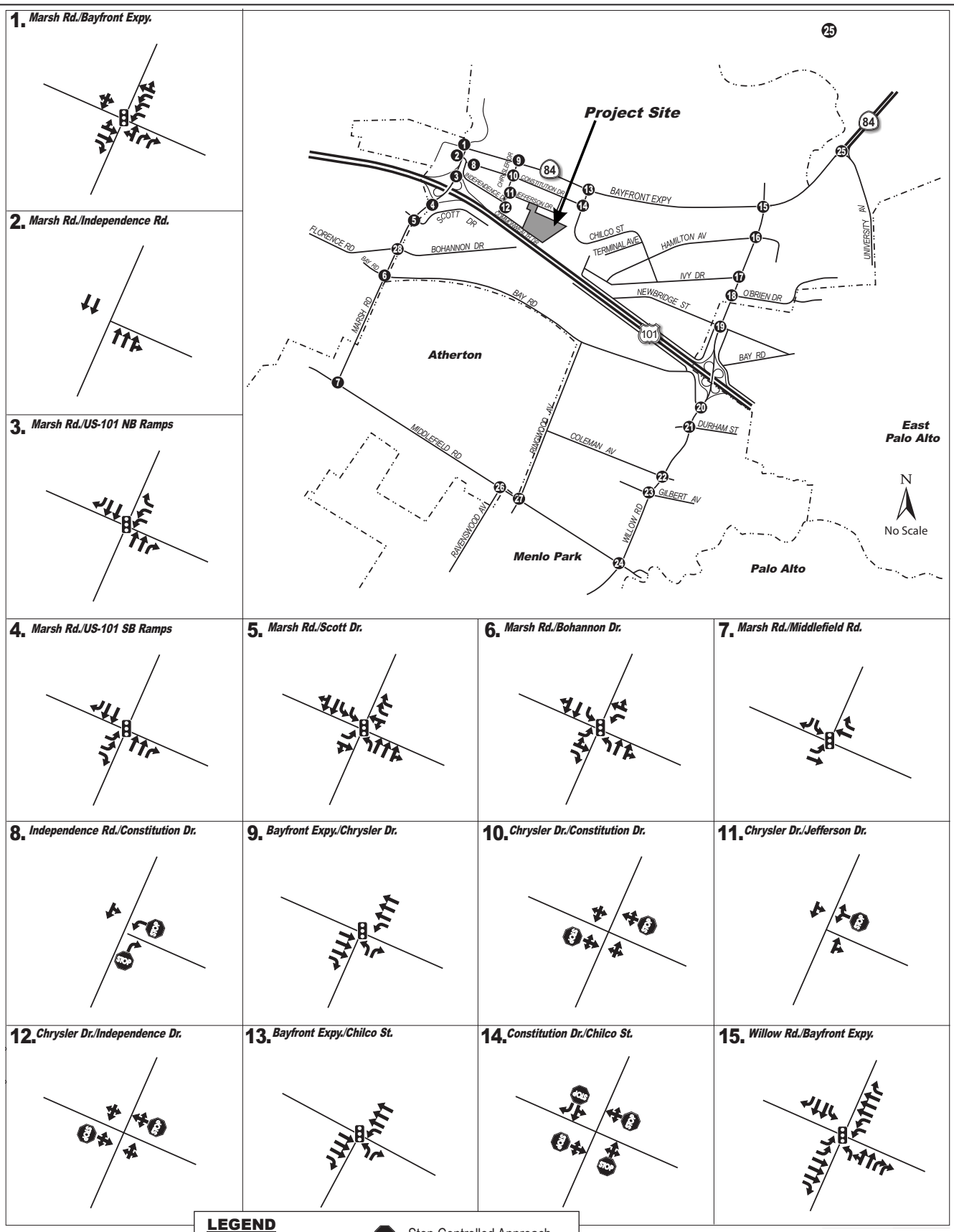
PA = Primary Arterial, MA = Minor Arterial, C = Collector, L=Local



Source: DKS, 2013.

Graphics ... 00078.13 (10-22-13)

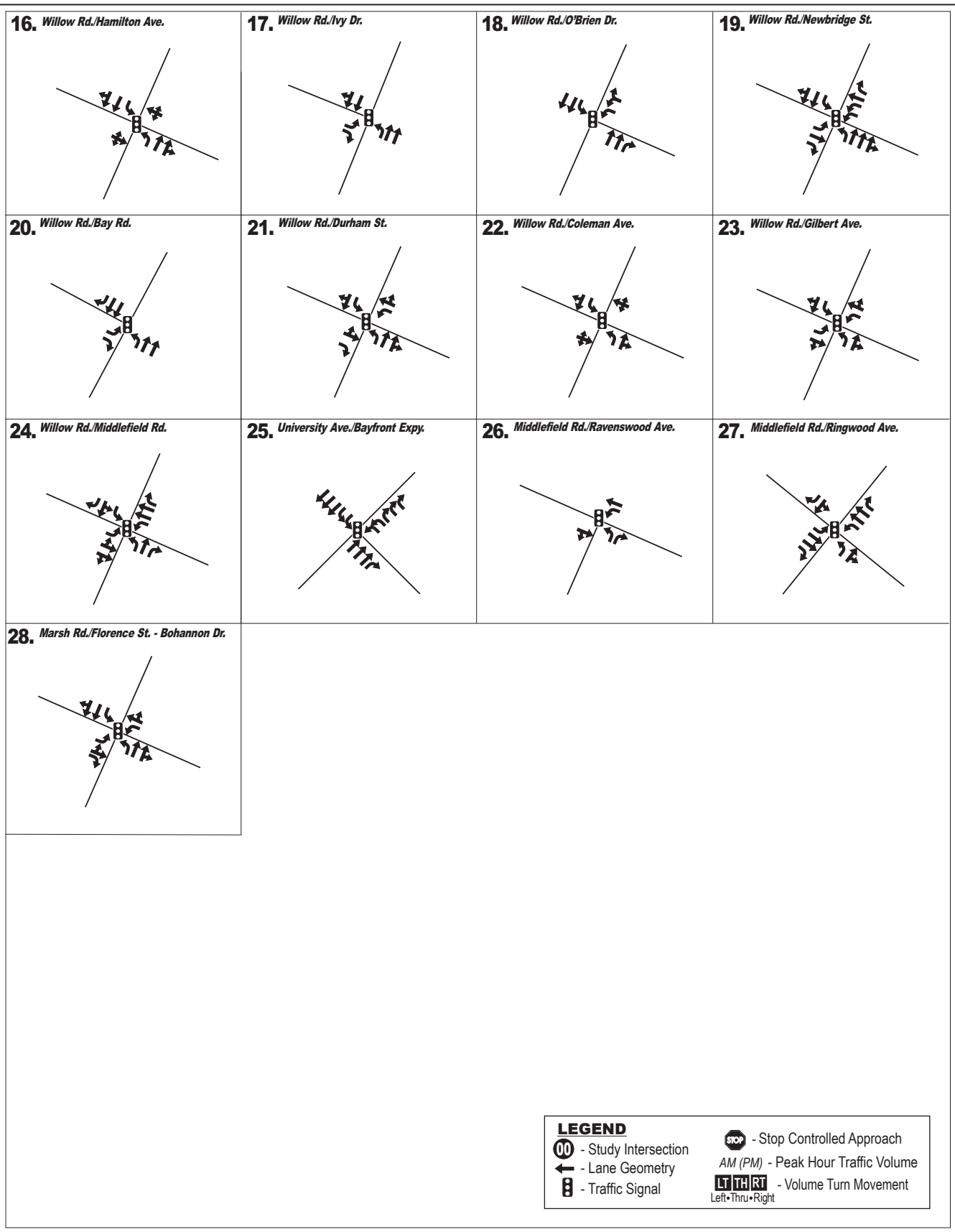
Figure 3.3-3
Existing Bicycle Routes



Source: DKS, 2013.

Graphics ... 00078.13 (10-22-13)

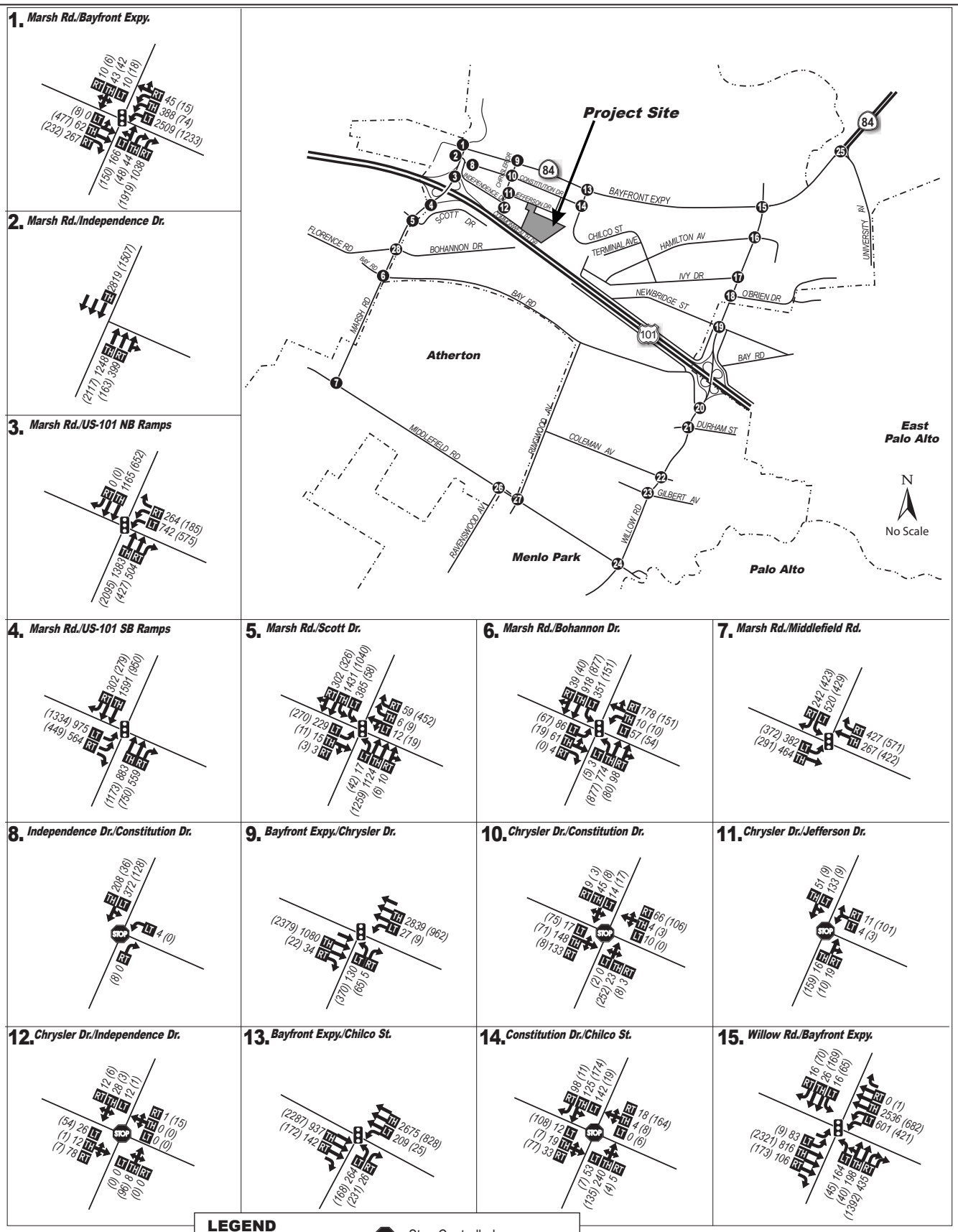
Figure 3.3-4a
Existing Lane Geometry



Source: DKS, 2013.

Graphics ... 00078.13 (10-22-13)

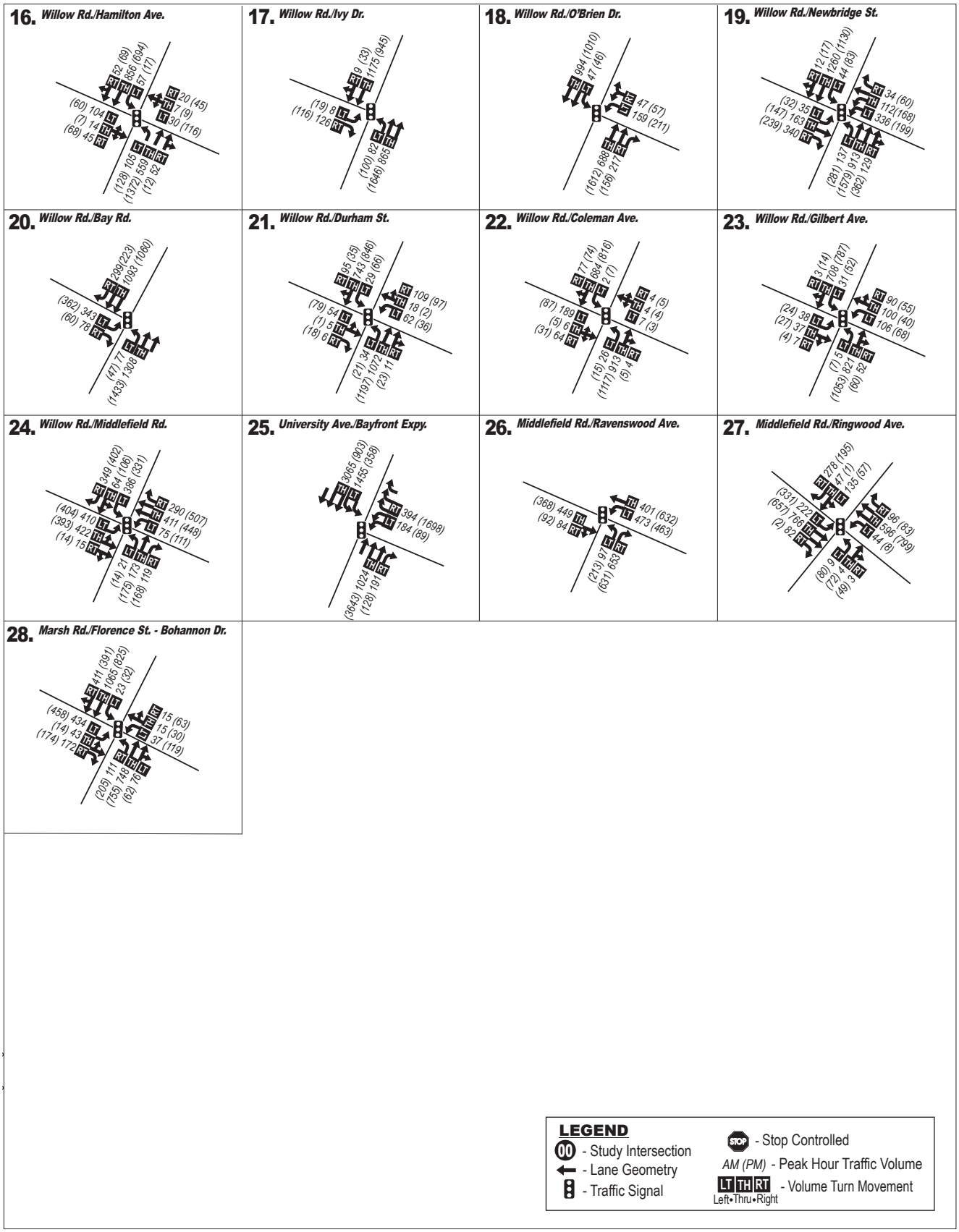
Figure 3.3-4b
Existing Lane Geometry



Source: DKS, 2013.

Graphics ... 00078.13 (10-22-13)

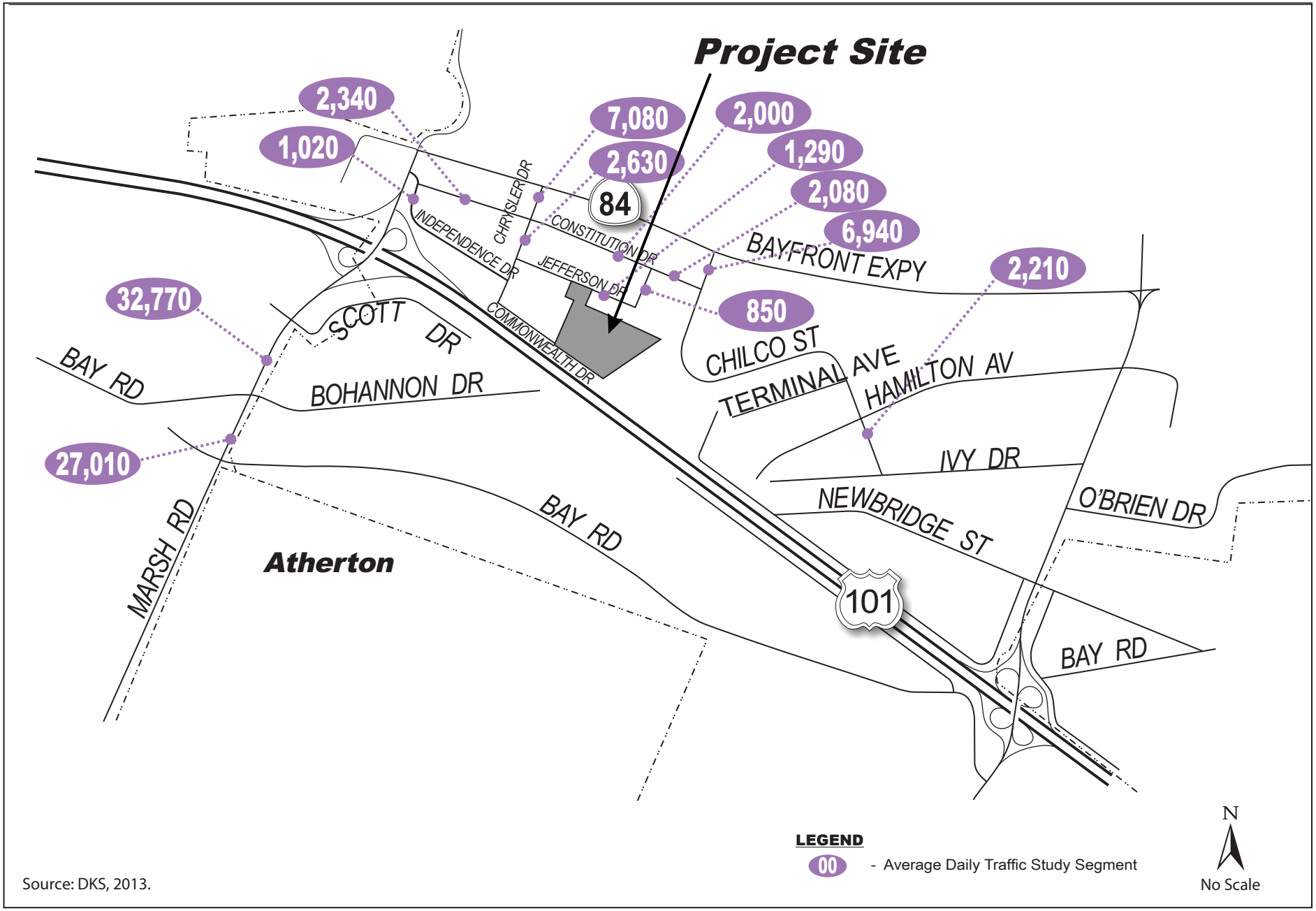
Figure 3.3-5a
Existing Peak Hour Volumes



Source: DKS, 2013.

Graphics ... 00078.13 (10-22-13)

Figure 3.3-5b
Existing Peak Hour Volumes



Source: DKS, 2013.

Graphics ... 00078.13 (10-22-13)

Figure 3.3-6
Existing Average Daily Traffic

Routes of Regional Significance

The Project site is accessible to regional origins and destinations by routes including US 101, Bayfront Expressway (SR 84), University Avenue (SR 109), and Willow Road (SR 114). Access between US 101 and the Project site is provided primarily via Marsh Road and Bayfront Expressway, but is also possible via Willow Road and University Avenue. C/CAG defines Routes of Regional Significance and bi-annually monitors their operation and performance. Several of these Routes of Regional Significance are currently operating at or close to their respective LOS standard. According to the *2011 Congestion Management Program Monitoring Report,*[3] US 101 and the segments of Bayfront Expressway south of Willow Road currently operate at LOS F. Refer to Table 3.3-3.

Table 3.3-3. Existing Conditions Routes of Regional Significance

Route	Segment	Roadway Type	Estimated Capacity (vph)[a]	LOS Standard	Existing LOS[b]
Bayfront Expressway	US 101 to Willow Road	Arterial	3,300	D	B
	Willow Road to University Avenue	Arterial	3,300	E	**F**
	University Avenue to County Line	Arterial	3,300	F	**F**
University Avenue	US 101 to Bayfront Expressway	Arterial	2,200	E	C
Willow Road	US 101 to Bayfront Expressway	Arterial	2,200	E	B
US 101	North of Marsh Road	Freeway	9,200	F	**F**
	Marsh Road to Willow Road	Freeway	9,200	F	**F**
	Willow Road to University Avenue	Freeway	9,200	F	**F**
	South of University Avenue	Freeway	9,200	F	**F**

Source: DKS Associates 2013; 2011 San Mateo County CMP Monitoring Report.

Notes:

a. By direction. Freeway capacity is 2,300 vehicles per hour per lane (vphpl) for six-lane segments and 2,200 vphpl for four-lane segments. Arterial capacity is based on 60 percent green time of 1,900 vphpl saturation flow rate (1,140 vphpl is rounded to 1,100 vphpl).

b. For peak direction of Project traffic for the AM and PM Peak Hours. **Bold** type indicates LOS that exceeds standard.

Freeway Ramp Traffic Volumes

Freeway ramp analysis is provided for informational purposes. A summary of traffic volumes on the US 101 ramps at Willow Road and at Marsh Road interchanges is included.

The Project site is most directly accessed from US 101 at Marsh Road and Willow Road. The interchange of US 101 and Marsh Road is approximately 0.75 mile north of the Project site while the interchange of US 101 and Willow Road is approximately 2.75 miles south of the Project site. Caltrans 2010 count data

[3] Jacobs. *Congestion Management Program Monitoring Report*. September 2011.

was used to determine the peak and daily usage of the on- and off-ramps. As shown in Table 3.3-4, the highest AM Peak Hour ramp demand occurs from westbound Marsh Road to northbound US 101. For the PM Peak Hour, the highest demand occurs from southbound US 101 to Marsh Road.

Table 3.3-4. Existing Conditions Ramp Traffic Volumes

Ramp	AM Peak Hour[a]	PM Peak Hour[a]	ADT[a]
NB US 101 diagonal off-ramp to Marsh Road	930	694	10,200
NB US 101 loop on-ramp from EB Marsh Road	520	510	6,200
NB US 101 diagonal on-ramp from WB Marsh Road	1,740	900	12,100
SB US 101 diagonal off-ramp to Marsh Road	1,570	1,700	17,900
SB US 101 loop on-ramp from WB Marsh Road	130	365	1,900
SB US 101 diagonal on-ramp from EB Marsh Road	550	770	7,600
NB US 101 diagonal off-ramp to EB Willow Road	690	1,170	10,100
NB US 101 loop on-ramp from EB Willow Road	390	325	4,150
NB US 101 diagonal on-ramp from WB Willow Road	360	420	4,750
NB US 101 loop off-ramp to WB Willow Road	550	450	6,400
SB US 101 diagonal off-ramp to WB Willow Road	320	360	4,750
SB US 101 loop on-ramp from WB Willow Road	940	800	8,300
SB US 101 diagonal on-ramp from EB Willow Road	760	500	9,300
SB US 101 loop off-ramp to EB Willow Road	230	560	5,200

Source: DKS Associates 2013.
Notes:
a. Route 101/Willow Road Interchange Improvements Traffic Operations Analysis Report, 2012 for AM and PM Peak Hour volumes. ADT source is Caltrans 2010 census data.

Impacts and Mitigation Measures

Traffic and Circulation Analysis Methodology

Intersection Capacity and Level of Service. The LOS evaluation indicates the degree of congestion that occurs during peak travel periods and is the principal measure of roadway and intersection performance. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. The correlation between average delay and LOS for signalized and unsignalized intersections is shown in Table 3.3-5.

Table 3.3-5. Signalized and Unsignalized Intersection LOS Thresholds

LOS	Signalized Intersection Vehicle Delay (seconds/vehicle)	Unsignalized Intersection Vehicle Delay (seconds/vehicle)	Description
A	Delay ≤ 10	Delay ≤ 10	Free Flow: No approach phase is fully utilized and no vehicle waits longer than one red indication.
B	10 < Delay ≤ 20	10 < Delay ≤ 15	Stable Operation: An occasional approach phase is fully utilized. Many drivers feel somewhat restricted within platoon of vehicles.
C	20 < Delay ≤ 35	15 < Delay ≤ 25	Stable Operation: Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	35 < Delay ≤ 55	25 < Delay ≤ 35	Approaching Unstable: Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly.
E	55 < Delay ≤ 80	35 < Delay ≤ 50	Unstable Operation: volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues from upstream intersection.
F	Delay > 80	Delay > 50	Forced Flow: Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Source: 2000 Highway Capacity Manual, Transportation Research Board 2000.

The LOS significance threshold for each intersection differs by jurisdiction and the relevant roadway classification. For the study intersections, agencies with jurisdiction are Caltrans, the City of Menlo Park, and the Town of Atherton. A list of the study intersections, the corresponding jurisdictional agency, LOS standard and threshold for impact significance is provided in Table 3.3-6.

Table 3.3-6. Intersection LOS Significance Thresholds by Jurisdiction

Study Intersection	Jurisdiction	LOS Standard	Significance Threshold
1. Marsh Road and Bayfront Expressway	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
2. Marsh Road and Independence Drive	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
3. Marsh Road and US 101 NB Off-Ramp	State	C	LOS becomes D or worse if LOS is currently C or better OR 4.0 second increase to average delay if LOS is currently D, E or F
4. Marsh Road and US 101 SB Off-Ramp	State	C	LOS becomes D or worse if LOS is currently C or better OR 4.0 second increase to average delay if LOS is currently D, E or F
5. Marsh Road and Scott Drive	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
6. Marsh Road and Bay Road	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
7. Marsh Road and Middlefield Road	Town of Atherton	D	LOS becomes E or F OR 4.0 second increase to average delay if LOS is currently E or F
8. Independence Drive and Constitution Drive	City of Menlo Park	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
9. Chrysler Drive and Bayfront Expressway	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
10. Chrysler Drive and Constitution Drive	City of Menlo Park	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
11. Chrysler Drive and Jefferson Drive	City of Menlo Park	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
12. Chrysler Drive and Independence Drive	City of Menlo Park	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
13. Chilco Street and Bayfront Expressway	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F

Table 3.3-6. Intersection LOS Significance Thresholds by Jurisdiction

Study Intersection	Jurisdiction	LOS Standard	Significance Threshold
14. Chilco Street and Constitution Drive	City of Menlo Park	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
15. Willow Road and Bayfront Expressway	State	D	LOS becomes E or F OR 4.0 second increase to average delay if LOS is currently E or F
16. Willow Road and Hamilton Ave	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
17. Willow Road and Ivy Drive	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
18. Willow Road and O'Brien Drive	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
19. Willow Road and Newbridge Street	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
20. Willow Road and Bay Road	State (local approach)	D	LOS becomes E or F OR if average critical delay increases by 0.8 seconds or more if LOS is currently E or F
21. Willow Road and Durham St	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
22. Willow Road and Coleman Ave	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
23. Willow Road and Gilbert Ave	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
24. Willow Road and Middlefield Road	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
25. University Avenue and Bayfront Expressway	State	D	LOS becomes E or F OR 4.0 second increase to average delay if LOS is currently E or F
26. Middlefield Road and Ravenswood Ave	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F

Table 3.3-6. Intersection LOS Significance Thresholds by Jurisdiction

Study Intersection	Jurisdiction	LOS Standard	Significance Threshold
27. Middlefield Road and Ringwood Ave	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F
28. Marsh Road and Florence St-Bohannon Drive	City of Menlo Park	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR average critical delay increases by 0.8 seconds or more if LOS is currently E or F

Source: DKS Associates 2013. City of Menlo Park, Town of Atherton, Caltrans.

Analysis Scenarios

The following conditions were evaluated as part of the Draft EIR.

- **Existing Conditions**—This condition represents traffic conditions that existed at the time traffic counts were conducted. Existing turning movement and roadway segment ADT counts were obtained from City staff, collected in May 2012. Signal-timing parameters for the analysis were based on the analysis conducted for the City's 2012 Circulation System Assessment Document (2012 CSA).
- **Near Term 2015 Conditions**—This condition represents traffic conditions at the time of expected occupancy of the Project and includes traffic from approved developments including Menlo Gateway and the Facebook East Campus. An ambient growth rate of 1 percent per year compounded annually is added to the Existing Conditions for 3 years to determine the Near Term 2015 Conditions.
- **Near Term 2015 Plus Project Conditions**—This condition assumes the Near Term 2015 Conditions plus the addition of Project-generated traffic. Project-generated traffic would replace the estimated traffic associated with 164 Jefferson Drive and the existing vacant 151 Commonwealth Drive building without the Project.
- **Cumulative 2030 Conditions**—This condition represents traffic conditions under a longer-term time horizon to account for cumulative effects of growth and development within the study area to assess the incremental traffic growth generated by the Project. This condition assumes the Near Term 2015 Conditions plus an ambient growth rate of 1 percent per year compounded from 2015 to 2030 along with any reasonably foreseeable projects that were not yet approved at the time of the Notice of Preparation for this DEIR, including the Facebook West Campus and the Veterans Administration housing proposal.
- **Cumulative 2030 Plus Project Conditions**—This condition assumes the Cumulative 2030 Conditions plus the addition of Project-generated traffic. Project-generated traffic would replace the estimated traffic associated with 164 Jefferson Drive and the existing vacant 151 Commonwealth Drive building without the Project.

Near Term 2015 Conditions

The Near Term 2015 Conditions assume a 1-percent-per-year growth of existing traffic volumes for 3 years, compounded annually. Traffic generated by approved projects within the study area is also included in this scenario.

Approved Development Projects

City staff provided a list of approved developments effective at the time of the NOP release (August 2012). It is anticipated that these projects would be fully implemented and occupied by 2015. These projects are expected to add traffic to the City roadway network and, in some cases, would add traffic to the roadways and intersections studied in this analysis. Table 3.3-7 summarizes the projects that were approved at the time of the NOP issuance and are included in this scenario. Traffic from these developments was added to the study intersections and roadway segments for Near Term 2015 Conditions.

Table 3.3-7. Near Term 2015 Developments in Project Vicinity

Project	Land Use	Size
Stanford University Medical Campus	Hospital/Medical Office	854,970 SF/24,330 sf
1283 Willow Road	Office/Retail	3,800 SF/5,096 sf
1300 El Camino Real	Commercial	110,065 sf
1906 El Camino Real	Medical Office	9,825 sf
1706 El Camino Real	Medical Office	10,166 sf
100-155 Constitution Drive & 100-190 Independence Drive	Office/Health Club/ Restaurant/Hotel	497,619 sf/68,964 sf/4,285 sf/230 Rooms
100 Middlefield	Office	8,936 sf
2484 Sand Hill Road	Office	8,774 sf
1 Hacker Way	Office	3,000 Employees
389 El Camino Real	Residential	22 DU
1460 El Camino Real	Office/Residential	26,800 SF/16 DU

Source: City of Menlo Park 2012.
Notes: DU = dwelling unit

Programmed/Planned Transportation Facility Improvements

For the Near Term 2015 Conditions analysis, intersection geometrics would remain the same as under the Existing Conditions with the exception of improvements at Constitution Drive / Chrysler Drive, Marsh Road / Florence Street–Bohannon Drive, and Willow Road / Middlefield Road intersections. These improvements are required mitigation measures for previously approved Menlo Gateway and Facebook Corporate Headquarters projects, respectively. These improvements are described below.

The Menlo Gateway project identifies three mitigation measures that would fall under the City's jurisdiction, but only two of these measures—at the intersections of Constitution Drive and Chrysler

Drive and Marsh Road and Florence Street–Bohannon Drive—are within the study area. The two improvements included in the analysis are (1) signalizing the Constitution Drive / Chrysler Drive intersection, restriping the southbound approach of Constitution Drive to include a dedicated left-turn lane and a shared through/right lane, and restriping the eastbound approach of Chrysler Drive to a shared through/left lane and a shared through/right lane; and (2) altering Marsh Road / Florence Street–Bohannon Drive lane geometry of the westbound approach of Marsh Road by converting what is now a shared through/right-turn lane into a through lane and a separate right-turn lane.

The Facebook Corporate Headquarters EIR identified one mitigation measure under the City's jurisdiction. This mitigation measure involves the intersection of Willow Road and Middlefield Road and would result in restriping a northbound through lane on Middlefield Road to a shared through/right lane.

These three improvements are assumed to be in place under the Near Term 2015 Conditions.

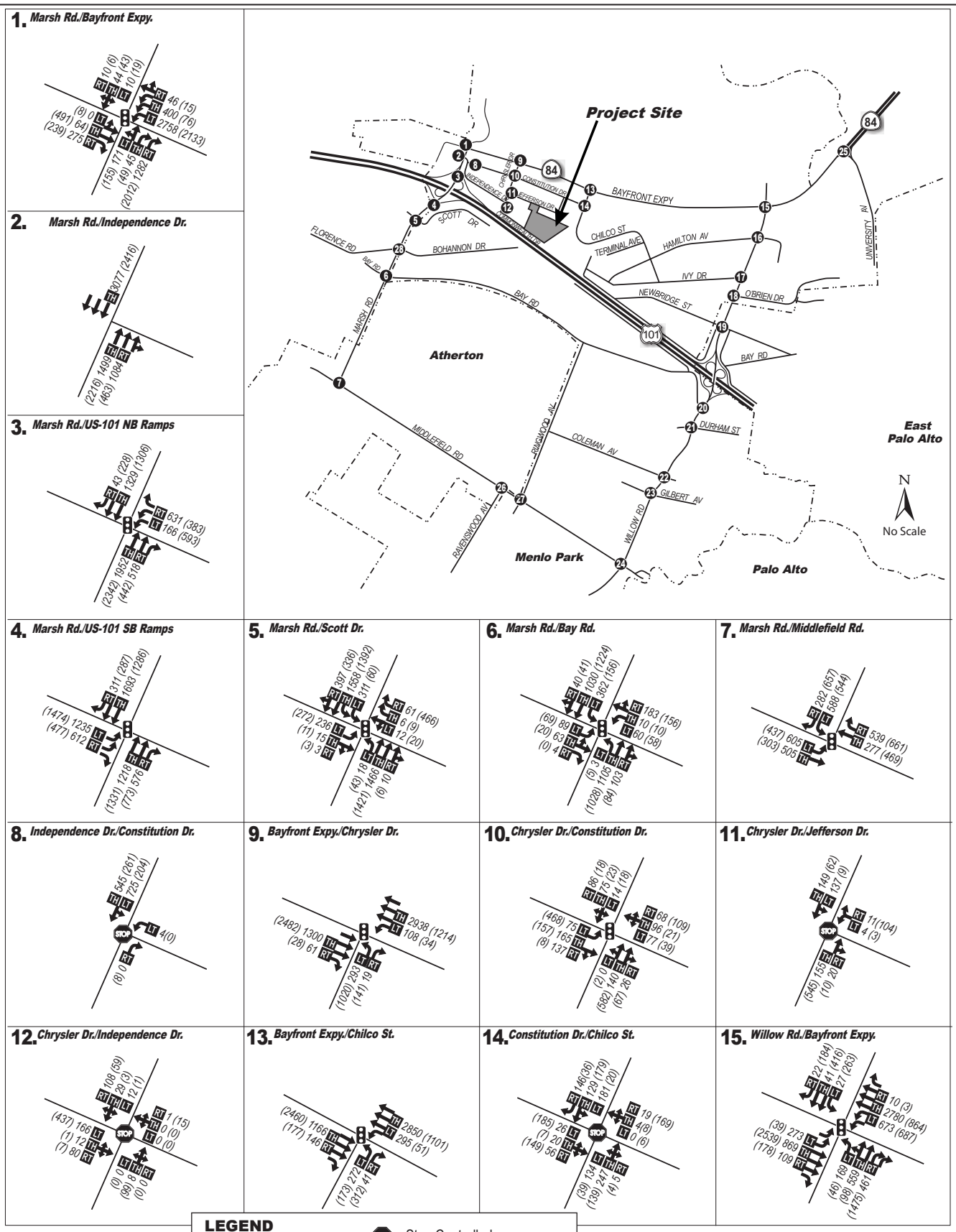
Traffic Volumes and Levels of Service

The Near Term 2015 Conditions Peak Hour intersection turning movement volumes are illustrated in Figure 3.3-7a and 3.3-7b. The Near Term 2015 Conditions ADT volumes on study roadway segments are illustrated in Figure 3.3-8.

Table 3.3-8 summarizes the intersection operating conditions during the AM and PM Peak Hours under Near Term 2015 Conditions.

Table 3.3-8. Near Term 2015 Conditions LOS

Study Intersection	LOS Standard	Control Type	AM Peak Hour		PM Peak Hour	
			Delay[a]	LOS[b]	Delay[a]	LOS[b]
1. Marsh Road and Bayfront Expressway (State)	D	Signalized	41.1	D	**79.2**	**E**
SB Critical Local Approach					***137.9***	***F***
WB Critical Local Approach					***>150***	***F***
2. Marsh Road and Independence Drive (State)	D	Side-Street Stop	0.0	A	0.0	A
3. Marsh Road and US 101 NB Off-Ramp (State)	C	Signalized	**55.2**	**E**	26.2	C
4. Marsh Road and US 101 SB Off-Ramp (State)	C	Signalized	31.9	C	27.8	C
5. Marsh Road and Scott Drive	D	Signalized	17.3	B	33.6	C
6. Marsh Road and Bay Road	D	Signalized	20.0	B	12.7	B
7. Marsh Road and Middlefield Road (Atherton)	D	Signalized	36.3	D	34.4	C
8. Independence Drive and Constitution Drive	C	Side-Street Stop	**>150**	**F**	17.0	C
9. Chrysler Drive and Bayfront Expressway (State)	D	Signalized	18.6	B	**124.5**	**F**
EB Critical Local Approach					***>150***	***F***
10. Chrysler Drive and Constitution Drive	C	All Way Stop	16.2	B	24.6	C



Source: DKS, 2013.

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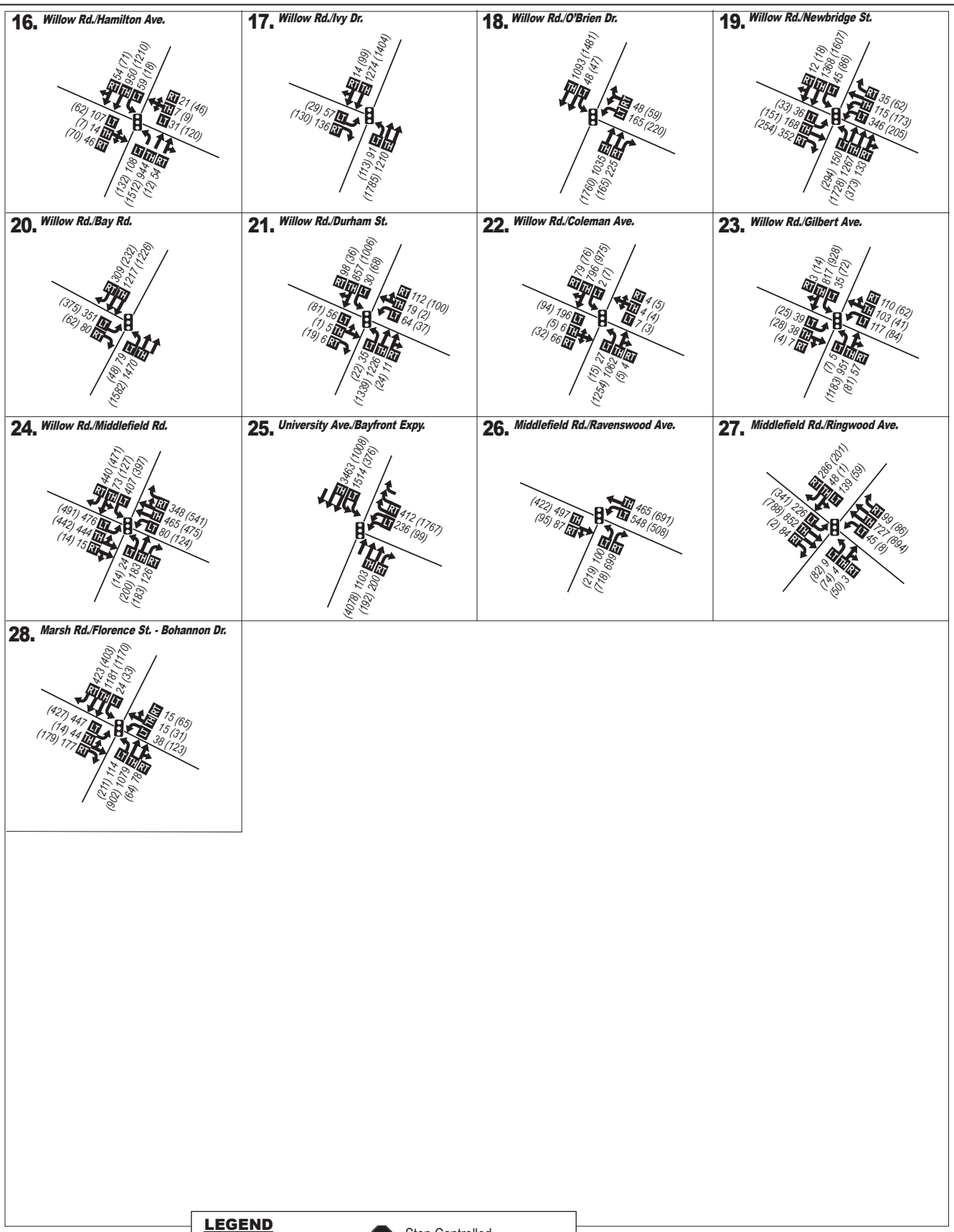
Figure 3.3-7a
Near Term 2015 Condition Peak Hour Volumes



Source: DKS, 2013.

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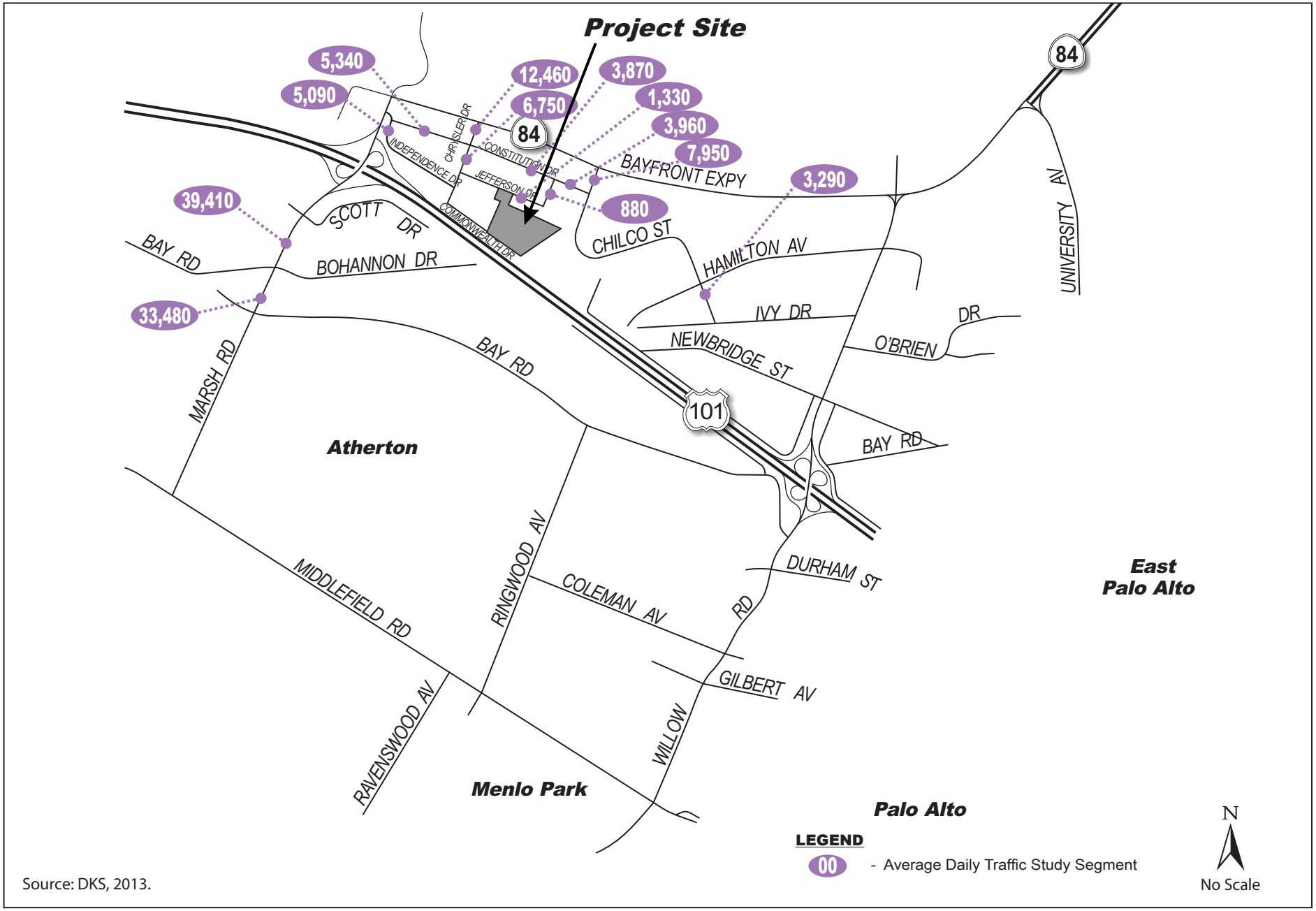
Figure 3.3-7b
Near Term 2015 Condition Peak Hour Volumes



Source: DKS, 2013.

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Figure 3.3-8
Near Term 2015 Condition Average Daily Traffic

Table 3.3-8. Near Term 2015 Conditions LOS

Study Intersection	LOS Standard	Control Type	AM Peak Hour		PM Peak Hour	
			Delay[a]	LOS[b]	Delay[a]	LOS[b]
11. Chrysler Drive and Jefferson Drive	C	Side-Street Stop	11.0	B	16.1	C
12. Chrysler Drive and Independence Drive	C	Side-Street Stop	11.3	B	20.3	C
13. Chilco Street and Bayfront Expressway (State)	D	Signalized	21.6	C	21.1	C
14. Chilco Street and Constitution Drive	C	All Way Stop	13.8	B	13.4	B
15. Willow Road and Bayfront Expressway (State)	D	Signalized	34.3	C	**108.2**	**F**
16. Willow Road and Hamilton Avenue (State)	D	Signalized	22.9	C	23.4	C
17. Willow Road and Ivy Drive(State)	D	Signalized	16.7	B	14.9	B
18. Willow Road and O'Brien Drive (State)	D	Signalized	12.7	B	13.0	B
19. Willow Road and Newbridge Street (State)	D	Signalized	**56.5**	**E**	53.4	D
NB Critical Local Approach			***103.2***	***F***		
SB Critical Local Approach			***93.7***	***F***		
20. Willow Road and Bay Road (State)	D	Signalized	20.4	C	20.2	C
21. Willow Road and Durham St	D	Signalized	12.7	B	12.6	B
22. Willow Road and Coleman Ave	D	Signalized	21.0	C	12.6	B
23. Willow Road and Gilbert Ave	D	Signalized	14.6	B	13.1	B
24. Willow Road and Middlefield Road	D	Signalized	50.9	D	**57.4**	**E**
25. University Avenue and Bayfront Expressway (State)	D	Signalized	24.8	C	**>150**	**F**
26. Middlefield Road and Ravenswood Avenue	D	Signalized	26.1	C	27.2	C
27. Middlefield Road and Ringwood Avenue	D	Signalized	27.0	C	25.7	C
28. Marsh Road and Florence St-Bohannon Drive	D	Signalized	18.7	B	25.8	C

Source: DKS Associates 2013.
Notes:
a. Delay = average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections, **bold** text signifies a LOS that is higher than the standard.
b. LOS = Level of service, represents average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections.
See Appendix 3.3-B for definitions of LOS for signalized and unsignalized intersections.
Average delay for eastbound/westbound or northbound/southbound critical movements for local approaches.

Most study intersections are expected to operate at an acceptable LOS under the Near Term 2015 Condition, with the following exceptions.

- Marsh Road and Bayfront Expressway (PM Peak Hour) (#1)
- Marsh Road and US 101 NB Off-Ramp (AM Peak Hour) (#3)
- Independence Drive and Constitution Drive (AM Peak Hour) (#8)
- Chrysler Drive and Bayfront Expressway (PM Peak Hour) (#9)
- Willow Road and Bayfront Expressway (PM Peak Hour) (#15)
- Willow Road and Newbridge Street (AM Peak Hour) (#19)
- Willow Road and Middlefield Road (PM Peak Hour) (#24)
- University Avenue and Bayfront Expressway (PM Peak Hour) (#25)

Where State-controlled intersections (under Caltrans' jurisdiction) operate unacceptably, Table 3.3-8 also discloses operating conditions of each local approach under Near Term 2015 Conditions.

Standards of Significance

Appendix G of the State CEQA Guidelines includes significance criteria for potential transportation impacts. These include whether a project would result in one of the following.

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, bicycle and pedestrian paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The Project analysis includes facilities within the jurisdiction of the City of Menlo Park, Town of Atherton, and Caltrans. The transportation items of the State CEQA Guidelines checklist are addressed through these local, regional, and state guidelines. As such, the appropriate standard of significance is applied to respective intersections, roadway segments, or Routes of Regional Significance as defined in the following section.

City Arterial Intersections. Added project traffic causes an intersection operating at LOS D or better to reach LOS E or F; or to have an increase greater than 23 seconds 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.

Other City Intersections (Collector and Local Streets). Added project traffic increment causes an intersection operating at LOS C or better to reach LOS D, E, or F; or to have an increase greater than 23 seconds 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.

State-Controlled Intersections (Caltrans). Caltrans endeavors to maintain a target service level at the transition between LOS C and LOS D on state highway facilities; however, Caltrans acknowledges that this may not always be feasible, particularly in urban environments where right-of-way is constrained. Where maintaining LOS C/D is not feasible, Caltrans attempts to maintain the existing level of service when assessing the impact of new development. A volume-to-capacity ratio of 0.80 corresponds to the C/D threshold. For purposes of this analysis, and consistent with past studies in Menlo Park, City LOS thresholds are also applied to State-controlled (Caltrans) intersections. Added project traffic causes an intersection operating at LOS D or better to reach LOS E or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of a local approach to a State-controlled intersection operating at LOS E or F prior to the addition of Project traffic.

Atherton Intersections. Added project traffic results in an intersection LOS of D or better to reach LOS E or F, or increases average intersection delay by 4.0 seconds or more if the LOS is already E or F.

Routes of Regional Significance. LOS for freeway segments is based on the C/CAG impact criteria from the 2011 CMP. According to the 2011 CMP for freeway segments currently in compliance with the adopted LOS standard, a project is considered to have an impact if added project traffic causes the freeway segment to operate at a LOS that violates the adopted standard. Additionally, a project would have an impact if the cumulative analysis indicates that the combinations of the project and future cumulative traffic demand would result in the freeway segment to operate at a LOS that violates the adopted standard.

If the freeway segment is not in compliance with the adopted LOS standard, the project is considered to have an impact if the project will add traffic demand equal to 1 percent or more of the segment capacity or causes the freeway segment v/c ratio to increase by 1 percent.

City Arterials. The existing ADT is: (1) greater than 18,000 (90 percent of threshold volume) 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 threshold volume) 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.

City Collectors. The existing ADT: (1) greater than 9,000 (90 percent of threshold volume) 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 threshold volume) 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.

Local Streets. The existing ADT is: (1) greater than 1,350 (90 percent of threshold volume) 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 threshold volume) 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.

Bicycle and Pedestrian Facilities. The Project would result in a significant impact if it does 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 Project design would cause increased potential for bicycle/vehicle conflicts. The Project would include elements that conflict with applicable bicycle and pedestrian policies.

Transit. The Project would result in a significant impact if it generates a substantial increase in transit riders that cannot be adequately accommodated by the existing transit service; or the Project would generate demand for transit services in an area that is more than 0.25-mile from existing transit routes; or would include elements that conflict with applicable transit policies.

Near Term 2015 Plus Project Conditions

Project Components

As described in Chapter 2, *Project Description*, the Project site, which includes the Commonwealth Site and the Jefferson Site, is in the City of Menlo Park, north of US 101. The Project site is currently comprised of two parcels totaling approximately 13.27 acres (578,472 square feet [sf]).

The 12.1-acre (527,289 sf) Commonwealth Site is bound by office parks to the north and east, the Jefferson Site to the east, and US 101 to the west. In addition, on the southwest, the site is directly adjacent to the Dumbarton Rail Corridor, with Joseph P. Kelly Park further south. The existing buildings on the Commonwealth Site are 237,858 sf in area. The buildings on the Commonwealth Site accommodate manufacturing, warehousing, and office uses and are currently vacant.

The 1.17-acre (51,183 sf) Jefferson Site is bound by Jefferson Drive to the east, office parks to the north, and south, and the Commonwealth Site to the west. The existing building on the Jefferson Site is 20,462 sf in area. This building is currently used as warehouses and offices for storage and light industrial uses; these uses employ approximately 30 people and generate approximately 8 (2 inbound and 6 outbound) trips in the AM Peak Hour and 6 (3 inbound and 3 outbound) PM Peak Hour trips based on counts conducted in February 2013.

The Project would include demolishing the existing buildings and replacing them with 259,920 sf of office space accommodating approximately 1,300 employees. The Project would include two separate buildings each 129,959.5 sf in area located in the northwest corner of the Project site. Amenities would include surface parking, cafeterias, landscaping, pedestrian paths, water features, and recreational areas. The Sobrato Organization (Project Sponsor) has proposed a comprehensive transportation demand management (TDM) program to minimize Project traffic impacts, as discussed in the following paragraphs.

Transportation Demand Management (TDM) Program

The City of Menlo Park TIA Guidelines include TDM guidelines, intended to provide options and encourage the use of creative ways to reduce or mitigate the traffic impacts of new development projects. Furthermore, C/CAG requires that if a project generates 100 or more peak hour trips, “local jurisdictions must ensure that the developer and/or tenants will reduce the demand for all new peak hour trips (including the first 100 trips) projected to be generated by the development.” Some measures

the Project Sponsor is proposing to implement as part of the Project include, but are not limited to, the following.

- Financial support of the Marsh Road shuttle to the Menlo Park Caltrain Station
- Subsidized transit passes
- Bicycle parking (short-term racks and long-term lockers or storage facilities)
- Showers and changing rooms for cyclists
- Bicycle resources (e.g. bicycle maps, bicycle safety tips, bike buddy matching, etc.)
- Preferential parking for carpool participants
- Ride matching assistance
- Carpool and vanpool programs
- Carpool and vanpool incentives through 511 and the Peninsula Traffic Congestion Relief Alliance
- Emergency ride home program
- Commute assistance center
- New tenant employee information packets for the TDM program
- Information about trip planning resources
- Annual commute surveys

The proposed TDM program is attached in Appendix 3.3-D. Further descriptions and calculations of the proposed TDM program to meet C/CAG's requirements are also included in Appendix 3.3-D. To provide a conservative analysis, the net trip generation assumed for the Project does not include any additional trip credits for the proposed TDM program.

Trip Generation and Distribution

The estimated trip generation for the proposed office use was calculated based on the fitted curve equation for the number of employees from *ITE Trip Generation* (9th Edition, 2012). The trip generation methodology using employee count instead of square footage was applied since it represents a more conservative estimate. Trip generation for the existing, occupied use at 164 Jefferson Drive was surveyed for a 24-hour period in February 2013 because the proposed land uses would replace the existing office facilities. The trip generation calculations are shown in Table 3.3-9.

Including credit for the existing vehicle trips at 164 Jefferson Drive, the Project would be expected to generate a net of 598 AM Peak Hour vehicle trips (531 inbound and 67 outbound), 536 PM Peak Hour vehicle trips (89 inbound and 447 outbound), and 3,713 daily vehicle trips.

Table 3.3-9. Project Trip Generation

Land Use	Land Use Code	# employees	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Existing Office Use (164 Jefferson Drive)	Survey		-2	-6	-8	-3	-3	-6	-126
Proposed Project		1,300	533	73	606	92	450	542	3,839
Trip generation rate (per employee)	710	---			0.46			0.42	2.95
Total Net New Trips			**531**	**67**	**598**	**89**	**447**	**536**	**3,713**

Source: DKS Associates 2013.

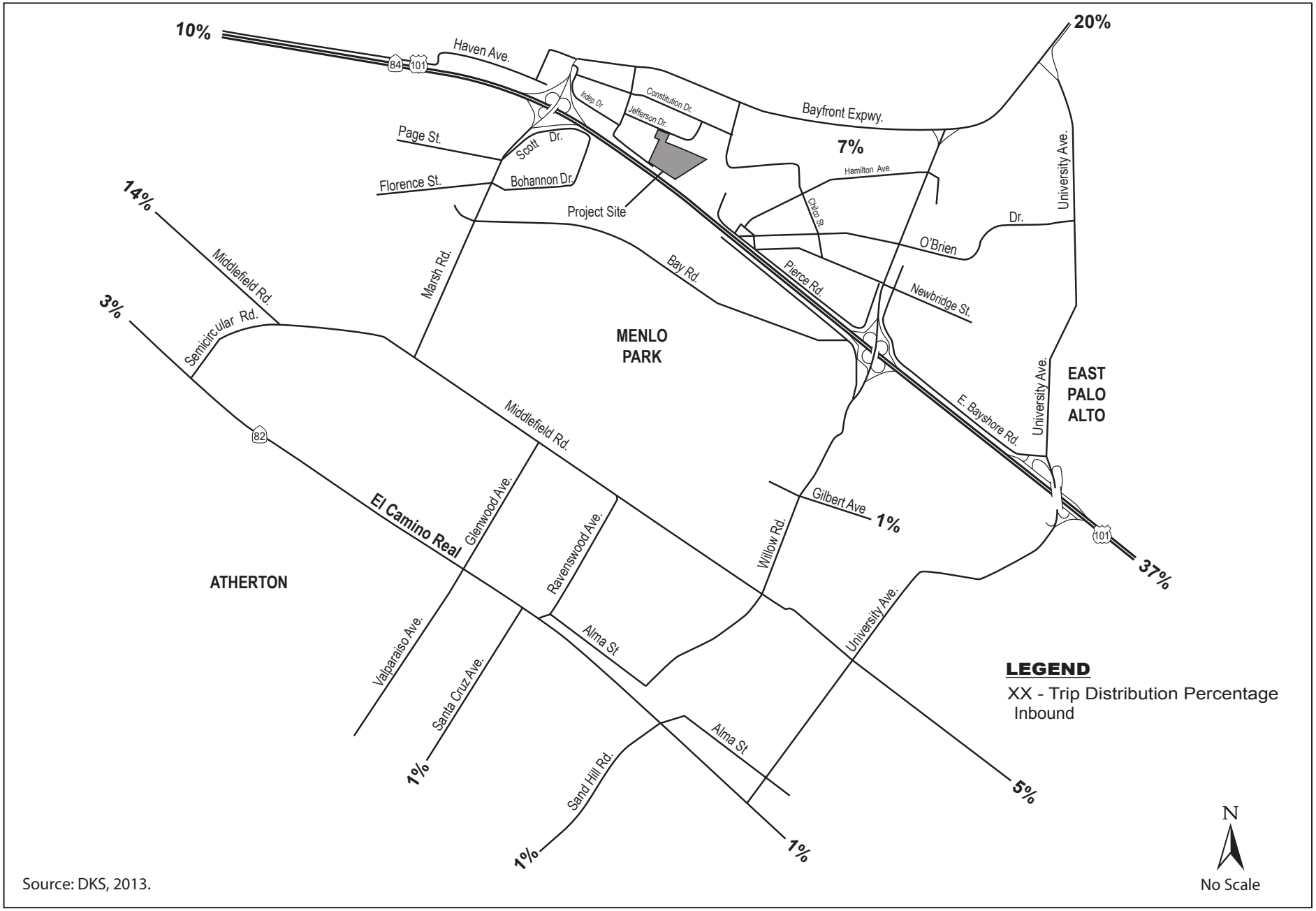
The trips generated by the existing land use and Project were assumed to have distribution patterns consistent with the employment patterns outlined in Table 6 of the City's Circulation System Assessment (CSA (see Appendix 3.3-E). The CSA was originally adopted in 2003 based on surveyed commute pattern data gathered from a variety of local employers in the City. Figure 3.3-9 illustrates the trip distribution patterns for the existing and proposed land uses. Trips were assigned to the roadway network based on these trip distribution patterns and knowledge of the local roadway network and study area. Figure 3.3-10a and 3.3-10b illustrate the Project trip assignment.

Traffic Volumes and Levels of Service

Project trips were added to the Near Term 2015 Conditions to reflect Near Term 2015 Plus Project Conditions. Figure 3.3-11a and 3.3-11b detail the Near Term 2015 Plus Project Conditions AM and PM Peak Hour volumes. The resulting AM and PM Peak Hour LOS are shown in Table 3.3-10.

The following study intersections would operate at an unacceptable LOS under the Near Term 2015 plus Project Condition.

- Marsh Road and Bayfront Expressway (PM Peak Hour) (#1)
- Marsh Road and US 101 NB Off-Ramp (AM Peak Hour) (#3)
- Independence Drive and Constitution Drive (AM Peak Hour) (#8)
- Chrysler Drive and Bayfront Expressway (PM Peak Hour) (#9)
- Chrysler Drive and Jefferson Drive (PM Peak Hour) (#11)
- Chrysler Drive and Independence Drive (PM Peak Hour) (#12)
- Chilco Street and Constitution Drive (PM Peak Hour) (#14)
- Willow Road and Bayfront Expressway (PM Peak Hour) (#15)



Source: DKS, 2013.

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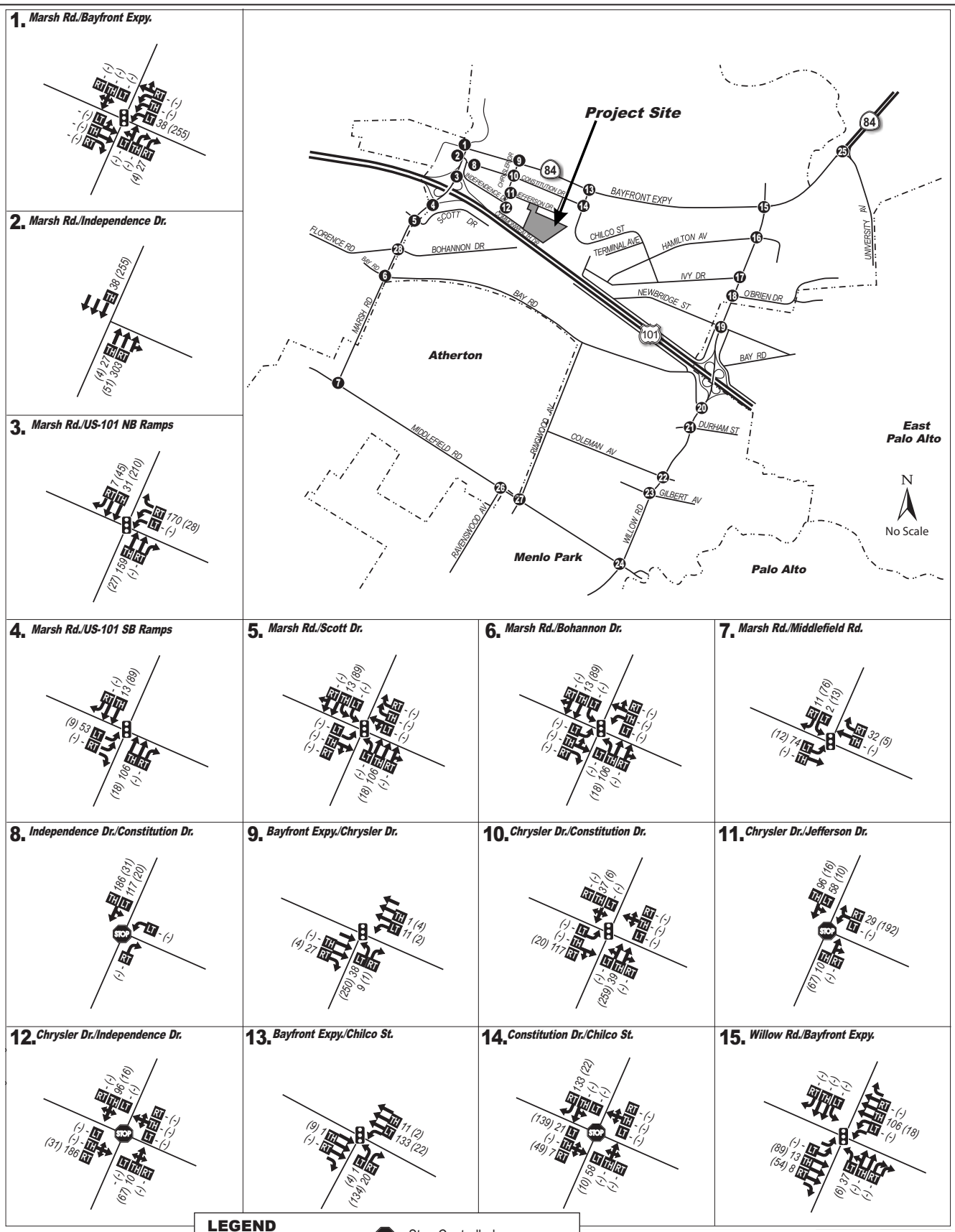
Figure 3.3-9
Project Trip Distribution



Source: DKS, 2013.

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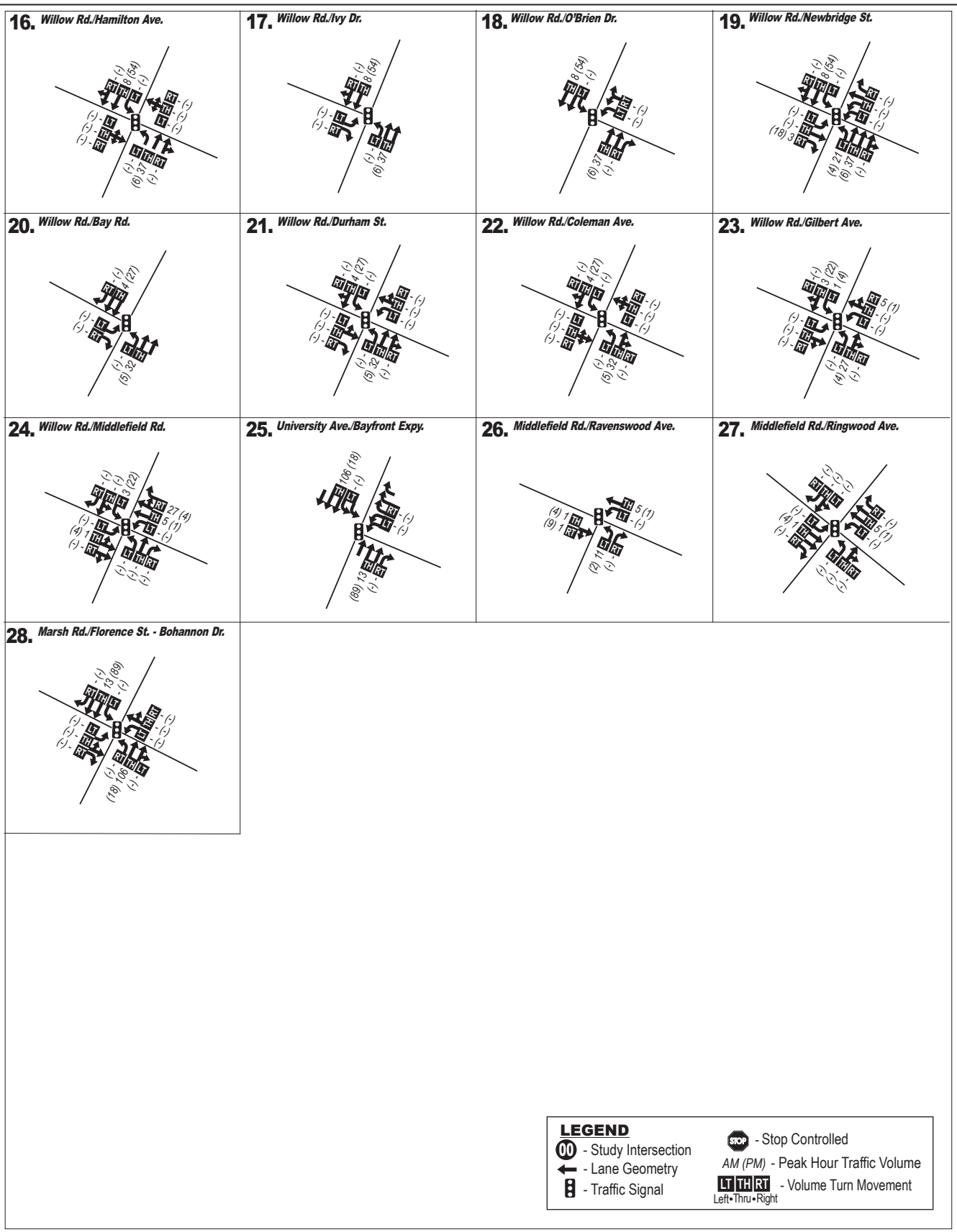
Figure 3.3-10a
Project Generated Trips



Source: DKS, 2013.

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Figure 3.3-10b
Project Generated Trips

Source: DKS, 2013.

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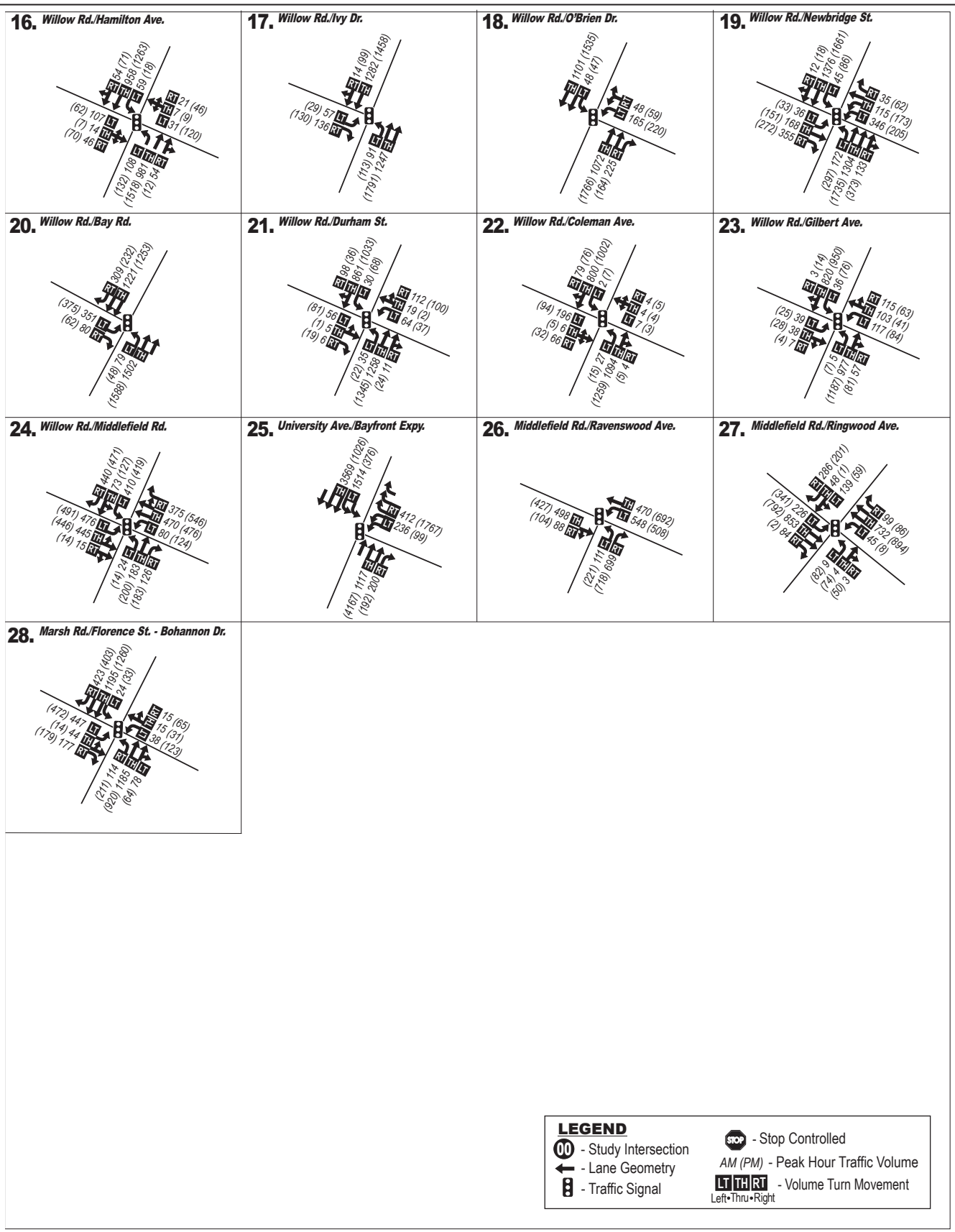
Figure 3.3-11a
Near Term 2015 Plus Project Condition Peak Hour Volumes



Source: DKS, 2013.

Graphics ... 00078.13 (10-23-13)

Figure 3.3-11b
Near Term 2015 Plus Project Condition Peak Hour Volumes

Table 3.3-10. Comparison of Near Term 2015 No Project and Plus Project Conditions, AM and PM Peak Hour Levels of Service

Study Intersection	LOS Standard	Control Type	AM Peak Hour				PM Peak Hour				Potentially Significant Impact (AM/PM)
			No Project		Plus Project		No Project		Plus Project		
			Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	
1. Marsh Road and Bayfront Expressway (State)	D	Signalized	41.1	D	42.4	D	**79.2**	**E**	**78.6**	**E**	N/**Y**
SB Critical Local Approach							***137.9***	***F***	***138.7***	***F***	
WB Critical Local Approach							***>150***	***F***	***>150***	***F***	
2. Marsh Road and Independence Drive (State)	D	Side-Street Stop	0.0	A	0.0	A	0.0	A	0.0	A	N/N
3. Marsh Road and US 101 NB Off-Ramp (State)	C	Signalized	**55.2**	**E**	**102.1**	**F**	26.2	C	30.2	C	**Y**/N
4. Marsh Road and US 101 SB Off-Ramp (State)	C	Signalized	31.9	C	33.9	C	27.8	C	29.9	C	N/N
5. Marsh Road and Scott Drive	D	Signalized	17.3	B	17.3	B	33.6	C	38.0	D	N/N
6. Marsh Road and Bay Road	D	Signalized	20.0	B	21.2	C	12.7	B	12.7	B	N/N
7. Marsh Road and Middlefield Road (Atherton)	D	Signalized	36.3	D	42.1	D	34.4	C	36.1	D	N/N
8. Independence Drive and Constitution Drive	C	Side-Street Stop	**>150**	**F**	**>150**	**F**	17.0	C	18.5	C	**Y**/N
9. Chrysler Drive and Bayfront Expressway (State)	D	Signalized	18.6	B	21.1	C	**124.5**	**F**	**>150**	**F**	N/**Y**
EB Critical Local Approach							***>150***	***F***	***>150***	***F***	
10. Chrysler Drive and Constitution Drive	C	Signalized	16.2	B	17.2	B	24.6	C	30.1	C	N/N
11. Chrysler Drive and Jefferson Drive	C	Side-Street Stop	11.0	B	10.8	B	16.1	C	**53.7**	**F**	N/**Y**
12. Chrysler Drive and Independence Drive	C	Side-Street Stop	11.3	B	18.3	C	20.3	C	**35.4**	**E**	N/**Y**
13. Chilco Street and Bayfront Expressway (State)	D	Signalized	21.6	C	24.1	C	21.1	C	31.7	C	N/N
14. Chilco Street and Constitution Drive	C	All Way Stop	13.8	B	17.8	C	13.4	B	**32.0**	**D**	N/**Y**
15. Willow Road and Bayfront Expressway (State)	D	Signalized	34.3	C	35.0	D	**108.2**	**F**	**113.0**	**F**	N/**Y**

Table 3.3-10. Comparison of Near Term 2015 No Project and Plus Project Conditions, AM and PM Peak Hour Levels of Service

Study Intersection	LOS Standard	Control Type	AM Peak Hour				PM Peak Hour				Potentially Significant Impact (AM/PM)
			No Project		Plus Project		No Project		Plus Project		
			Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	
16. Willow Road and Hamilton Avenue (State)	D	Signalized	22.9	C	22.8	C	23.4	C	23.6	C	N/N
17. Willow Road and Ivy Drive (State)	D	Signalized	16.7	B	16.6	B	14.9	B	15.1	B	N/N
18. Willow Road and O'Brien Drive (State)	D	Signalized	12.7	B	12.5	B	13.0	B	13.0	B	N/N
19. Willow Road and Newbridge Street (State)	D	Signalized	**56.5**	**E**	**59.7**	**E**	53.4	D	**58.6**	**E**	**Y/Y**
NB Critical Local Approach			***103.2***	***F***	***109.2***	***F***			***142.0***	***F***	
SB Critical Local Approach			***93.7***	***F***	***99.6***	***F***			***123.1***	***F***	
20. Willow Road and Bay Road (State)	D	Signalized	20.4	C	20.4	C	20.2	C	20.3	C	N/N
21. Willow Road and Durham Street	D	Signalized	12.7	B	12.7	B	12.6	B	12.8	B	N/N
22. Willow Road and Coleman Avenue	D	Signalized	21.0	C	22.1	C	12.6	B	12.9	B	N/N
23. Willow Road and Gilbert Avenue	D	Signalized	14.6	B	15.1	B	13.1	B	13.2	B	N/N
24. Willow Road and Middlefield Road	D	Signalized	50.9	D	51.5	D	**57.4**	**E**	**57.6**	**E**	N/N
25. University Avenue and Bayfront Expressway (State)	D	Signalized	24.8	C	25.1	C	**>150**	**F**	**>150**	**F**	N/**Y**
26. Middlefield Road and Ravenswood Avenue	D	Signalized	26.1	C	26.8	C	27.2	C	27.6	C	N/N
27. Middlefield Road and Ringwood Avenue	D	Signalized	27.0	C	27.0	C	25.7	C	25.7	C	N/N
28. Marsh Road and Florence Street-Bohannon Drive	D	Signalized	18.7	B	18.7	B	25.8	C	27.2	C	N/N

Source: DKS Associates 2013.

Notes:

a. Delay = average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections, bold text signifies a LOS that is higher than the standard.

b. LOS = Level of service, represents average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections.

See Appendix 3.3-B for definitions of LOS for signalized and unsignalized intersections.

Average delay for eastbound/westbound or northbound/southbound critical movements for local approaches.

- Willow Road and Newbridge Street (AM/PM Peak Hour) (#19)
- Willow Road and Middlefield Road (PM Peak Hour) (#24)
- University Avenue and Bayfront Expressway (PM Peak Hour) (#25)

Where State-controlled (Caltrans) intersections operate unacceptably, Table 3.3-10 also discloses the operating conditions of each local approach.

Impact TRA-1: Impacts on Intersections in Near Term 2015 Plus Project Conditions. Increases in traffic generated by the Project under Near Term 2015 Plus Project Conditions would result in increased delays during AM and PM Peak Hours causing a potentially significant impact on the operation of several of the study intersections. (PS)

AM Peak Hour

As shown in Table 3.3-10, the net new Project traffic would have little effect on the average delay at many of the study intersections when compared to the Near Term 2015 Conditions during the AM Peak Hour. Three intersections, described below, operate below their LOS standard, and the addition of Project traffic would exacerbate their unacceptable operations resulting in potentially significant impacts. All other intersections would continue to operate at acceptable levels with the addition of Project traffic, and thus, impacts on these intersections would be ***less than significant***.

<u>City-controlled intersections with all approaches to collector or local streets operating at unacceptable levels</u>: the intersection of Independence Road and Constitution Drive would experience an increase in average critical delay of 0.8 seconds or greater, resulting in a ***significant*** impact at this location.

<u>State-controlled (Caltrans) intersections operating at unacceptable levels</u>: the intersection of Willow Road and Newbridge Street would experience an increase in average critical delay of 0.8 seconds or greater on its local approaches, resulting in a ***significant*** impact at this location. The intersection of Marsh Road and US 101 NB off-ramp would experience an increase in average delay of 4.0 seconds or greater, resulting in a ***significant*** impact at this location.

PM Peak Hour

During the PM Peak Hour, the addition of Project traffic causes operating conditions to degrade below their LOS standard resulting in potentially significant impacts at the following intersections.

- Chrysler Drive and Jefferson Drive (#11)
- Chrysler Drive and Independence Drive (#12)
- Chilco Street and Constitution Drive (#10)
- Willow Road and Newbridge Street (#19)

Additionally, several intersections operate below their LOS standard under Near Term 2015 Conditions, and the addition of Project traffic would exacerbate their unacceptable operations resulting in potentially significant impacts.

- Marsh Road and Bayfront Expressway (#1)
- Chrysler Drive and Bayfront Expressway (#9)
- Willow Road and Bayfront Expressway (#15)

- Willow Road and Middlefield Road (#24)
- University Avenue and Bayfront Expressway (#25)

City-controlled intersections with all approaches collector or local streets operating at acceptable levels: the following intersections would experience an increase in delay causing a LOS of D, E, or F, resulting in a ***significant*** impact at these locations.

- Chrysler Drive and Jefferson Drive (#11)
- Chrysler Drive and Independence Drive (#12)
- Chilco Street and Constitution Drive (#14)

City-controlled intersections with at least one arterial approach operating unacceptably: the intersection of Willow Road and Middlefield Road would experience an increase in average critical delay of less than 0.8 seconds. Accordingly, this impact would be ***less than significant***.

State-controlled intersections operating acceptably: the intersection of Willow Road and Newbridge Street would experience degradation in level of service to unacceptable levels, resulting in a potentially significant impact at this location. The intersection of Willow Road and Bayfront Expressway and University Avenue and Bayfront Expressway would experience an increase in average delay of 4.0 seconds or greater, resulting in a ***significant*** impact at this location.

State-controlled intersections operating unacceptably: the intersection of Chrysler Drive and Bayfront Expressway would experience an increase in average critical delay of 0.8 seconds or greater, resulting in a ***significant*** impact at this location.

All other study intersections would continue to operate at acceptable levels with the addition of Project traffic; thus, impacts on these intersections would be ***less than significant***.

MITIGATION MEASURES. Mitigation Measure TRA-1.1 involves intersection improvements to mitigate or reduce the impacts of the Project under the Near Term 2015 Plus Project Conditions. The operations at several of the affected intersections could be improved by modifying the phasing or cycle length of the signal or by modifying the intersection geometry to provide additional capacity. Some of the modifications could be made by restriping the existing roadway; however, others would require additional right-of-way when travel lanes are added. See Appendix 3.3-F for intersection conceptual layout plans for mitigation measures.

TRA-1.1: Implement Intersection Improvements to address Near Term Effects on Study Intersections. The following mitigation measures were considered to reduce potentially significant impacts on study intersections.

a. Marsh Road and Bayfront Expressway (#1)

A portion of the proposed mitigation measure for the intersection of Marsh Road and Bayfront Expressway is the same as the mitigation measure proposed for the *Housing Element Environmental Assessment* (EA) (TR-1g, TR-2w). The measure includes restriping the existing southbound approach of Haven Avenue from one shared left-turn and through lane, one through lane, and one right-turn lane to one shared left-turn and through lane, one shared through and right-turn lane, and one right-turn lane (the single through-lane will be combined with a right-turn lane). The improvements also include bicycle and pedestrian enhancements to the Haven Avenue approach. The improvements to the southbound leg are the

responsibility of the St. Anton (Haven Avenue Residential) development per the Housing Element EA and are currently in the design phase.

Additionally, the eastbound approach of Marsh Road would be widened to accommodate a third right-turn lane. This has potentially significant secondary effects on bicyclists because it would require them to cross multiple lanes of traffic to make a left-turn or proceed through the intersection. This improvement would also affect pedestrians by increasing the crossing distance, exacerbating the multiple threat scenario (where vehicles block sight lines between drivers in adjacent lanes and crossing pedestrians), and increasing exposure time to vehicle traffic. This improvement would therefore be required to include enhancements to bicycle and pedestrian infrastructure along Marsh Road in the area between the US 101 NB off-ramp and Bayfront Expressway to reduce the secondary effects of this mitigation measure. The Project Sponsor is responsible for the third right-turn lane and bicycle and pedestrian improvements for the eastbound approach on Marsh Road.

Prior to submitting an application for a building permit, the Project Sponsor shall prepare detailed construction plans for the proposed mitigation measures on the eastbound approach at the intersection of Marsh Road and Bayfront Expressway for review and approval by the Public Works Director. Prior to the issuance of a building permit, the Project Sponsor shall obtain the approval from the Public Works Director for the improvement construction plans and shall provide a bond for improvements in the amount equal to the estimated construction cost for the intersection improvements plus a 15 percent contingency.

Complete plans shall include all necessary requirements to construct the improvements in the public right-of-way, including grading and drainage improvements, utility relocations, traffic signal relocations/modifications, tree protection requirements, and signage and striping modifications. The plans shall be subject to review and approval of the Public Works Director prior to submittal to Caltrans.

If Caltrans does not approve the proposed intersection improvements within 5 years from the CDP effective date, and the Project Sponsor demonstrates that it has worked diligently to pursue Caltrans approval to the satisfaction of the Public Works Director, in his/her sole discretion, then the Project Sponsor shall be relieved of responsibility to construct the improvement and the bond shall be released by the City after the Project Sponsor submits funds equal to the bid construction cost to the City. The City may use the funds for other transportation improvements, including, but not limited to, bicycle, pedestrian, and transit improvements and TDM programs, throughout the City with priority given to portions of the City east of US 101. Construction of this improvement, or in the case that Caltrans does not approve the intersection improvement, payment of funds equal to the bid construction cost to the City, by the Project Sponsor shall count as a future credit toward payment of the Transportation Impact Fee (TIF) pursuant to the TIF Ordinance. Although the proposed mitigation would fully mitigate the impact, it remains ***significant and unavoidable*** because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU)

b. Marsh Road and US 101 Northbound Off-Ramp (#3)

The proposed mitigation measures for the intersection of Marsh Road and the US 101 northbound off-ramp includes widening the northbound off-ramp to add a second right-turn lane. This would be accomplished by widening the western side of the approach and shifting

the existing lanes, resulting in two left-turn lanes and two right-turn lanes. This improvement will require relocation of existing traffic signal poles, utility relocation, tree removal, and reconstruction of the curb ramp on the southwest corner of the intersection.

According to the Facebook East Campus Development Agreement (FECPDA), Facebook is responsible for implementing this mitigation measure. However, even though the proposed mitigation would fully mitigate the impact, the impact remains ***significant and unavoidable*** because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU)

c. Independence Drive and Constitution Drive (#8)

A potential mitigation measure for the intersection of Independence Drive and Constitution Drive would include restricting left-turns from Constitution Drive to Independence Drive. This restriction would affect less than five vehicles during each peak hour. Because the number of affected vehicles is small, it is anticipated that traffic patterns would shift to alternative routes if peak hour congestion warrants. The impact remains ***significant and unavoidable*** because it is infeasible. No other feasible mitigation measures are available for this intersection at this time. (SU)

d. Chrysler Drive and Bayfront Expressway (#9)

The proposed mitigation measure for the intersection of Chrysler Drive and Bayfront Expressway includes restriping the existing eastbound right-turn lane to a shared left/right-turn lane.

According to the FECPDA, Facebook is responsible for implementing this mitigation measure. However, although the proposed measure would fully mitigate the impact, it remains ***significant and unavoidable*** because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU)

e. Chrysler Drive and Jefferson Drive (#11)

A potential mitigation measure for the intersection of Chrysler Drive and Jefferson Drive includes signalizing the intersection. With the addition of Project traffic, the intersection meets the peak hour signal warrants defined in the California Manual on Uniform Traffic Control Devices (California MUTCD) during the PM Peak Hour (Appendix 3.3-G). However, the California MUTCD includes eight criteria used to evaluate the potential installation of a traffic signal and cautions that installing a signal should only occur after "an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection." While signalizing the intersection would mitigate the Project's peak hour impact, only one of the eight criteria is met and given intersection spacing, installation of a signal would not be good traffic engineering practice. After conducting a comprehensive traffic study, the City will have discretion as to if and when a traffic signal may be installed based on California MUTCD requirements. Thus, at this time, the City cannot guarantee that a traffic signal would be installed, and therefore, the impact remains ***significant and unavoidable***.

As a partial mitigation measure, the Project Sponsor shall be required to construct sidewalks along 138 and 160 Jefferson Drive and the Jefferson Drive frontage of 1150 Chrysler Drive, as well as install a crosswalk and Americans with Disabilities Act (ADA)-compliant pedestrian curb ramps across the Jefferson Drive leg of the Chrysler Drive and Jefferson Drive

intersection, and contribute a fair share contribution toward the future improvement of this intersection, which may include future signalization (if determined to be appropriate at a later date) or installation of other traffic control devices such as a roundabout or traffic circle. If a traffic signal is not installed, the City may use the funds for other transportation improvements, including, but not limited to, bicycle, pedestrian, and transit improvements and TDM programs, throughout the City. The design of the sidewalks and related improvements shall be prepared by the Project Sponsor, in collaboration with the City's Transportation Manager to work around obstacles in the public right-of-way, such as utility poles and heritage trees. The sidewalks and related improvements shall be constructed by the Project Sponsor and approved by the Public Works Director prior to the final inspection of the proposed buildings. The fair share contribution for intersection improvements shall be paid prior to the issuance of a building permit. Construction of these improvements is not eligible for a TIF credit. (SU)

f. Chrysler Drive and Independence Drive (#12)

The proposed mitigation measure for the intersection of Chrysler Drive and Independence Drive includes signalizing the intersection. The signal warrant is met for the PM Peak Hour as shown in Appendix 3.3-G. However, the California MUTCD includes eight criteria used to evaluate the potential installation of a traffic signal and cautions that installing a signal should only occur after "an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection." While signalizing the intersection would mitigate the Project's peak hour impact, only one of the eight criteria is met and given intersection spacing, installation of a signal would not be good traffic engineering practice. After conducting a comprehensive traffic study, the City will have discretion as to if and when a traffic signal may be installed based on California MUTCD requirements. Thus, at this time, the City cannot guarantee that a traffic signal would be installed, and therefore, the impact remains ***significant and unavoidable***.

As a partial mitigation measure, the Project Sponsor shall be required to construct sidewalks along the Chrysler Drive frontage of 1150 Chrysler Drive, as well as install a crosswalk and ADA-compliant pedestrian curb ramps across the east leg of Chrysler Drive at the Chrysler Drive and Independence Drive intersection, and contribute a fair share contribution toward the future improvement of this intersection, which may include future signalization (if determined to be appropriate at a later date) or installation of other traffic control devices such as a roundabout or traffic circle. If a traffic signal is not installed, the City may use the funds for other transportation improvements, including, but not limited to, bicycle, pedestrian, and transit improvements and TDM programs, throughout the City. The design of the sidewalks and related improvements shall be prepared by the Project Sponsor, in collaboration with the City's Transportation Manager to work around obstacles in the public right-of-way, such as utility poles and heritage trees. The sidewalks and related improvements shall be constructed by the Project Sponsor and approved by the Public Works Director prior to the final inspection of the proposed buildings. The fair share contribution for intersection improvements shall be paid prior to the issuance of a building permit. Construction of these improvements is not eligible for a TIF credit. (SU)

g. Chilco Street and Constitution Drive (#14)

The proposed mitigation measure for the Chilco Street and Constitution Drive intersection includes striping the southbound approach to include one left-turn lane and one shared

through/right-turn lane. The striping improvements shall be installed by the Project Sponsor and approved by the Public Works Director prior to the final inspection of the proposed buildings. Alternatively, the Project Sponsor may choose to pay the cost of the approved striping improvement to the City prior to final inspection so that the City can use the Project Sponsor's funds to install the proposed improvements. Payment toward construction of these improvements is not eligible for a TIF credit. With the implementation of this mitigation measure, the impact would be reduced to a ***less than significant*** level. (LTS)

h. Willow Road and Bayfront Expressway (#15)

The proposed mitigation measure for the Willow Road and Bayfront Expressway intersection includes the addition of a third right-turn lane for the eastbound approach on Willow Road. This improvement is identified in the City's TIF and also includes construction of a shoulder-side bike path between the railroad crossing and Bayfront Expressway on the eastbound approach.

According to the FECPDA, Facebook is responsible for implementing this mitigation measure. Although the proposed mitigation would fully mitigate the impact, it remains ***significant and unavoidable*** because the intersection is under the jurisdiction of Caltrans and the City cannot guarantee the mitigation measure would be implemented. (SU)

i. Willow Road and Newbridge Street (#19)

A potential mitigation measure for the intersection of Willow Road and Newbridge Street includes restriping the southbound approach on Newbridge Street from one left-turn lane, one through lane, and one right-turn lane to one shared left-turn and through lane, one shared through and right-turn lane, and one right-turn lane, adding one additional receiving lane on the south leg of Newbridge Street accordingly, and adding a westbound shared through and right-turn lane, and an additional receiving lane for the westbound through traffic.

According to the FECPDA, Facebook is responsible for the improvements to the westbound approach. Restriping the left-turn lane and through lane on the southbound approach to a shared through and right-turn lane and a shared through and right-turn lane carries potentially significant secondary effects on bicyclists, making it difficult for them to position appropriately in the intersection and navigate, and for pedestrians, because of the multiple lanes of traffic permitted to turn across the crosswalk that could affect their walk phase. Additionally, providing a receiving lane on the south leg of Newbridge Street is not feasible due to right-of-way acquisition and property impacts in the City of East Palo Alto.

Although the proposed mitigation would fully mitigate the impact, it remains ***significant and unavoidable*** because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time. (SU)

j. University Avenue and Bayfront Expressway (#25)

A potential mitigation measure for the intersection of University Avenue and Bayfront Expressway includes adding a fourth southbound through lane. The additional southbound through lane, and required southbound receiving lane, are not feasible due to the right-of-way acquisition that would be needed from multiple property owners, potential occurrence of wetlands, relocation of the Bay Trail, and substantial intersection modifications, which are under Caltrans jurisdiction.

Although the proposed mitigation would fully mitigate the impact, the impact remains ***significant and unavoidable*** because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time. (SU)

Impact TRA-2: Impacts on Roadway Segments in the Near Term 2015 Plus Project Conditions. Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in increased ADT volumes on Project area roadway segments resulting in potentially significant impacts. (PS)

The Project would generate approximately 3,713 net new daily trips during a typical weekday. Based on the criteria described under *Standards of Significance*, seven of the roadway study segments would experience potentially significant impacts under Near Term 2015 Plus Project Conditions. Marsh Road between Scott Drive and Bohannon Drive is classified as a primary arterial and not subject to ADT analysis or thresholds. Figure 3.3-12 shows the Near Term 2015 Plus Project Conditions ADT. Table 3.3-11 shows the comparison between the Existing Conditions, Near Term 2015 Conditions, and Near Term 2015 Plus Project Conditions, and the corresponding ADT increases between each scenario.

The net volume added by the Project on the following minor arterial segment is higher than the corresponding 100 vehicle threshold, resulting in a ***potentially significant*** impact.

- Marsh Road between Bohannon Drive and Bay Road (B)

The net volume added by the Project on the following collector segments is higher than the corresponding 50 vehicle threshold or adds more than 12.5 percent or 25 percent of the Near Term ADT, depending on the existing demand on the roadway segment, resulting in a ***potentially significant*** impact.

- Chrysler Drive between Bayfront Expressway and Constitution Drive (C)
- Chilco Street between Bayfront Expressway and Constitution Drive (E)
- Constitution Drive between Jefferson Drive and Chilco Street (I)

The net volume added by the Project on the following local segments is higher than the corresponding 25 vehicle threshold or adds more than 12.5 percent or 25 percent of the Near Term ADT, depending on the existing demand on the roadway segment, resulting in a ***potentially significant*** impact.

- Chrysler Drive between Constitution Drive and Jefferson Drive (D)
- Chilco Street between Hamilton Avenue and Ivy Drive (F)
- Constitution Drive between Independence Drive and Chrysler Drive (G)
- Jefferson Drive between Chrysler Drive and the Project driveway (J)
- Jefferson Drive between the Project driveway and Constitution Drive (K)
- Independence Drive between Constitution Drive and Chrysler Drive (L)

The Project's impacts on remaining roadway segments are considered ***less than significant***.

Table 3.3-11. Near Term 2015 Plus Project Conditions Average Daily Traffic Summary

Roadway Segment	Roadway Class	Threshold	Existing ADT	Near Term 2015 Condition ADT	Near Term Plus Project Condition ADT	Net Volume Added for Project	Percent Change from Near Term 2015 Condition	Potentially Significant Impact?
A. Marsh Road (Scott Drive and Bohannon Drive)	PA	n/a	32,768	39,409	40,152	743	1.9	Exempt
B. Marsh Road (Bohannon Drive and Bay Road)	MA	20,000	27,013	33,480	**34,223**	**743**	**2.2**	**Y**
C. Chrysler Drive (Bayfront Expressway and Constitution Drive)	C	10,000	7,084	12,457	**13,664**	**1,207**	**9.7**	**Y**
D. Chrysler Drive (Constitution Drive and Jefferson Drive)	L	1,500	2,625	6,745	**8,361**	**1,616**	**24.0**	**Y**
E. Chilco Street (Bayfront Expressway and Constitution Drive)	C	10,000	6,939	7,953	**8,993**	**1,040**	**13.1**	**Y**
F. Chilco Street (Hamilton Avenue and Ivy Drive)	L	1,500	2,213	3,286	**3,694**	**408**	**12.4**	**Y**
G. Constitution Drive (Independence Drive and Chrysler Drive)	L	1,500	2,342	5,341	**5,750**	**409**	**7.7**	**Y**
H. Constitution Drive (Chrysler Drive and Jefferson Drive)	C	10,000	1,997	3,868	3,868	0	0.0	N
I. Constitution Drive (Jefferson Drive and Chilco Street)	C	10,000	2,084	3,957	**5,404**	**1,449**	**36.6**	**Y**
J. Jefferson Drive (Chrysler Drive and Project driveway)	L	1,500	1,288	1,327	**2,330**	**1,003**	**75.6**	**Y**
K. Jefferson Drive (Project driveway and Constitution Drive)	L	1,500	851	877	**2,326**	**1,449**	**165.3**	**Y**
L. Independence Drive (Constitution Drive and Chrysler Drive)	L	1,500	1,015	5,085	**5,735**	**650**	**12.8**	**Y**

Table 3.3-11. Near Term 2015 Plus Project Conditions Average Daily Traffic Summary

Roadway Segment	Roadway Class	Threshold	Existing ADT	Near Term 2015 Condition ADT	Near Term Plus Project Condition ADT	Net Volume Added for Project	Percent Change from Near Term 2015 Condition	Potentially Significant Impact?

Source: DKS Associates 2013.

Notes:

City of Menlo Park Segment Criteria:

L = 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 percent, or ADT is < 750 and Project increases by 25 percent.

C = Collector Street. Impact if ADT is > 9,000 vehicles and Project adds > 50 trips, or ADT is 5,000 and Project increases ADT by 12.5percent, or ADT is < 5,000 and Project increases ADT by 25percent.

MA = Minor Arterial. Impact if ADT is > 18,000 vehicles and Project adds > 100 trips, or ADT is > 10,000 and Project increases ADT by 12.5percent, or ADT is < 10,000 and Project increases ADT by 25percent.

PA = Primary Arterial. Primary arterials are exempt from ADT thresholds but are included in the report for informational purposes.

Bold indicates potentially significant impact.

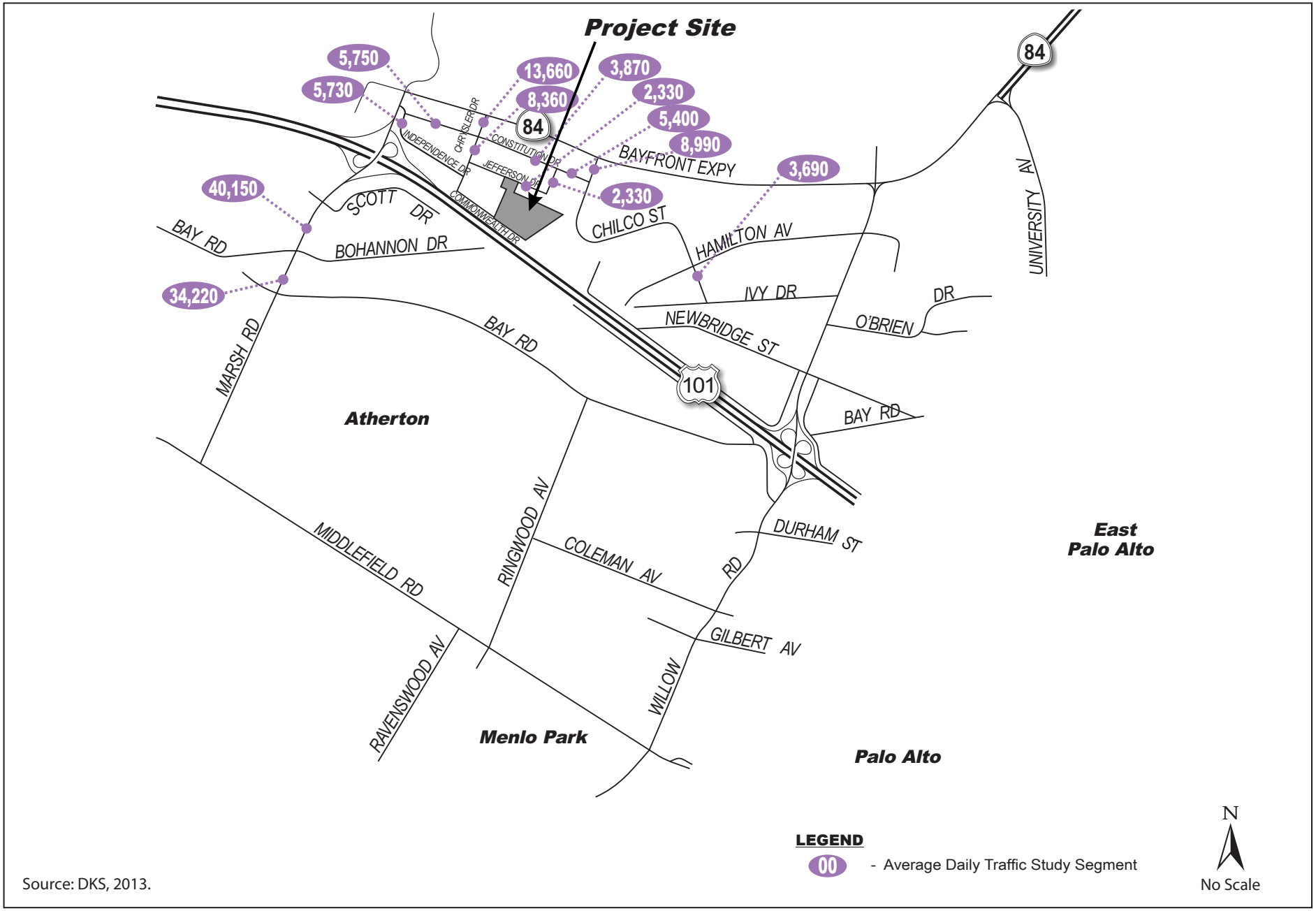
Some net new Project-related trips would travel to destinations in the Belle Haven neighborhood. Additionally, some cut-through traffic within the Belle Haven neighborhood is anticipated, approximately 4 percent of project traffic was assigned to travel along local streets to avoid congestion on Bayfront Expressway and Willow Road. Existing turning movement restrictions include no left turns from Chilco Street onto Hamilton Avenue between 3:30 p.m. and 7:00 p.m. While no other turn restrictions are anticipated for the Belle Haven neighborhood, intersection improvements near the Project site, intersection improvements at Chrysler Drive and Bayfront Expressway; Willow Road and Bayfront Expressway; and Chilco Street and Constitution Drive would improve traffic flow and reduce queuing. With these improvements, more traffic is expected to travel on Bayfront Expressway, thereby minimizing cut-through traffic through the Belle Haven neighborhood.

MITIGATION MEASURES. A typical mitigation measure would seek to widen the road to add travel lanes and capacity to accommodate the increase in net daily trips. However, increasing the capacity of the roadway requires additional right-of-way, which would affect local property owners and is considered infeasible. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), air quality degradation, 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). There is also a quality of life aspect to roadway planning, as congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commuters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a LOS or traffic operation issue.

An additional lane would not mitigate the impacts on the roadway segment, because the thresholds are based on the baseline and added Project traffic volumes. Therefore, impacts on the following roadway segments would remain ***significant and unavoidable***.

- Marsh Road between Bohannon Drive and Bay Road (B)
- Chrysler Drive between Bayfront Expressway and Constitution Drive (C)
- Chrysler Drive between Constitution Drive and Jefferson Drive (D)
- Chilco Street between Bayfront Expressway and Constitution Drive (E)
- Chilco Street between Hamilton Avenue and Ivy Drive (F)
- Constitution Drive between Independence Drive and Chrysler Drive (G)
- Constitution Drive between Jefferson Drive and Chilco Street (I)
- Jefferson Drive between Chrysler Drive and the Project driveway (J)
- Jefferson Drive between the Project driveway and Constitution Drive (K)
- Independence Drive between Constitution Drive and Chrysler Drive (L)

However, partial mitigation measures are identified to reduce the impacts of the Project under the Near Term 2015 Plus Project Conditions on daily roadway segment operations. The identified bicycle route improvements along Constitution Drive could encourage bicycling and possibly reduce traffic volumes if drivers shift modes of travel from vehicles to bicycles due to availability of additional lanes. However, because the reduction cannot be quantified, and it is unlikely that this would fully mitigate impacts on these segments, the impacts are considered ***significant and unavoidable***.



Source: DKS, 2013.

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Figure 3.3-12
Near Term 2015 Plus Project Condition Average Daily Traffic

TRA-2.1: Implement Roadway Segment Improvements to address Near Term Effects. The following mitigation measures were considered to reduce potentially significant impacts on study area roadway segments.

a. Constitution Drive between Independence Drive and Chrysler Drive (G)

As a partial mitigation measure to reduce the Project's impact on this roadway segment, the Project Sponsor shall be required to construct a Class III bicycle route on Constitution Drive between Independence Drive and Chilco Street. The facility, at a minimum, shall include bicycle route signs and shared-lane markings. This improvement was identified in the City's *Comprehensive Bicycle Development Plan* (2005).

The Project Sponsor shall install the proposed bicycle improvements prior to final inspection. Payment toward construction of these improvements is not eligible for a TIF credit.

b. Constitution Drive between Jefferson Drive and Chilco Street (I)

As a partial mitigation measure to reduce the Project's impact on this roadway segment, the Project Sponsor shall be required to construct a Class III bicycle route on Constitution Drive between Independence Drive and Chilco Street. The facility, at a minimum, shall include bicycle route signs and shared-lane markings. This improvement was identified in the City's *Comprehensive Bicycle Development Plan* (2005).

The Project Sponsor shall install the proposed bicycle improvements prior to final inspection. Payment toward construction of these improvements is not eligible for a TIF credit.

Impact TRA-3: Impacts on Routes of Regional Significance in the Near Term Plus Project Conditions. Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in potentially significant impacts on several Routes of Regional Significance. (PS)

Nine selected roadway segments within the Project vicinity are considered Routes of Regional Significance by the San Mateo County CMP (i.e., SR 84, SR 109, SR 114, and US 101). The Project would add traffic to Routes of Regional Significance in the study area. Because several of these freeway segments are already operating at or worse than their respective LOS standards, the traffic increases for these segments would be considered a ***potentially significant*** impact. The arterials, however, are operating at acceptable LOS and the Project-related traffic increase would not result in potentially significant impacts. Table 3.3-12 summarizes the estimated percent of capacity added to the Routes of Regional Significance.

Table 3.3-12. Near Term 2015 Plus Project Conditions Routes of Regional Significance

Route	Segment	LOS[a]	LOS Standard	Estimated Capacity (vph)[a]	Net-new Project Trips[b]	Percent of Capacity	Significant Impact?
SR 84	US 101 to Willow Road	B	D	3,300	274	-	N
	Willow Road to University Avenue	F	E	3,300	112	**3.3**	**Y**
	University Avenue to County Line	F	F	3,300	111	**3.3**	**Y**
SR 109	US 101 to Bayfront Expressway	C	E	2,200	0	-	N
SR 114	US 101 to Bayfront Expressway	B	E	2,200	58	-	N
US 101	North of Marsh Road	F	F	9,200	53	0.6	N
	Marsh Road to Willow Road	F	F	9,200	186	**2.0**	**Y**
	Willow Road to University Ave	F	F	9,200	196	**2.1**	**Y**
	South of University Ave	F	F	9,200	196	**2.1**	**Y**

Source: DKS Associates, 2013; San Mateo County CMP Monitoring Report, 2011.

Notes:

a. Directional freeway capacity is 2,300 vehicles per hour per lane (vphpl) for six lane segments and 2,200 vphpl for four lane segments. Arterial capacity is based on 60 percent green time of 1,900 vphpl saturation flow rate (1,140 vphpl is rounded to 1,100 vphpl).

b. For directional peak demand for either the a.m. or p.m. peak hour of Project traffic.

- Under the Near Term 2015 Plus Project Conditions, the following Routes of Regional Significance would operate at or below LOS standards with addition of Project traffic. The Project would increase traffic that would exceed the allowable 1 percent threshold resulting in ***potentially significant*** impacts.SR 84 between Willow Road and University Avenue
- SR 84 between University Avenue and the County Line
- US 101 between Marsh Road and Willow Road
- US 101 between Willow Road and University Avenue
- US 101 south of University Avenue

MITIGATION MEASURES. Mitigation Measure TRA-3.1 involves roadway improvements to mitigate the impacts of the Project under Near Term 2015 Plus Project Conditions on Routes of Regional Significance. A typical mitigation measure would seek to widen the road to add travel lanes and capacity. However, impacts on Routes of Regional Significance would remain ***significant and unavoidable*** because these roadways are not under the jurisdiction of the City. In addition, freeway improvement projects, which add travel lanes, are planned and funded on a regional scale and would be too costly for a single project to be expected to fund.

Roadway segments could be improved with additional travel lanes to accommodate the increase in net daily trips, but increasing the capacity of the roadway requires additional right-of-way. Additionally, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), air quality degradation, 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). There is also a quality of life aspect to roadway planning, as congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commuters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic is anticipated to increase on certain roadways, it should be viewed as more than a LOS or traffic operation issue.

TRA-3.1: Implement Routes of Regional Significance Improvements to address Near Term Effects. The following mitigation measures were considered to reduce potentially significant impacts on Regional Routes of Significance.

Routes of Regional Significance could be widened to add travel lanes, but the routes are under the jurisdiction of Caltrans. Adding a travel lane would increase capacity, but adding an additional lane to the roadway is not a feasible mitigation measure due to right-of-way constraints. Therefore, the following impacts remain ***significant and unavoidable.*** **(SU)**

a. SR 84 between Willow Road and University Avenue

b. SR 84 between University Avenue and the County Line

c. US 101 between Marsh Road and Willow Road

d. US 101 between Willow Road and University Avenue

e. US 101 south of University Avenue

Impact TRA-4: Impacts on Local Transit Systems in the Near Term 2015 Plus Project Conditions. The Project under Near Term 2015 Plus Project Conditions would not result in any impacts to the local transit system. This impact would be less than significant. (LTS)

Current public bus service in the Project vicinity is limited, with the SamTrans Route 270 and the AC Transit DA route running along Marsh Road and Bayfront Expressway, respectively. The Marsh Road shuttle operated by the City connects the Project site and the Menlo Park Caltrain station. A conservative estimate of 2–4 percent transit mode share on local transit services would result in approximately 20 peak directional transit trips in the AM and PM Peak Hours. This represents a 2.4 percent increase over the current AM Peak Hour ridership for the Menlo Park Caltrain station (833 passengers[4]) and it is expected that the additional trips would travel in different directions and spread over various trains,

[4] 2013 Annual Passenger Counts Key Findings, Caltrain (February 2013).

therefore not adversely affecting any specific train. Similar patterns are expected for the PM Peak Hour, though train-by-train ridership data is not provided by Caltrain.[4]

It is assumed employees at the Project site using Caltrain would utilize the Menlo Park Marsh Road shuttle to travel to the Caltrain station. Ridership for the City Shuttle is currently 120 daily boardings of 288 available seats, representing 42 percent occupancy. An additional 20 riders would result in a 55 percent occupancy, which remains under capacity. As part of the TDM program for the Project, the Project Sponsor would pay an annual shuttle fee. These funds would be used to evaluate the capacity and demand of the Menlo Park shuttle system and may be used to increase shuttle capacity if the demand is present. The Project's impacts on transit services would be considered ***less than significant***.

Impact TRA-5: Impacts on Local Bicycle and Pedestrian Facilities in the Near Term 2015 Plus Project Conditions. The Project under the Near Term 2015 Plus Project Conditions would not result in any impacts on local bicycle and pedestrian facilities. This impact would be less than significant. (LTS)

While there are existing bicycle facilities on several major routes near the Project site, there are several gaps in the citywide network near the Project site, including Willow Road at the US 101 interchange, on Marsh Road, and many of the collector and local streets between Bayfront Expressway and US 101 south of Marsh Road. With the Project, it is expected that bicycle demand on roadways and facilities leading to the Project site would increase as employees choose to commute by bicycle. The Project Sponsor has proposed to incorporate on-site bicycle amenities as part of the Project and to encourage employee ridership to the Project. The amenities would include secured bicycle parking, bicycle racks, showers, and changing rooms as described in the proposed TDM Plan shown in Appendix 3.3-D. Design features such as access points, pedestrian-scale design and lighting features, and landscaping would be provided to encourage bicycle and pedestrian travel to and around the Project site. Additionally, subsidies would be provided for bicycle-related expenses.

The City has several planned projects listed in the City's Bicycle Plan near the Project site.

Under Design/Construction, Fully Funded (FECPDA):

- Class I along Willow Road between Hamilton Avenue and Bayfront Expressway
- Bayfront Expressway Bicycle/Pedestrian Undercrossing at Willow Road (reopen the bicycle and pedestrian tunnel at the north side of the intersection)

Currently Unfunded

- Class I Connector Path along Independence Drive – a combined bike and pedestrian path from Constitution Drive to the corner of Marsh Road and Bayfront Expressway
- Class II along O'Brien Drive between University Avenue and Willow Road
- Class II on Marsh Road between Bay Road and Bayfront Expressway
- Class II on Willow Road between Newbridge Street and Durham Street (includes US 101 interchange)
- Class III on Constitution Drive between Independence Drive and Chilco Street
- Class III on Hamilton Avenue between Ringwood Bridge and Willow Road

While the Class I Connector Path along Independence Drive, to the intersection of Marsh Road and Bayfront Expressway, is currently unfunded, the Menlo Gateway project is required to design and construct this improvement under the site's development agreement. The Project does not conflict with any of the planned improvements identified in the City's Bicycle Plan, although it will add traffic along some of these routes. Additionally, Mitigation Measure TRA-2.1 requires the Project Sponsor to construct the Class III bicycle route on Constitution Drive between Independence Drive and Chilco Street.

Pedestrian access and onsite circulation is provided as part of a network of walking pathways, sidewalks and crosswalks onsite. Pedestrian destinations within walking distance of the Project site include the San Francisco Bay Trail (access provided at Bayfront Expressway/Chrysler Drive or Bayfront Expressway/Chilco Street), shuttle stops for the City's Marsh Road Area Caltrain Shuttle, other employers in the area, and employees walking for physical activity during breaks. Sidewalks connecting to these destinations are discontinuous, although portions are present along the north side of Commonwealth Drive, the south side of Jefferson Drive and Chrysler Drive. These gaps force pedestrians to walk along the roadway shoulder or in the travelway where vehicles are parked on the street.

Near the Project site, sidewalk gaps exist along the frontage of 1150 Chrysler Drive, 138 Jefferson Drive, 160 Jefferson Drive, and 164 Jefferson Drive. Additional gaps exist on Chrysler Drive east of Jefferson Drive, approaching Bayfront Expressway and the Bay Trail. Completion of these gaps were prioritized as part of the City's Sidewalk Master Plan,[5] which ranked the Jefferson Drive and 1150 Chrysler Drive segments as high-priority (see Figure 11 of the Sidewalk Master Plan); the other sections of Chrysler Drive east of Jefferson Drive were ranked as medium-priority. While it is beyond the scope of a single project to complete the entirety of the sidewalk network in the area, Mitigation Measures 1-1(e) and 1-1(f) require construction of sidewalks along (e) 138 and 160 Jefferson Drive and the Jefferson Drive frontage of 1150 Chrysler Drive and (f) the Chrysler Drive frontage of 1150 Chrysler Drive. These segments are those listed as high priority in the Sidewalk Master Plan and provide connections to the City shuttle stops. Mitigation Measures 1-1(e) and 1-1(f) also require construction of crosswalks and ADA-compliant curb ramps for selected crosswalks. These improvements would significantly enhance pedestrian safety and visibility in the area.

As the onsite amenities provided and bicycle and pedestrian infrastructure required would represent an improvement to bicycle and pedestrian access and circulation, the impacts on local bicycle and pedestrian access, safety, and facilities are considered less than significant.

Freeway Ramp Traffic Volumes

A summary of traffic volumes on the US 101 ramps at Marsh Road and Willow Road is shown in Table 3.3-13. For the US 101 / Marsh Road interchange, the highest AM and PM Peak Hour ramp demand for the Near Term 2015 Conditions occurs from southbound US 101 to Marsh Road. For the US 101/Willow Road interchange, the highest AM Peak Hour ramp demand would occur from northbound US 101 to eastbound Willow Road. For the PM Peak Hour, the highest ramp demand would occur from westbound Willow Road to southbound US 101.

[5] City of Menlo Park. 2009. "City of Menlo Park Sidewalk Master Plan." Adopted January 28, 2009. Available <http://www.menlopark.org/departments/trn/MenloParkSidewalkMasterPlan_Final.pdf> Accessed February 3, 2014.

Table 3.3-13. Near Term 2015 Conditions Ramp Traffic Volumes

	Near Term 2015 Conditions			Near Term 2015 Plus Project Conditions		
Ramp	AM Peak Hour	PM Peak Hour	ADT	AM Peak Hour	PM Peak Hour	ADT
NB US 101 diagonal off-ramp to Marsh Road	1,284	824	12,225	1,469	855	12,894
NB US 101 loop on-ramp from EB Marsh Road	536	527	6,411	536	527	6,411
NB US 101 diagonal on-ramp from WB Marsh Road	1,834	1,262	13,958	1,841	1,307	14,143
SB US 101 diagonal off-ramp to Marsh Road	2,063	1,832	20,126	2,116	1,841	20,312
SB US 101 loop on-ramp from WB Marsh Road	197	670	3,674	215	791	4,175
SB US 101 diagonal on-ramp from EB Marsh Road	590	795	7,849	590	795	7,849
NB US 101 diagonal off-ramp to EB Willow Road	1,515	1,287	12,715	1,525	1,289	12,752
NB US 101 loop on-ramp from EB Willow Road	429	355	4,488	429	355	4,488
NB US 101 diagonal on-ramp from WB Willow Road	374	488	5,069	374	488	5,069
NB US 101 loop off-ramp to WB Willow Road	578	467	6,695	578	467	6,695
SB US 101 diagonal off-ramp to WB Willow Road	340	396	5,110	340	396	5,110
SB US 101 loop on-ramp from WB Willow Road	1,010	1,492	10,860	1,016	1,537	11,046
SB US 101 diagonal on-ramp from EB Willow Road	788	524	9,683	788	524	9,683
SB US 101 loop off-ramp to EB Willow Road	247	580	5,415	258	580	5,415

Source: DKS Associates 2013.

For Near Term 2015 Plus Project Conditions, the highest AM and PM Peak Hour ramp volumes would continue to occur from southbound US 101 to Marsh Road for the US 101 / Marsh Road interchange. For the US 101/Willow Road interchange, the highest AM Peak Hour ramp demand would continue to occur from northbound US 101 to eastbound Willow Road. For the PM Peak Hour, the highest ramp demand would continue to occur from westbound Willow Road to southbound US 101.

Cumulative 2030 Conditions

This scenario focuses on a cumulative forecast of the operating conditions at the study intersections for both the Cumulative and Cumulative with Project scenarios. The Cumulative Conditions assumes a build-out year of 2030 with growth related to planned developments and an assumed ambient growth of 1 percent per year compounded annually. Similar to Near Term Conditions, the 1 percent compounded annual growth rate, is consistent with the C/CAG model regional growth projections.

Cumulative Approved/Planned Development Projects

All of the approved development projects for the Near Term Conditions are included in the Cumulative analysis. Additionally, planned projects including Facebook West Campus (1 Facebook Way) and Veterans Administration housing proposal (795 Willow Road) are included in the Cumulative 2030 Conditions analysis as detailed in Table 3.3-14.

Table 3.3-14. Cumulative 2030 Conditions Developments in Project Vicinity

Project	Land Use	Size
Stanford University Medical Campus	Hospital/Medical Office	854,970 sf/ 24,330 sf
1283 Willow Road	Office/Retail	3,800 sf/ 5,096 sf
1300 El Camino Real	Commercial	110,065 sf
1906 El Camino Real	Medical Office	9,825 sf
1706 El Camino Real	Medical Office	10,166 sf
100-155 Constitution Drive & 100-190 Independence Drive	Office/Health Club/ Restaurant/Hotel	497,619 sf/68,964 sf/ 4,285 sf / 230 Rooms
100 Middlefield	Office	8,936 sf
2484 Sand Hill Road	Office	8,774 sf
1 Hacker Way	Office	3,000 Employees
1 Facebook Way	Office	433,700 sf
795 Willow Road	Residential	60 DU
389 El Camino Real	Residential	22 DU
1460 El Camino Real	Office/Residential	26,800 sf / 16 DU

Source: City of Menlo Park, August, 2012.
Notes: DU = dwelling unit

Programmed/Planned Transportation Facility Improvements

Within the Project area, programmed or planned transportation facility improvements include the reconstruction of the Willow Road/US 101 interchange. This project is not included in the Cumulative conditions analysis, because its timing was uncertain at the time of the NOP in August 2012. However, the current project schedule (as of September 2013) anticipates construction to be completed before 2020, which will occur within the timeframe of the Cumulative 2030 Conditions. Since the Willow Road/US 101 interchange modifications are anticipated to improve traffic operations and safety in the study area, the assumption that it would not be operational in the analysis is considered a conservative. Intersection geometrics would remain the same as under Near Term 2015 Conditions for purposes of this analysis.

Cumulative Traffic Volumes and Levels of Service

The analysis conducted for the Cumulative 2030 Conditions focuses on an 18-year forecast of the operating conditions at the study intersection for both No Project Conditions and Plus Project Conditions. The No Project Conditions assume growth from the planned or approved developments with an assumed ambient growth of 1 percent per year over an 18-year horizon, compounded annually, and applied to the Existing Conditions traffic volumes. Figure 3.3-13a and 3.3-13b illustrate the Cumulative 2030 Conditions peak hour traffic volumes. Under the No Project Condition, the ambient growth over 18 years plus planned or approved traffic would add a large amount of traffic to the area.

Table 3.3-15 summarizes the intersection operating conditions during the AM and PM Peak Hours under Cumulative 2030 Conditions.

All study intersections are expected to operate at an acceptable LOS under the Cumulative 2030 Conditions, with the following exceptions.

- Marsh Road and Bayfront Expressway (AM/PM Peak Hour) (#1)
- Marsh Road and US 101 NB Off-Ramp (AM/PM Peak Hour) (#3)
- Marsh Road and US 101 SB Off-Ramp (AM/PM Peak Hour) (#4)
- Marsh Road and Scott Drive (PM Peak Hour) (#5)
- Marsh Road and Middlefield Road (AM Peak Hour) (#7)
- Independence Drive and Constitution Drive (AM Peak Hour) (#8)
- Chrysler Drive and Bayfront Expressway (PM Peak Hour) (#9)
- Willow Road and Bayfront Expressway (AM/PM Peak Hour) (#15)
- Willow Road and Newbridge Street (AM/PM Peak Hour) (#19)
- Willow Road and Middlefield Road (AM/PM Peak Hour) (#24)
- University Avenue and Bayfront Expressway (PM Peak Hour) (#25)

Where State-controlled (Caltrans) intersections operate unacceptably, Table 3.3-15 also discloses operating conditions of each local approach under Cumulative 2030 Conditions.

Table 3.3-15. Cumulative 2030 Conditions Level of Service

Study Intersection	LOS Standard	Control Type	AM Peak Hour		PM Peak Hour	
			Delay[a]	LOS[b]	Delay[a]	LOS[b]
1. Marsh Road and Bayfront Expressway (State)	D	Signalized	**69.9**	**E**	**114.8**	**F**
SB Critical Local Approach			***140.4***	***F***	***>150***	***F***
WB Critical Local Approach			***>150***	***F***	***>150***	***F***
2. Marsh Road and Independence Drive (State)	D	Side-Street Stop	0.0	A	0.0	A
3. Marsh Road and US 101 NB Off-Ramp (State)	C	Signalized	**86.3**	**F**	**48.6**	**D**
4. Marsh Road and US 101 SB Off-Ramp (State)	C	Signalized	**64.9**	**E**	**48.8**	**D**
5. Marsh Road and Scott Drive	D	Signalized	21.0	C	**55.3**	**E**
6. Marsh Road and Bay Road	D	Signalized	29.5	C	13.8	B
7. Marsh Road and Middlefield Road (Atherton)	D	Signalized	**65.0**	**E**	48.1	D
8. Independence Drive and Constitution Drive	C	Side-Street Stop	**>150**	**F**	18.7	C
9. Chrysler Drive and Bayfront Expressway (State)	D	Signalized	21.0	C	**137.2**	**F**
EB Critical Local Approach					***>150***	***F***
10. Chrysler Drive and Constitution Drive	C	All Way Stop	15.5	B	22.1	C
11. Chrysler Drive and Jefferson Drive	C	Side-Street Stop	10.9	B	15.3	C

Table 3.3-15. Cumulative 2030 Conditions Level of Service

Study Intersection	LOS Standard	Control Type	AM Peak Hour		PM Peak Hour	
			Delay[a]	LOS[b]	Delay[a]	LOS[b]
12. Chrysler Drive and Independence Drive	C	Side-Street Stop	11.4	B	17.2	C
13. Chilco Street and Bayfront Expressway (State)	D	Signalized	25.3	C	22.9	C
14. Chilco Street and Constitution Drive	C	All Way Stop	14.4	B	15.1	C
15. Willow Road and Bayfront Expressway (State)	D	Signalized	**60.4**	**E**	**>150**	**F**
16. Willow Road and Hamilton Avenue (State)	D	Signalized	22.0	C	26.9	C
17. Willow Road and Ivy Drive (State)	D	Signalized	21.3	C	18.2	B
18. Willow Road and O'Brien Drive (State)	D	Signalized	11.9	B	14.9	B
19. Willow Road and Newbridge Street (State)	D	Signalized	**63.4**	**E**	**92.3**	**F**
NB Critical Local Approach			***117.1***	***F***	***>150***	***F***
SB Critical Local Approach			***107.7***	***F***	***>150***	***F***
20. Willow Road and Bay Road (State)	D	Signalized	22.7	C	23.7	C
21. Willow Road and Durham Street	D	Signalized	14.0	B	16.6	B
22. Willow Road and Coleman Avenue	D	Signalized	33.8	C	24.1	C
23. Willow Road and Gilbert Avenue	D	Signalized	18.7	B	19.7	B
24. Willow Road and Middlefield Road	D	Signalized	**57.2**	**E**	**74.0**	**E**
25. University Avenue and Bayfront Expressway (State)	D	Signalized	35.2	D	**>150**	**F**
26. Middlefield Road and Ravenswood Avenue	D	Signalized	29.5	C	31.4	C
27. Middlefield Road and Ringwood Avenue	D	Signalized	28.1	C	27.6	C
28. Marsh Road and Florence Street–Bohannon Drive	D	Signalized	21.2	C	39.5	D

Source: DKS Associates 2013.

Notes:

a. Delay = average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections, **bold** text signifies a LOS that is higher than the standard.

b. LOS = Level of service, represents average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections.

See Appendix 3.3-B for definitions of LOS for signalized and unsignalized intersections.

Average delay for eastbound/westbound or northbound/southbound critical movements for local approaches.

Cumulative 2030 Plus Project Traffic Volumes and Levels of Service

To obtain Cumulative 2030 Plus Project Conditions traffic volumes, traffic generated by the Project (following the same trip generation and assignment patterns discussed in the Near Term 2015 section) was added to the traffic volumes used in the previous scenario. Figure 3.3-14a and 3.3-14b illustrate the Cumulative 2030 Plus Project Conditions peak hour traffic volumes. Intersections LOS for the Cumulative 2030 Plus Project Conditions are provided in Table 3.3-16.

Most study intersections are expected to operate at an acceptable LOS under the Cumulative 2030 Plus Project Conditions, with the following exceptions.

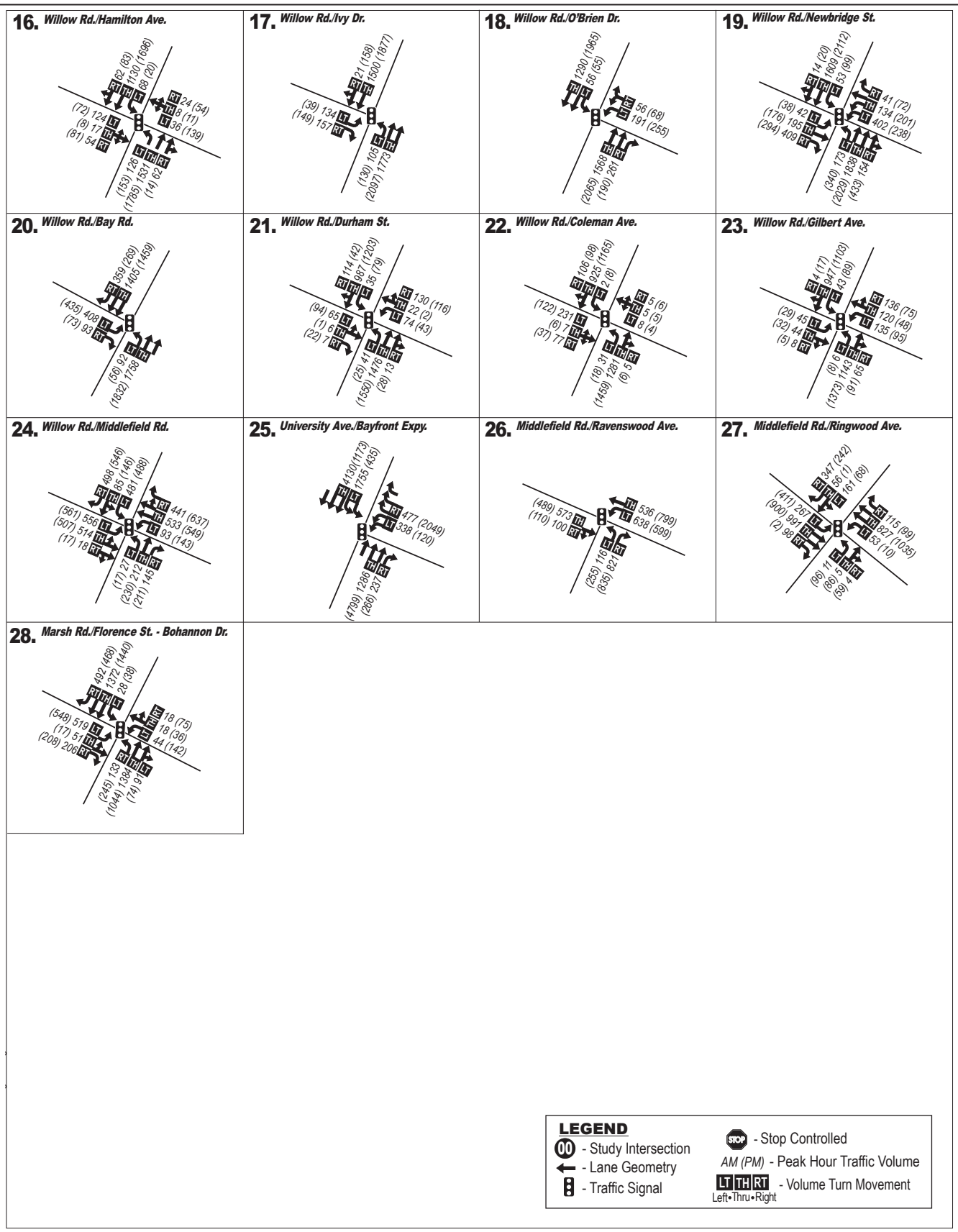
- Marsh Road and Bayfront Expressway (AM/PM Peak Hour) (#1)
- Marsh Road and US 101 NB Off-Ramp (AM/PM Peak Hour) (#3)
- Marsh Road and US 101 SB Off-Ramp (AM/PM Peak Hour)(#4)
- Marsh Road and Scott Drive (PM Peak Hour) (#5)
- Marsh Road and Middlefield Road (AM Peak Hour) (#7)
- Independence Drive and Constitution Drive (AM Peak Hour) (#8)
- Chrysler Drive and Bayfront Expressway (PM Peak Hour) (#9)
- Chrysler Drive and Jefferson Drive (PM Peak Hour) (#11)
- Chilco Street and Constitution Drive (PM Peak Hour) (#13)
- Willow Road and Bayfront Expressway (AM/PM Peak Hour) (#15)
- Willow Road and Newbridge Street (AM/PM Peak Hour) (#19)
- Willow Road and Middlefield Road (AM/PM Peak Hour) (#24)
- University Avenue and Bayfront Expressway (PM Peak Hour) (#25)

Where State-controlled (Caltrans) intersections operate unacceptably, Table 3.3-16 also discloses operating conditions of each local approach under Cumulative 2030 Plus Project Conditions.

Source: DKS, 2013.

Graphics ... 00078.13 (10-23-13)

Figure 3.3-13a
Cumulative 2030 Condition Peak Hour Volumes



Source: DKS, 2013.

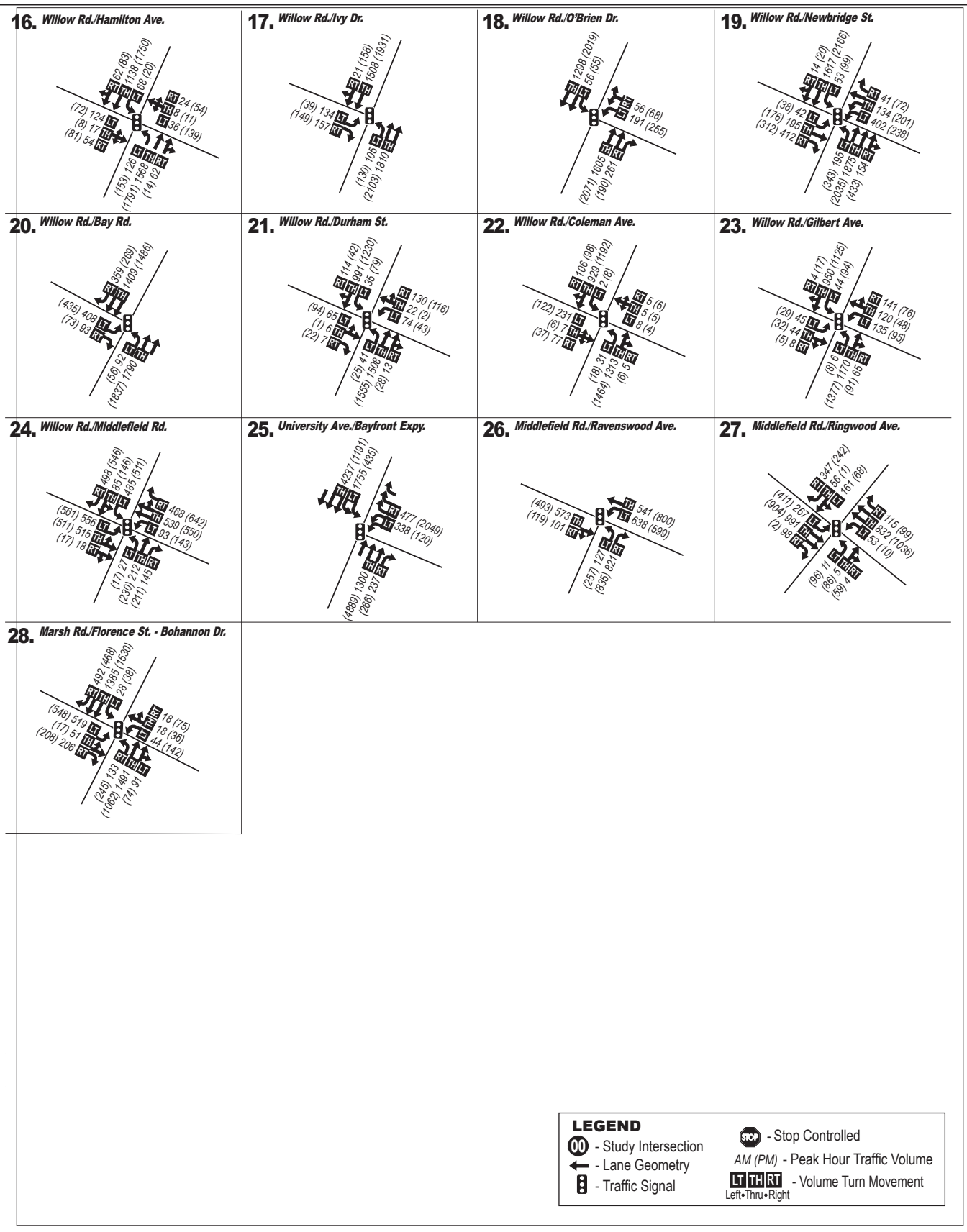
Graphics ... 00078.13 (10-23-13)

Figure 3.3-13b
Cumulative 2030 Condition Peak Hour Volumes

Source: DKS, 2013.

Graphics ... 00078.13 (10-23-13)

Figure 3.3-14a
Cumulative 2030 Plus Project Condition Peak Hour Volumes



Source: DKS, 2013.

Graphics ... 00078.13 (10-23-13)

Figure 3.3-14b
Cumulative 2030 Plus Project Condition Peak Hour Volumes

Table 3.3-16. Comparison of Cumulative 2030 No Project and Plus Project Conditions, AM and PM Peak Hour Levels of Service

			AM Peak Hour				PM Peak Hour				
			No Project		Plus Project		No Project		Plus Project		Potentially Significant Impact (AM/PM)
Study Intersection	LOS Standard	Control Type	Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	
1. Marsh Road and Bayfront Expressway	D	Signalized	**69.9**	**E**	**72.5**	**E**	**114.8**	**F**	**114.7**	**F**	**Y/Y**
SB Critical Local Approach			***140.4***	***F***	***143.7***	***F***	***>150***	***F***	***>150***	***F***	
WB Critical Local Approach			***>150***	***F***	***>150***	***F***	***>150***	***F***	***>150***	***F***	
2. Marsh Road and Independence Drive	D	Side-Street Stop	0.0	A	0.0	A	0.0	A	0.0	A	N/N
3. Marsh Road and US 101 NB Off-Ramp	C	Signalized	**86.3**	**F**	**133.1**	**F**	**48.6**	**D**	**53.3**	**D**	**Y/Y**
4. Marsh Road and US 101 SB Off-Ramp	C	Signalized	**64.9**	**E**	**70.7**	**E**	**48.8**	**D**	**53.9**	**D**	**Y/Y**
5. Marsh Road and Scott Drive	D	Signalized	21.0	C	21.3	C	**55.3**	**E**	**61.9**	**E**	N/**Y**
6. Marsh Road and Bay Road	D	Signalized	29.5	C	34.2	C	13.8	B	13.8	B	N/N
7. Marsh Road and Middlefield Road (Atherton)	D	Signalized	**65.0**	**E**	**76.6**	**E**	48.1	D	51.3	D	**Y**/N
8. Independence Drive and Constitution Drive	C	Side-Street Stop	**>150**	**F**	**>150**	**F**	18.7	C	20.6	C	**Y**/N
9. Chrysler Drive and Bayfront Expressway	D	Signalized	21.0	C	24.3	C	**137.2**	**F**	**>150**	**F**	N/**Y**
EB Critical Local Approach							***>150***	***F***	***>150***	***F***	
10. Chrysler Drive and Constitution Drive	C	All Way Stop	15.5	B	16.2	B	22.1	C	25.0	C	N/N
11. Chrysler Drive and Jefferson Drive	C	Side-Street Stop	10.9	B	10.7	B	15.3	C	**36.4**	**E**	N/**Y**
12. Chrysler Drive and Independence Drive	C	Side-Street Stop	11.4	B	17.8	C	17.2	C	24.5	C	N/N
13. Chilco Street and Bayfront Expressway	D	Signalized	25.3	C	28.3	C	22.9	C	36.9	D	N/N
14. Chilco Street and Constitution Drive	C	All Way Stop	14.4	B	18.2	C	15.1	C	**39.7**	**E**	N/**Y**
15. Willow Road and Bayfront Expressway	D	Signalized	**60.4**	**E**	**67.8**	**E**	**>150**	**F**	**>150**	**F**	**Y/Y**
16. Willow Road and Hamilton Avenue	D	Signalized	22.0	C	21.9	C	26.9	C	27.4	C	N/N
17. Willow Road and Ivy Drive	D	Signalized	21.3	C	21.2	C	18.2	B	18.6	B	N/N
18. Willow Road and O'Brien Drive	D	Signalized	11.9	B	11.8	B	14.9	B	15.0	B	N/N

Table 3.3-16. Comparison of Cumulative 2030 No Project and Plus Project Conditions, AM and PM Peak Hour Levels of Service

			AM Peak Hour				PM Peak Hour				
			No Project		Plus Project		No Project		Plus Project		Potentially Significant Impact (AM/PM)
Study Intersection	LOS Standard	Control Type	Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]	
19. Willow Road and Newbridge Street	D	Signalized	**63.4**	**E**	**66.7**	**E**	**92.3**	**F**	**99.9**	**F**	**Y/Y**
NB Critical Local Approach			***117.1***	***F***	***123.3***	***F***	***202.0***	***F***	***215.0***	***F***	
SB Critical Local Approach			***107.7***	***F***	***113.9***	***F***	***>150***	***F***	***>150***	***F***	
20. Willow Road and Bay Road	D	Signalized	22.7	C	22.8	C	23.7	C	23.8	C	N/N
21. Willow Road and Durham Street	D	Signalized	14.0	B	14.0	B	16.6	B	17.3	C	N/N
22. Willow Road and Coleman Avenue	D	Signalized	33.8	C	36.6	D	24.1	C	24.8	C	N/N
23. Willow Road and Gilbert Avenue	D	Signalized	18.7	B	19.8	B	19.7	B	19.7	B	N/N
24. Willow Road and Middlefield Road	D	Signalized	**57.2**	**E**	**58.1**	**E**	**74.0**	**E**	**74.2**	**E**	**Y**/N
25. University Avenue and Bayfront Expressway	D	Signalized	35.2	D	38.0	D	**>150**	**F**	**>150**	**F**	N/**Y**
26. Middlefield Road and Ravenswood Avenue	D	Signalized	29.5	C	30.3	C	31.4	C	32.0	C	N/N
27. Middlefield Road and Ringwood Avenue	D	Signalized	28.1	C	28.1	C	27.6	C	27.5	C	N/N
28. Marsh Road and Florence Street–Bohannon Drive	D	Signalized	21.2	C	21.2	C	39.5	D	44.0	D	N/N

Source: DKS Associates 2013.

Notes:

a. Delay = average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections, **bold** text signifies a LOS that is higher than the standard.

b. LOS = Level of service, represents average for signalized and all-way stop controlled intersections, and worst approach for side-street stop controlled intersections.

See Appendix 3.3-B for definitions of LOS for signalized and unsignalized intersections.

Average delay for eastbound/westbound or northbound/southbound critical movements for local approaches.

Impact TRA-6: Impacts on Intersections in the Cumulative 2030 Plus Project Conditions. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased delays at several intersections during peak hours causing a potentially significant impact on the operation of several study intersections. (PS)

AM Peak Hour

As shown in Table 3.3-16, several intersections operate below their LOS standard under Cumulative 2030 Conditions during the AM Peak Hour, and the addition of Project traffic would exacerbate their unacceptable operations resulting in potentially significant impacts.

- Marsh Road and Bayfront Expressway (#1)
- Marsh Road and US 101 NB off-ramp (#3)
- Marsh Road and US 101 SB off-ramp (#4)
- Marsh Road and Middlefield Road (#7)
- Independence Drive and Constitution Drive (#8)
- Willow Road and Bayfront Expressway (#15)
- Willow Road and Newbridge Street (#19)
- Willow Road and Middlefield Road (#24)

City-controlled intersections with all approaches collector or local streets operating unacceptably: the intersection of Independence Road and Constitution Drive would experience an increase in average critical delay of 0.8 seconds or greater, resulting in a ***significant*** impact at this location.

City-controlled intersections with at least one arterial roadways operating unacceptably: the intersection of Willow Road and Middlefield Road would experience an increase in average critical delay of 0.8 seconds or greater, resulting in a ***significant*** impact at this location.

State-controlled intersections operating unacceptably: the intersections of Marsh Road and Bayfront Expressway and Willow Road and Newbridge Street would experience an increase in average critical delay of 0.8 seconds or greater on its local approaches, resulting in a ***significant*** impact at these locations. The intersection of Willow Road and Bayfront Expressway would experience an increase in average delay of 4.0 seconds or greater, resulting in a ***significant*** impact at this location. The intersections of Marsh Road and US 101 NB off-ramp and Marsh Road and US 101 SB off-ramp would experience an increase in average delay of 4.0 seconds or greater, resulting in a ***significant*** impact at these locations.

Town of Atherton-controlled intersections operating unacceptably: the intersection of Marsh Road and Middlefield Road would experience an increase in average delay of 4.0 seconds or greater, resulting in a ***significant*** impact at this location.

PM Peak Hour

During the PM Peak Hour, the addition of Project traffic causes operating conditions to degrade below their LOS standard resulting in potentially significant impacts on the following intersections.

- Chrysler Drive and Jefferson Drive (#11)

- Chilco Street and Constitution Drive (#14)
- Willow Road and Middlefield Road (#24)

Additionally, several intersections operate below their LOS standard under Cumulative 2030 Conditions, and the addition of Project traffic would exacerbate their unacceptable operations resulting in potentially significant impacts at the following intersections.

- Marsh Road and Bayfront Expressway (#1)
- Marsh Road and US 101 NB off-ramp (#3)
- Marsh Road and US 101 SB off-ramp (#4)
- Marsh Road and Scott Drive (#5)
- Chrysler Drive and Bayfront Expressway (#9)
- Willow Road and Bayfront Expressway (#15)
- Willow Road and Newbridge Street (#19)
- University Avenue and Bayfront Expressway

City-controlled intersections with all approaches collector or local streets operating acceptably: the intersections of Chrysler Drive and Jefferson Drive and Chilco Street and Constitution Drive would experience an increase in delay causing a LOS of D, E, or F, resulting in a ***significant*** impact at these locations.

City-controlled intersections with at least one arterial roadway operating unacceptably: the intersection of Marsh Road and Scott Drive would experience an increase in average critical delay of 0.8 seconds or greater, resulting in a ***significant*** impact at this location.

State-controlled intersections operating unacceptably: the intersections of Chrysler Drive and Bayfront Expressway and Willow Road and Newbridge Street would experience an increase in average critical delay of 0.8 seconds or greater on local approaches, resulting in a ***significant*** impact at these locations. The intersections of Willow Road and Bayfront Expressway; University Avenue and Bayfront Expressway; and Marsh Road and US 101 NB off-ramp would experience an increase in average delay of 4.0 seconds or greater, resulting in a ***significant*** impact at these locations.

MITIGATION MEASURES. Mitigation Measure TRA-6.1 involves intersection improvements to mitigate or reduce the impacts of the Project under the Cumulative 2030 Plus Project Conditions. The operations at several of the intersections could be improved by modifying the intersection geometry to provide additional capacity. Some of the modifications may be installed by restriping within the existing roadway; however, others may require additional right-of-way to add travel lanes. See Appendix 3.3-F for intersection conceptual layout plans for mitigation measures.

TRA-6.1: Implement Intersection Improvements to address Cumulative 2030 Conditions Effects on Study Intersections. The following mitigation measures were considered to reduce potentially significant impacts on study intersections.

a. Marsh Road and Bayfront Expressway (#1)

See Near Term 2015 Plus Project Conditions TRA-1.1a.

b. Marsh Road and US 101 Northbound Off-Ramp (#3)

See Near Term 2015 Plus Project Conditions TRA-1.1b.

c. Marsh Road and US 101 Southbound Off-Ramp (#4)

A potential mitigation measure for the intersection of Marsh Road and US 101 southbound off-ramp includes widening the southbound off-ramp and adding an additional right-turn lane along with restriping the existing right-turn lanes into a shared left and right-turn lane and adding an additional receiving lane on eastbound Marsh Road accordingly. However, this improvement is not feasible due to the right-of-way requirements that would be needed for the receiving lane on the eastbound Marsh Road bridge over US 101.

Although the proposed mitigation would fully mitigate the impact, the impact remains ***significant and unavoidable*** because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time.

d. Marsh Road and Scott Drive (#5)

A potential mitigation measure for the intersection of Marsh Road and Scott Drive includes widening the westbound approach and adding a shared right-turn and through lane. The west side of Marsh Road would also need to be widened to accommodate an additional receiving lane. This improvement would require relocation of existing traffic signal poles, utility relocation, and relocation and reconstruction of the sidewalk and curb ramp on the southwest corner of the intersection. The improvement would also require acquisition of right-of-way, which is not feasible.

While the intersection is under City jurisdiction, the east leg of the intersection is located within Caltrans right-of-way, requiring coordination between the two jurisdictions for implementation of the improvements described above. As such, the City cannot guarantee the mitigation measure would be implemented. Although the proposed mitigation would fully mitigate the impact, the impact remains ***significant and unavoidable*** because the improvement is infeasible. No other feasible mitigation measures are available for this intersection at this time.

e. Marsh Road and Middlefield Road (#7)

The proposed mitigation measure for the intersection of Marsh Road and Middlefield Road includes the addition of a second southbound left-turn lane on Middlefield Road and one receiving lane on Marsh Road accordingly. This measure has been identified in past studies, and, is potentially feasible to construct within the existing right-of-way on Marsh Road. However, based on consultation with the Town of Atherton, widening Marsh Road may require covering Atherton Channel and removal of numerous heritage trees, and, thus, the Town of Atherton considers it infeasible. No other feasible mitigation measure has been identified by the Town of Atherton at the time this DEIR was prepared. Because the improvement is under the Town of Atherton jurisdiction, which considers the improvements infeasible, the City cannot guarantee it would be implemented. Therefore, the impact remains ***significant and unavoidable***.

f. Independence Drive and Constitution Drive (#8)

See Near Term 2015 Plus Project Conditions TRA-1.1c.

g. Chrysler Drive and Bayfront Expressway (#9)

See Near Term 2015 Plus Project Conditions TRA-1.1d.

h. Chrysler Drive and Jefferson Drive (#11)

See Near Term 2015 Plus Project Conditions TRA-1.1e.

i. Chilco Street and Constitution Drive (#14)

See Near Term 2015 Plus Project Conditions TRA-1.1g.

j. Willow Road and Bayfront Expressway (#15)

See Near Term 2015 Plus Project Conditions TRA-1.1h.

k. Willow Road and Newbridge Street (#19)

See Near Term 2015 Plus Project Conditions TRA-1.1i.

l. Willow Road and Middlefield Road (#24)

The proposed mitigation measure for the intersection of Willow Road and Middlefield Road includes widening the eastbound approach to add a second through lane on Willow Road. This improvement is identified in the City's TIF. Prior to the issuance of a building permit the Project Sponsor shall pay the adopted TIF in effect at the time the permit is issued. Payment of the TIF would reduce this cumulative impact to a ***less than significant*** level.

m. University Avenue and Bayfront Expressway (#25)

See Near Term 2015 Plus Project Conditions TRA-1.1j.

Impact TRA-7: Impacts on Roadway Segments in the Cumulative 2030 Plus Project Conditions. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased average daily traffic causing a potentially significant impact on the operation of several study roadway segments. (PS)

Based on cumulative traffic forecasting methods described in previous sections, daily traffic projections were developed for Cumulative 2030 No Project and Cumulative 2030 Plus Project Conditions. Figure 3.3-15 shows the ADT volumes for the Cumulative 2030 Conditions and Figure 3.3-16 shows the Cumulative 2030 Plus Project Conditions ADT volumes. Table 3.3-17 compares the Cumulative 2030 Conditions ADT volumes to the Cumulative 2030 Plus Project Conditions.

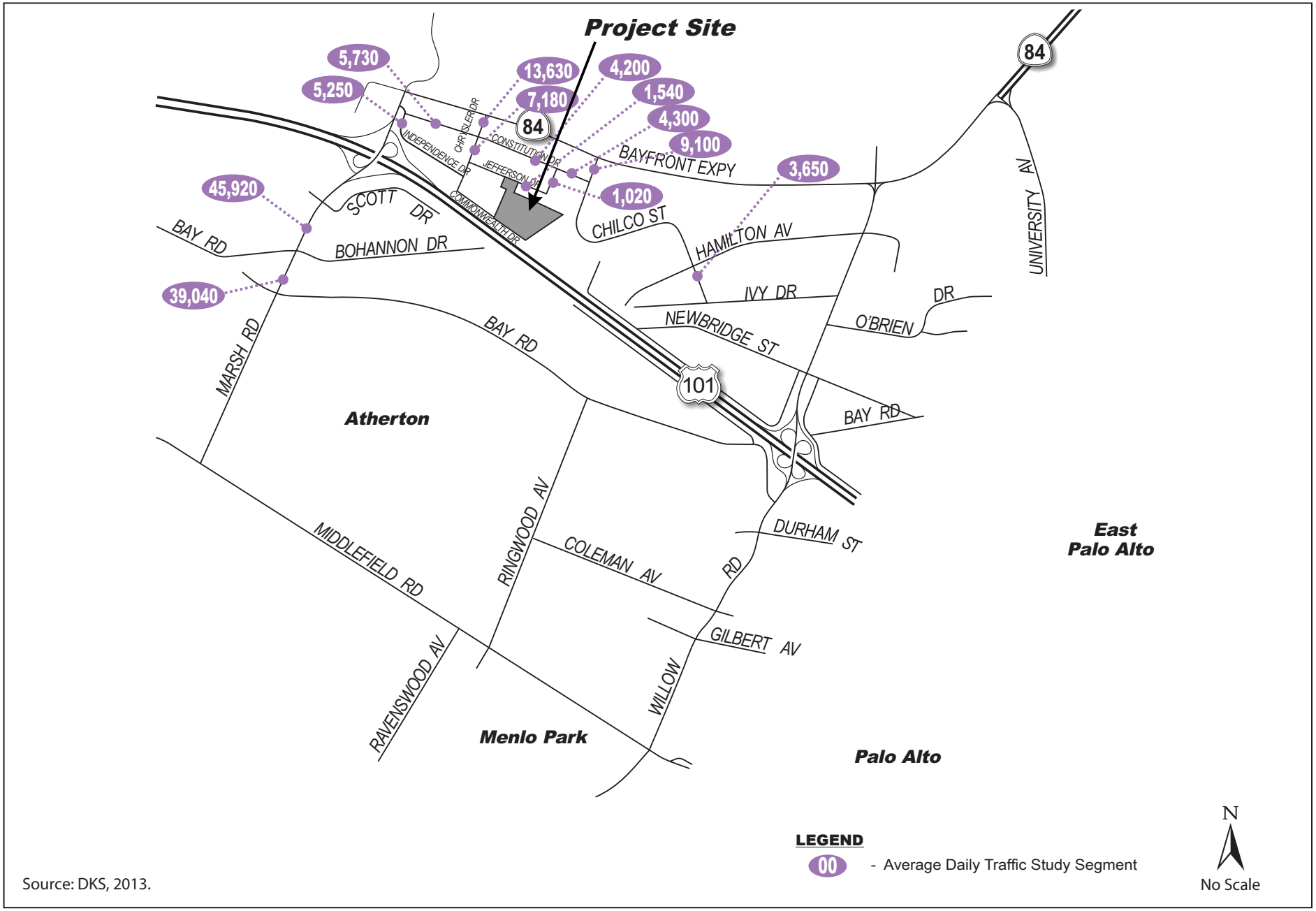
As shown in Table 3.3-17, seven roadway segments would experience significant impacts based on each roadway's respective criteria. Marsh Road between Scott Drive and Bohannon Drive is classified as a primary arterial and is not subject to ADT analysis or thresholds.

The net volume added by the Project on the following minor arterial segment is higher than the corresponding 100 vehicle threshold, resulting in a ***potentially significant*** impact.

- Marsh Road between Bohannon Drive and Bay Road (B)

The net volume added by the Project on the following collector segments is higher than the corresponding 50 vehicle threshold or adds more than 12.5 percent or 25 percent of the Cumulative 2030 Conditions ADT, depending on the existing demand on the roadway segment, resulting in a ***potentially significant*** impact.

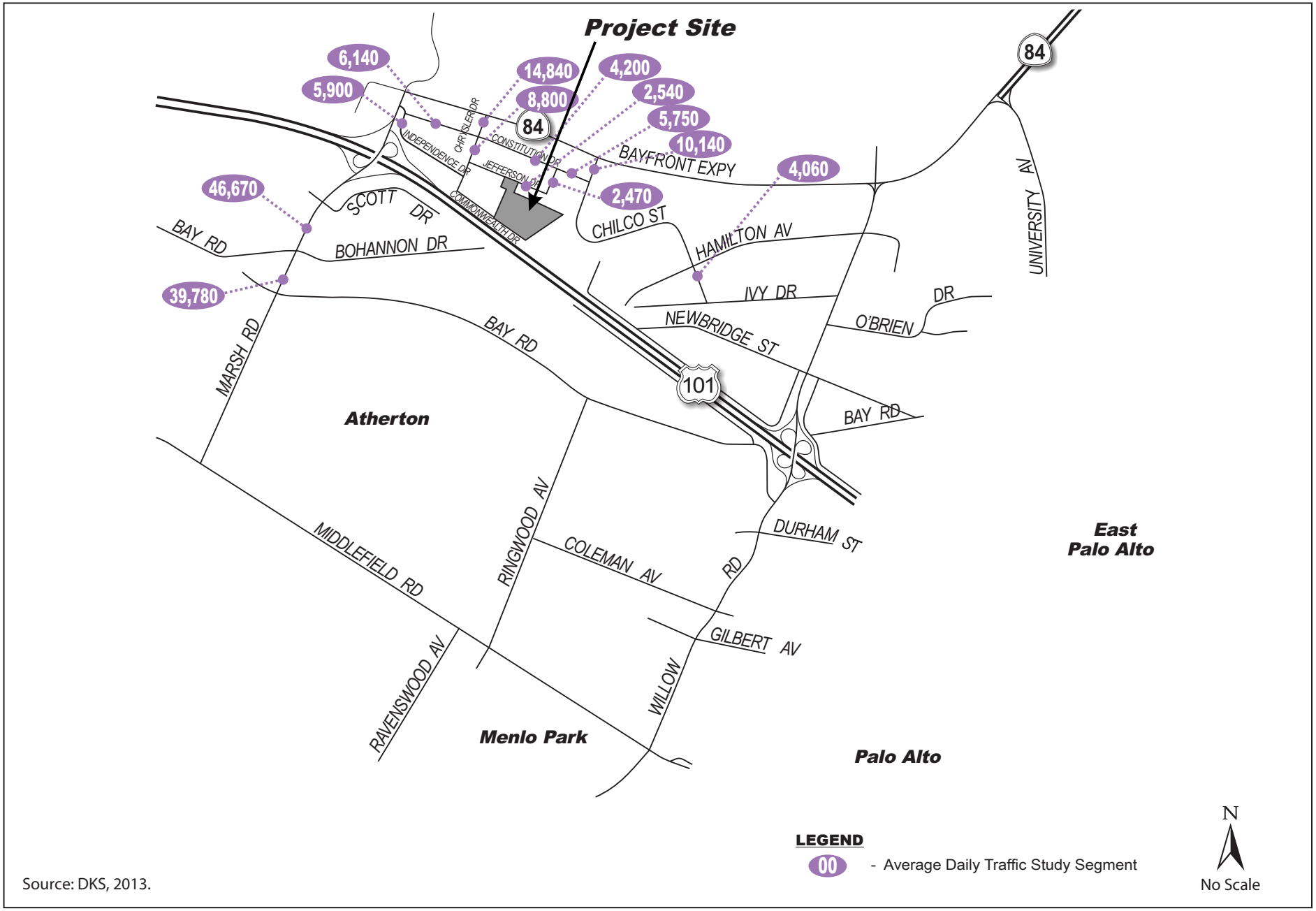
- Chrysler Drive between Bayfront Expressway and Constitution Drive (C)



Source: DKS, 2013.

Graphics ... 00078.13 (10-23-13)

Figure 3.3-15
Cumulative 2030 Condition Average Daily Traffic



Source: DKS, 2013.

Graphics ... 00078.13 (10-23-13)

Figure 3.3-16
Cumulative 2030 Plus Project Condition Average Daily Traffic

- Chilco Street between Bayfront Expressway and Constitution Drive (E)
- Constitution Drive between Jefferson Drive and Chilco Street (I)

The net volume added by the Project on the following local segments is higher than the corresponding 25 vehicle threshold or adds more than 12.5 percent or 25 percent of the cumulative 2030 Conditions ADT, depending on the existing demand on the roadway segment, resulting in a ***potentially significant*** impact.

- Chrysler Drive between Constitution Drive and Jefferson Drive (D)
- Chilco Street between Hamilton Avenue and Ivy Drive (F)
- Constitution Drive between Independence Drive and Chrysler Drive (H)
- Jefferson Drive between Chrysler Drive and the Project driveway (J)
- Jefferson Drive between the Project driveway and Constitution Drive (K)
- Independence Drive between Constitution Drive and Chrysler Drive (L)

The remaining roadway segments would not be affected.

Some net-new Project-related trips would travel to destinations in the Belle Haven neighborhood. Additionally, some cut-through traffic within the Belle Haven neighborhood is anticipated, approximately 4 percent of project traffic was assigned to travel along local streets to avoid congestion on Bayfront Expressway and Willow Road. Existing turning movement restrictions include no left turns from Chilco Street onto Hamilton Avenue between 3:30 p.m. and 7:00 p.m. While no other turn restrictions are anticipated for the Belle Haven neighborhood, intersection improvements near the Project site, intersection improvements at Chrysler Drive and Bayfront Expressway; Willow Road and Bayfront Expressway; and Chilco Street and Constitution Drive would improve traffic flow and reduce queuing. With these improvements, more traffic is expected to travel on Bayfront Expressway, thereby minimizing cut-through traffic through the Belle Haven neighborhood.

MITIGATION MEASURES. A typical mitigation measure would seek to widen the road to add travel lanes and capacity to accommodate the increase in net daily trips. However, increasing the capacity of the roadway requires additional right-of-way, which would affect local property owners and is considered infeasible. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), potential air quality degradation, 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). There is also a quality of life aspect to roadway planning, as congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commuters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a LOS or traffic operation issue.

Table 3.3-17. Cumulative 2030 Plus Project Conditions Average Daily Traffic Summary

Roadway Segment	Roadway Class	Threshold	Existing ADT	Cumulative 2030 Conditions ADT	Cumulative 2030 Plus Project Conditions ADT	Net Volume Added for Project	Percent Change from Cumulative 2030 Condition	Potentially Significant Impact?
A. Marsh Road (Scott Drive and Bohannon Drive)	PA	n/a	32,768	45,923	46,666	743	1.6	Exempt
B. Marsh Road (Bohannon Drive and Bay Road)	MA	20,000	27,013	39,040	39,783	743	1.9	Y
C. Chrysler Drive (Bayfront Expressway and Constitution Drive)	C	10,000	7,084	13,632	14,839	1,207	8.9	Y
D. Chrysler Drive (Constitution Drive and Jefferson Drive)	L	1,500	2,625	7,180	8,796	1,616	22.5	Y
E. Chilco Street (Bayfront Expressway and Constitution Drive)	C	10,000	6,939	9,104	10,144	1,040	11.4	Y
F. Chilco Street (Hamilton Avenue and Ivy Drive)	L	1,500	2,213	3,653	4,061	408	11.2	Y
G. Constitution Drive (Independence Drive and Chrysler Drive)	L	1,500	2,342	5,729	6,138	409	7.1	Y
H. Constitution Drive (Chrysler Drive and Jefferson Drive)	C	10,000	1,997	4,199	4,199	0	0.0	N
I. Constitution Drive (Jefferson Drive and Chilco Street)	C	10,000	2,084	4,303	5,750	1,449	33.6	Y
J. Jefferson Drive (Chrysler Drive and Project driveway)	L	1,500	1,288	1,541	2,544	1,003	65.1	Y
K. Jefferson Drive (Project driveway and Constitution Drive)	L	1,500	851	1,018	2,467	1,449	142.3	Y
L Independence Drive (Constitution Drive and Chrysler Drive)	L	1,500	1,015	5,253	5,903	650	12.4	Y

Table 3.3-17. Cumulative 2030 Plus Project Conditions Average Daily Traffic Summary

			Existing	Cumulative 2030 Conditions	Cumulative 2030 Plus Project Conditions			
Roadway Segment	Roadway Class	Threshold	ADT	ADT	ADT	Net Volume Added for Project	Percent Change from Cumulative 2030 Condition	Potentially Significant Impact?

Source: DKS Associates 2013.

Notes:

City of Menlo Park Segment Criteria:

L = Local Street. Impact if ADT is > 1,350 vehicles and Project adds > 25 trips, or ADT is > 750 and Project increases ADT by 12.5percent, or ADT is < 750 and Project increases by 25percent.

C = Collector Street. Impact if ADT is > 9,000 vehicles and Project adds > 50 trips, or ADT is > 5,000 and Project increases ADT by 12.5percent, or ADT is < 5,000 and Project increases ADT by 25percent.

MA = Minor Arterial. Impact if ADT is > 18,000 vehicles and Project adds > 100 trips, or ADT is > 10,000 and Project increases ADT by 12.5percent, or ADT is < 10,000 and Project increases ADT by 25percent.

PA = Primary Arterial. Primary arterials are exempt from ADT thresholds but are included in the report for informational purposes.

BOLD indicates potentially significant impact.

An additional lane would not mitigate the impacts on the roadway segment, because the thresholds are based on the baseline and added Project traffic volumes. Therefore, impacts on the following roadway segments would remain ***significant and unavoidable***.

- Marsh Road between Bohannon Drive and Bay Road (B)
- Chrysler Drive between Bayfront Expressway and Constitution Drive (C)
- Chrysler Drive between Constitution Drive and Jefferson Drive (D)
- Chilco Street between Bayfront Expressway and Constitution Drive (E)
- Chilco Street between Hamilton Avenue and Ivy Drive (F)
- Constitution Drive between Independence Drive and Chrysler Drive (G)
- Constitution Drive between Jefferson Drive and Chilco Street (H)
- Jefferson Drive between Chrysler Drive and Project driveway (J)
- Jefferson Drive between Project driveway and Constitution Drive (K)
- Independence Drive between Constitution Drive and Chrysler Drive (L)

However, partial mitigation measures are identified to reduce the impacts of the Project under the Cumulative 2030 Plus Project Conditions on daily roadway segment operations. The identified bicycle route improvements along two segments of Constitution Drive could encourage bicycling and possibly reduce traffic volumes if drivers shift modes from vehicles to bicycles due to availability of additional lanes. However, because the reduction cannot be quantified, and it is unlikely that this would fully mitigate impacts on these segments, impacts are considered ***significant and unavoidable***.

TRA-7.1: Implement Roadway Segment Improvements to address Cumulative 2030 Conditions. The following mitigation measures were considered to reduce potentially significant impacts on roadway segments.

a. Constitution Drive between Independence Drive and Chrysler Drive (G)

See Near Term 2015 Plus Project Conditions TRA-2.1.

b. Constitution Drive between Jefferson Drive and Chilco Street (I)

See Near Term 2015 Plus Project Conditions TRA-2.1.

Impact TRA-8: Impacts on Routes of Regional Significance in the Cumulative 2030 Plus Project Conditions. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in potentially significant impacts on several Routes of Regional Significance. (PS)

Nine selected roadway segments within the Project vicinity are considered Routes of Regional Significance by the San Mateo County CMP (i.e., SR 84, SR 109, SR 114, and US 101). Project-generated traffic would affect the Regional Routes of Significance in the study area. Because several of the freeway segments are already operating at or worse than their respective LOS standards, the traffic increases for these segments would be considered a ***potentially significant*** impact. The arterials, however, are operating at acceptable LOS and the Project-related traffic increase would not result in potentially

significant impacts. Table 3.3-18 summarizes the traffic volumes and estimated percent of capacity added to the Routes of Regional Significance.

Table 3.3-18. Cumulative 2030 Plus Project Conditions Routes of Regional Significance

Route	Segment	LOS[a]	LOS Standard	Estimated Capacity (vph)[a]	Net-new Project Trips[b]	Percent of Capacity	Significant Impact?
SR 84	US 101 to Willow Road	B	D	3,300	274	-	N
	Willow Road to University Avenue	F	E	3,300	112	**3.3**	**Y**
	University Avenue to County Line	F	F	3,300	111	**3.3**	**Y**
SR 109	US 101 to Bayfront Expressway	C	E	2,200	0	-	N
SR 114	US 101 to Bayfront Expressway	B	E	2,200	58	-	N
US 101	North of Marsh Road	F	F	9,200	53	0.6	N
	Marsh Road to Willow Road	F	F	9,200	186	**2.0**	**Y**
	Willow Road to University Avenue	F	F	9,200	196	**2.1**	**Y**
	South of University Avenue	F	F	9,200	196	**2.1**	**Y**

Source: DKS Associates 2013; San Mateo County CMP Monitoring Report 2011.
Notes:
a. Directional freeway capacity is 2,300 vehicles per hour per lane (vphpl) for six lane segments and 2,200 vphpl for four lane segments. Arterial capacity is based on 60 percent green time of 1,900 vphpl saturation flow rate (1,140 vphpl is rounded to 1,100 vphpl).
b. For directional peak demand for either the AM or PM Peak Hour of Project traffic.

Under the Cumulative 2030 Plus Project Condition, the following Routes of Regional Significance potentially would operate at or below LOS standards with addition of Project traffic. The Project would increase traffic that would exceed the current thresholds resulting in a ***potentially significant*** impact.

- SR 84 between Willow Road and University Avenue
- SR 84 between University Avenue and County Line
- US 101 between Marsh Road and Willow Road
- US 101 between Willow Road and University Avenue
- US 101 south of University Avenue

MITIGATION MEASURES. Mitigation Measure TRA-8.1 involves roadway improvements to mitigate the impacts of the Project under Cumulative 2030 Plus Project Conditions on Routes of Regional Significance. A typical mitigation measure would seek to widen the road to add travel lanes and capacity. However, impacts on Routes of Regional Significance would remain ***significant and unavoidable*** because these roadways are not under the jurisdiction of the City. In addition, freeway improvement

projects, which add travel lanes are planned and funded on a regional scale and would be too costly for a single project to be expected to fund.

Roadway segments could be improved with additional travel lanes to accommodate the increase in net daily trips, but increasing the capacity of the roadway requires additional right-of-way. Also, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), potential air quality degradation, increases in noise associated with motor vehicles, and reduction in transit use (less congestion or reduced driving time may make driving more attractive than transit travel). There is also a quality of life aspect to roadway planning, because congestion, mobility, air quality, and noise impacts affect the quality of life for local residents, commuters, employees, and businesses in the area. Neighborhoods as well as commercial business centers are affected by roadway projects. Thus, while traffic is anticipated to increase on certain roadways, it should be viewed as more than an LOS or traffic operation issue.

TRA-8.1: Implement Routes of Regional Significance Improvements to address Cumulative 2030 Conditions Effects. The following mitigation measures were considered to reduce potentially significant impacts on Regional Routes of Significance.

Routes of Regional Significance could be widened to add travel lanes, but the freeways are under the jurisdiction of Caltrans. Adding a travel lane would increase capacity, but adding an additional lane to the roadway is not a feasible mitigation measure due to right-of-way constraints. Therefore, the following impacts remain ***significant and unavoidable***.

a. SR 84 between Willow Road and University Avenue

b. SR 84 between US 101 and Bayfront Expressway

c. US 101 between Marsh Road and Willow Road

d. US 101 between Willow Road and University Avenue

e. US 101 south of University Avenue

Freeway Ramp Traffic Volumes

A summary of traffic volumes on the US 101 ramps at Marsh Road and Willow Road is shown in Table 3.3-19. For the US 101/Marsh Road interchange, the highest AM Peak Hour ramp demand for the Cumulative 2030 Conditions occurs from southbound US 101 to Marsh Road. For the PM Peak Hour, the highest demand also occurs from southbound US 101 to Marsh Road. For the US 101/Willow Road interchange, the highest AM Peak Hour ramp demand would occur from northbound US 101 to eastbound Willow Road. For the PM Peak Hour, the highest ramp demand would occur from westbound Willow Road to southbound US 101.

For the Cumulative 2030 Plus Project Condition, the highest AM and PM Peak Hour ramp volumes would occur from southbound US 101 to Marsh Road for the US 101/Marsh Road interchange. For the US 101/Willow Road interchange, the highest AM Peak Hour ramp demand would occur from northbound US 101 to eastbound Willow Road. For the PM Peak Hour, the highest ramp demand would occur from westbound Willow Road to southbound US 101.

Table 3.3-19. Cumulative 2030 Conditions Ramp Traffic Volumes

	Cumulative 2030 Conditions			Cumulative 2030 Plus Project Conditions		
Ramp	AM Peak Hour	PM Peak Hour	ADT	AM Peak Hour	PM Peak Hour	ADT
NB US 101 diagonal off-ramp to Marsh Road	1,438	939	13,936	1,623	970	14,605
NB US 101 loop on-ramp from EB Marsh Road	622	612	7,439	622	612	7,439
NB US 101 diagonal on-ramp from WB Marsh Road	2,120	1,406	15,964	2,127	1,451	16,149
SB US 101 diagonal off-ramp to Marsh Road	2,342	2,121	24,177	2,395	2,130	24,363
SB US 101 loop on-ramp from WB Marsh Road	218	731	3,989	236	852	4,490
SB US 101 diagonal on-ramp from EB Marsh Road	658	923	9,110	658	923	9,110
NB US 101 diagonal off-ramp to EB Willow Road	1,611	1,477	14,390	1,621	1,479	14,427
NB US 101 loop on-ramp from EB Willow Road	502	437	6,258	502	437	6,258
NB US 101 diagonal on-ramp from WB Willow Road	434	555	5,857	434	555	5,857
NB US 101 loop off-ramp to WB Willow Road	669	541	7,756	669	541	7,756
SB US 101 diagonal off-ramp to WB Willow Road	419	465	6,979	419	465	6,979
SB US 101 loop on-ramp from WB Willow Road	1,161	1,606	12,237	1,167	1,651	12,423
SB US 101 diagonal on-ramp from EB Willow Road	1,128	607	11,225	1,128	607	11,225
SB US 101 loop off-ramp to EB Willow Road	295	673	6,277	306	673	6,277

Source: DKS Associates 2013.

Mitigation Measure Summary

The following tables summarize the proposed mitigation measures for the Project. Table 3.3-20 details a summary of the potential mitigation measures for study intersections, Table 3.3-21 details the roadway segment mitigation measures summary, and Table 3.3-22 details a summary for Routes of Regional Significance mitigation measures.

Table 3.3-20. Summary of Potential Mitigation Measures for Study Intersections

Intersection		Significant Impact?								
#	Description	Near Term 2015 Plus Project	Cumulative 2030 Plus Project	Jurisdiction	Potential Mitigation	Fully Mitigates Impact?	Feasible?	Responsible Party	Other Agency Approval/ Coord?	Remains a Significant/ Unavoidable Impact?
1	Marsh Road and Bayfront Expressway	Y	Y	Caltrans	Southbound approach (Haven Avenue): Restripe from one shared left-turn/through lane, one through lane, and one right-turn lane to one shared left-turn/through lane, one shared through/right-turn lane, and one right-turn lane.	Y	Y	St. Anton (Haven Avenue Residential)	Y	Y
					Eastbound approach (Marsh Road): Add third right turn lane and bicycle/pedestrian improvements to the approach to reduce secondary impacts.		Y	Project Sponsor	Y	Y
3	Marsh Road and US 101 NB Off-Ramp	Y	Y	Caltrans	Northbound approach (US 101 Ramp): Widen and add a second right-turn lane	Y	Y	Facebook	Y	Y
4	Marsh Road and US 101 SB Off-Ramp	N	Y	Caltrans	Southbound approach (US 101 Ramp): Widen and add an additional right-turn lane, convert the existing right-turn lane into a shared right-left-turn lane and add an additional receiving lane on Marsh Road accordingly	Y	N	N/A	Y	Y
5	Marsh Road and Scott Drive	N	Y	Menlo Park	Westbound approach (Marsh Road): Widen and add a shared right-turn and through lane and widen Marsh Road to accommodate additional receiving lane	Y	N	N/A	Y	Y

Table 3.3-20. Summary of Potential Mitigation Measures for Study Intersections

Intersection		Significant Impact?								
#	Description	Near Term 2015 Plus Project	Cumulative 2030 Plus Project	Jurisdiction	Potential Mitigation	Fully Mitigates Impact?	Feasible?	Responsible Party	Other Agency Approval/ Coord?	Remains a Significant/ Unavoidable Impact?
7	Marsh Road and Middlefield Road	N	Y	Atherton	Southbound approach (Middlefield Road): Add a second left-turn lane and add a receiving lane on Marsh Road accordingly	Y	N	N/A	Y	Y
8	Independence Drive and Constitution Drive	Y	Y	Menlo Park	Restrict left-turn access from Constitution Drive to Independence Drive and reroute traffic	Y	N	N/A	N	Y
9	Chrysler Drive and Bayfront Expressway	Y	Y	Caltrans	Eastbound approach (Chrysler Drive): Restripe the existing right-turn lane into a shared left/right-turn lane	Y	Y	Facebook	Y	Y
11	Chrysler Drive and Jefferson Drive	Y	Y	Menlo Park	Fair share contribution toward possible future signalization	N	Y	Project Sponsor	N	Y
					As partial mitigation, construct sidewalks and pedestrian improvements on Jefferson Drive	N	Y	Project Sponsor	N	Y
12	Chrysler Drive and Independence Drive	Y	N	Menlo Park	Fair share contribution toward possible future signalization	N	Y	Project Sponsor	N	Y
					As partial mitigation, construct sidewalks and pedestrian improvements on Chrysler Drive	N	Y	Project Sponsor	N	Y
14	Chilco Street and Constitution Drive	Y	Y	Menlo Park	Southbound approach (Constitution Drive): Stripe to include one left-turn lane and one shared through/right-turn lane	Y	Y	Project Sponsor	N	N
15	Willow Road and Bayfront Expressway	Y	Y	Caltrans	Eastbound approach (Willow Road): Add a third right-turn lane	Y	Y	Facebook	Y	Y

Table 3.3-20. Summary of Potential Mitigation Measures for Study Intersections

Intersection		Significant Impact?								
#	Description	Near Term 2015 Plus Project	Cumulative 2030 Plus Project	Jurisdiction	Potential Mitigation	Fully Mitigates Impact?	Feasible?	Responsible Party	Other Agency Approval/ Coord?	Remains a Significant/ Unavoidable Impact?
19	Willow Road and Newbridge Street	Y	Y	Caltrans	Southbound approach (Newbridge Street): Restripe from one left-turn lane, one through lane, and one right-turn lane to one shared left-turn/through lane, one shared through/right-turn lane, and one right-turn lane, and add one additional receiving lane on the south leg of Newbridge Street accordingly.	Y	N	N/A	Y	Y
					Westbound approach (Willow Road): Add a shared through/right-turn lane and additional receiving lane for the westbound through traffic.		Y	Facebook	Y	Y
24	Willow Road and Middlefield Road	N	Y	Menlo Park	Eastbound approach (Willow Road): Widen the eastbound approach to add a second through lane. Project Sponsor is responsible for payment of TIF toward this improvement.	Y	Y	Project Sponsor	N	N
25	University Avenue and Bayfront Expressway	Y	Y	Caltrans	Southbound approach (University Avenue): Add a fourth through lane and receiving lane	Y	N	N/A	Y	Y

Source: DKS Associates 2013.

Table 3.3-21. Summary of Potential Roadway Segment Mitigation Measures

Roadway Segment	Significant Impact?						
Description	Near Term 2015 Plus Project	Cumulative 2030 Plus Project	Jurisdiction	Potential Mitigation	Fully Mitigates Impact?	Feasible?	Remains a Significant/ Unavoidable Impact?
B. Marsh Road between Bohannon Drive and Bay Road	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
C. Chrysler Drive between Bayfront Expressway and Constitution Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
D. Chrysler Drive between Constitution Drive and Jefferson Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
E. Chilco Street between Bayfront Expressway and Constitution Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
F. Chilco Street between Hamilton Avenue and Ivy Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
G. Constitution Drive between Independence Drive and Chrysler Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
				Add Class III bicycle route.	N	Y	
I. Constitution Drive between Jefferson Drive and Chilco Street	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
				Add Class III bicycle route	N	Y	
J. Jefferson Drive between Chrysler Drive and Project driveway	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
K. Jefferson Drive between Project driveway and Constitution Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y
L. Independence Drive between Constitution Drive and Chrysler Drive	Y	Y	Menlo Park	Add an additional travel lane	N	N	Y

Source: DKS Associates 2013.

Table 3.3-22. Summary of Routes of Regional Significance Mitigation Measures

Regional Route	Significant Impact?						
Description	Near Term 2015 Plus Project	Cumulative 2030 Plus Project	Jurisdiction	Potential Mitigation	Fully Mitigates Impact?	Feasible?	Remains a Significant/ Unavoidable Impact?
SR 84 (Willow Road and University Avenue)	Y	Y	Caltrans	Add an additional lane	Y	N	Y
SR 84 (University Avenue and the County Line)	Y	Y	Caltrans	Add an additional lane	Y	N	Y
US 101 (Marsh Road and Willow Road)	Y	Y	Caltrans	Add an additional lane	Y	N	Y
US 101 (Willow Road and University Avenue)	Y	Y	Caltrans	Add an additional lane	Y	N	Y
US 101 (South of University Avenue)	Y	Y	Caltrans	Add an additional lane	Y	N	Y

Source: DKS Associates 2013.

3.4 Air Quality

This section describes the environmental and regulatory setting for air quality. It also describes impacts on air quality that would result from implementation of the Commonwealth Corporate Center Project (Project) and mitigation for significant impacts where feasible and appropriate. Cumulative impacts are discussed at the end of this section.

Additional information on air quality and the technical data used to prepare this section are provided in Appendix 3.4. Information on climate change is presented in Section 3.5, *Greenhouse Gas Emissions*.

There were no comments pertaining to air quality during the scoping meeting held for the Project in response to the Notice of Preparation (NOP) (Appendix 1).

Existing Conditions

Regulatory Setting

Air quality within the San Francisco Bay Area Air Basin (SFBAAB) is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policymaking, education, and a variety of programs. The agencies responsible for improving the air quality within the SFBAAB are discussed below.

Federal

United States Environmental Protection Agency. The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the national ambient air quality standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf) and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities, EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the time frame identified in the SIP.

State

California Air Resources Board. California Air Resources Boards (ARB), a part of the California Environmental Protection Agency (Cal/EPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, ARB conducts research, sets California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In April 2005, ARB issued a guidance document on air quality and land use, *Air Quality and Land Use Handbook: A Community Health Perspective*, which recommends that sensitive land uses not be located within 500 feet of a freeway or other high traffic roadway. It also recommends that a site-specific health risk assessment for all sensitive uses within 500 feet of a freeway or other high traffic roadway be performed as a way to more accurately evaluate the risk.

The basis for ARB's advisory recommendation of the 500 foot buffer is traffic-related studies of the additional cancer and non-cancer health risks attributable to proximity to roadways. Additional non-cancer health risks occur within 1,000 feet of freeways and high-traffic roadways. The highest concentration of emissions dissipates rapidly within the first 300 feet. According to ARB, California freeway studies also show an approximately 70 percent drop-off in particulate pollution levels at 500 feet, and lifetime cancer risk from exposure to diesel particulate matter (DPM) is expected to be lowered proportionately.[1] The guidance manual does not provide a quantitative acceptable threshold of risks from diesel exhaust from freeways in its recommendations of buffer distances between freeways and sensitive land uses. The ARB guidance acknowledges the need to balance this recommendation with other state and local policies addressing housing and transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues.

Local

Bay Area Air Quality Management District. Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for comprehensive air pollution control in the entire SFBAAB, including the County of San Mateo. To that end, BAAQMD, a regional agency, works directly with the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and local governments and cooperates actively with all federal and state government agencies. BAAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

BAAQMD is directly responsible for reducing emissions from stationary (area and point) sources and for assuring that state controls on mobile sources are effectively implemented. It has responded to this requirement by preparing a sequence of Ozone Attainment Plans and Clean Air Plans that comply with the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) to accommodate growth, reduce the pollutant levels in the SFBAAB, meet the NAAQS/CAAQS, and minimize the fiscal impact that pollution control measures have on the local economy. The Ozone Attainment Plans are prepared for the federal ozone standard, and the Clean Air Plans are prepared for the state ozone standards. The most recent Ozone Attainment Plan was adopted by BAAQMD Board of Directors on October 2001 and demonstrates attainment of the federal ozone standard in the Bay Area by 2006. In January 2006, BAAQMD adopted the 2005 Ozone Strategy to identify further steps needed to continue reducing public's exposure to unhealthy levels of ozone. Most recently, the 2010 Clean Air Plan was adopted by the Board of Directors on September 15, 2010 and is intended to serve the following purposes.

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement "all feasible measures" to reduce ozone.
- Provide a control strategy to reduce ozone (O_3), particulate matter (PM), air toxics, and greenhouse gases (GHGs) in a single, integrated plan.
- Review progress in improving air quality in recent years.

[1] California Air Resources Board. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. Available: http://www.arb.ca.gov/ch/handbook.pdf. Accessed: October 2013.

- Establish emission control measures to be adopted or implemented in the 2010–2012 time frame.

These planning efforts have substantially decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the Bay Area.

In 2003, the California Legislature enacted Senate Bill 656 (SB 656) to reduce public exposure to PM10 and PM2.5. SB 656 required ARB, in consultation with local air districts, to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be used by ARB and the air districts to reduce PM10 and PM2.5. In November 2005, BAAQMD adopted a Particulate Matter Implementation Strategy (PMIS) focusing on those measures most applicable and cost effective for the Bay Area.

Although BAAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with plans and new development projects within the Bay Area. Instead, BAAQMD has used its expertise and prepared the BAAQMD California Environmental Quality Act (CEQA) Guidelines to indirectly address these issues in accordance with the projections and programs of the Ozone Attainment Plan and Clean Air Plan. The purpose of the BAAQMD CEQA Guidelines is to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Bay Area. Specifically, the BAAQMD CEQA Guidelines explain the procedures that BAAQMD recommends be followed during the environmental review processes required by CEQA. The BAAQMD CEQA Guidelines provide direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts.

BAAQMD recently updated its CEQA Guidelines and adopted revised CEQA significance thresholds on June 2, 2010.[2] All of the adopted CEQA thresholds of significance, except for the risk and hazards thresholds for new receptors, were effective June 2, 2010. The thresholds related to risk and hazards when considering the siting of new sensitive receptors, such as residences or schools, became effective May 1, 2011. The BAAQMD CEQA Guidelines were the subject of legal action claiming that BAAQMD needed to comply with CEQA prior to adopting their 2010 CEQA Guidelines and significance thresholds. On appeal the appellate court ruled that adoption of guidelines and thresholds is not considered a project subject to CEQA review and adoption of the significance thresholds was not arbitrary and capricious. As of September 2013, BAAQMD has yet to formally re-recommend its CEQA Guidelines and significance thresholds for use by local agencies. However, given the appellate court ruling, BAAQMD is expected to recommend their CEQA Guidelines and thresholds at any time and, therefore, the BAAQMD CEQA Guidelines and thresholds are utilized in this Draft EIR. Nevertheless, the City has the discretion to use, and has been using, the BAAQMD CEQA Guidelines.

City of Menlo Park. Local jurisdictions, such as the City of Menlo Park (City), have the authority to address air pollution issues through their land use decision-making processes. Specifically, the City is responsible for assessing the potential for and mitigating air quality problems that result from its land use decisions. The City is also responsible for the implementation of transportation control measures, as outlined in the Clean Air Plan.

[2] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits and monitors and enforces the implementation of such mitigation measures. The City uses the BAAQMD CEQA Guidelines as its guidance document for the environmental review of plans and development proposals within its jurisdiction.

Menlo Park General Plan. The General Plan guides development and use of land within the City. Several goals and policies would be expected to contribute to improving air quality. However, the following goal and policy from the Open Space and Conservation Element is most relevant to the Project.[3]

> **Goal OSC5:** Ensure Healthy Air Quality and Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.
>
> *Policy OSC5.1*: Air and Water Quality Standards. Continue to apply standards and policies established by the Bay Area Air Quality Management District (BAAQMD), San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the California Environmental Quality Act (CEQA) process and other means as applicable.

Environmental Setting

Air Quality Background

The City is located within the SFBAAB, an area surrounded by mountains that confine the movement of air and the pollutants it contains. This area includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, the western half of Solano, and the southern half of Sonoma Counties. The regional climate within the SFBAAB is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime on-shore breezes, and moderate humidity. A wide range of meteorology and emissions sources—such as dense population centers, heavy vehicular traffic, and industrial activity—primarily influence the air quality within the SFBAAB.

Air pollutant emissions within the SFBAAB are generated from stationary, area-wide, mobile, and natural sources. Stationary sources can be divided into two major subcategories: point and area sources. *Point sources* occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers and combustion equipment that produce electricity or generate heat. *Area sources* consist of many smaller point sources that are widely distributed. Examples of area sources include residential and commercial water heaters, painting operations, portable generators, lawn mowers, agricultural fields, landfills, and consumer products, such as barbeque lighter fluid and hair spray. Construction activities that create fugitive dust, through activities such as excavation and grading, also contribute to area source emissions. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either onroad or offroad. Onroad sources may be legally operated on roadways and highways. Offroad sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The NAAQS/CAAQS have been set

[3] City of Menlo Park. 2013. Menlo Park General Plan, Open Space/Conservation, Noise and Safety Elements. Adopted May 21.

at levels above which concentrations could be generally harmful to human health and welfare and that would protect the most sensitive persons from illness or discomfort with a margin of safety.

The air pollutants for which NAAQS/CAAQS have been promulgated and that are most relevant to air quality planning and regulation in the SFBAAB include ozone (O_3), carbon monoxide (CO), respirable particulate matter (PM10), fine particulate matter (PM2.5), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). In addition, toxic air contaminants (TACs) are of concern in the SFBAAB. Each of these is briefly described below.

- **Ozone (O_3)** is a gas that is formed when volatile organic compounds (VOCs), which can also be referred to as reactive organic gases (ROG), and nitrogen oxides (NO_X), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Meteorological conditions that are needed to produce high concentrations of ozone are direct sunshine, early morning stagnation in source areas, high ground surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.
- **Nitrogen Dioxide (NO_2)** a reddish-brown reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is an essential ingredient in the formation of ozone. Like O_3, NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM10 and is emitted as a by-product of fuel combustion.
- **Carbon Monoxide (CO)** a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest in the winter mornings when surface-based inversions trap the pollutant at ground level. Because CO is emitted directly from internal combustion engines, unlike ozone, and motor vehicles operating at slow speeds are the primary source of CO in the SFBAAB, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- **Respirable Particulate Matter (PM10) and Fine Particulate Matter (PM2.5)** consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns, respectively, or smaller, in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- **Toxic Air Contaminants (TACs)** is a general term for a diverse group of air pollutants that can adversely affect human health, but have not had ambient air quality standards established for them. They are not fundamentally different from the pollutants discussed above, but lack ambient air quality standards for a variety of reasons (e.g., insufficient data on toxicity, association with particular workplace exposures rather than general environmental exposure, etc.). TACs effects tend to be local rather than regional. ARB has designated nearly 200 compounds as TACs. Additionally, ARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds, the most important being particulate matter from diesel-fueled engines (DPM). The health effects of TACs can result from either acute or chronic exposure; many types of cancer are associated with chronic TAC exposures.

- **Sulfur Oxides (SO_X)**, primarily SO_2, is a product of high-sulfur fuel combustion and chemical processes occurring at chemical plants and refineries. It is a colorless, extremely irritating gas or liquid. Although sulfur dioxide concentrations have been reduced to levels well below State and national standards, further reductions are desirable to attain compliance with standards for PM10, of which SO_2 is a contributor.
- **Lead (Pb)** occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the SFBAAB. The use of leaded gasoline is no longer permitted for onroad motor vehicles; therefore, most lead combustion emissions are associated with offroad vehicles such as racecars and some jet fuels. Other sources of lead occur in the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

Existing Regional Air Quality

The air quality on the San Francisco Bay Peninsula (Peninsula), including the City, has generally improved over the past 20 years, as motor vehicles have become cleaner, agricultural and residential burning has been curtailed, and as consumer products containing ROGs have been reformulated or replaced. The emissions inventory for the entire SFBAAB and San Mateo County is summarized in Table 3.4-1. In the SFBAAB, motor vehicles generate the majority of ROG, NO_X, and CO. Stationary sources generate the most SO_X and area-wise sources generate the most airborne particulates (PM10 and PM2.5). The primary pollutants of concern in the SFBAAB are ozone (ROG and NO_X), CO, and PM.

Table 3.4-1. SFBAAB and San Mateo County 2010 and 2015 Estimated Average Daily Emissions (tons per day)

Year	Emissions Source	ROG	NO_X	CO	SO_X	PM10	PM2.5
2010	San Francisco Bay Area Air Basin	359.2	414.2	1595.7	62.2	215.7	81.6
2015	San Francisco Bay Area Air Basin	330.6	334.6	1123.4	65.8	225.2	83.1
2010	San Mateo County	33.4	56.2	158.3	8.6	20.9	7.6
2015	San Mateo County	31.2	53.6	136.1	10.3	22.2	8.0

Source: California Air Resources Board. 2013. Almanac Emission Projection Data, Available: http://www.arb.ca.gov/app/emsinv/emssumcat.php. Published in 2009. Accessed: June 11, 2013.

Existing Local Air Quality

BAAQMD monitors ambient air pollutant concentrations through a series of monitoring stations located throughout the SFBAAB. The closest monitoring station to the Project site is the Redwood City monitoring station, which is located approximately 1.68 miles to the northwest of the Project site. The Redwood City monitoring station currently measures concentrations of ozone, CO, NO_2, and PM2.5. Data from the Cupertino monitoring station was also used to report PM10 concentrations not available at the Redwood City monitoring station. The Cupertino monitoring station is located 12.5 miles south of the Project site.

Table 3.4-2 identifies the national and state ambient air quality standards for relevant air pollutants along with the ambient pollutant concentrations that have been measured at the Redwood City and Cupertino monitoring stations through the period of 2010 to 2012. Measurements from these years indicate that state standards for ozone were exceeded once in the past 3 years and have not been exceeded in the past 2 years. Particulate air quality is a moderate problem on the Peninsula. There

Table 3.4-2. Summary of Ambient Air Quality in the Project Vicinity

Pollutant Standards	2010	2011	2012
Ozone (O_3) – Redwood City			
Maximum 1-hour concentration (ppm)	0.113	0.076	0.063
Days exceeding[a] the CAAQS 1-hour standard (>0.09 ppm)	2	0	0
Maximum 8-hour concentration (ppm)	0.077	0.062	0.055
Days exceeding[a] the CAAQS 8-hour (>0.070 ppm)	1	0	0
Days exceeding[a] the NAAQS 8-hour (>0.075 ppm)	1	0	0
Carbon Monoxide (CO) **– Redwood City**			
Maximum 1-hour concentration (ppm)	3.3	3.8	4.0
Days exceeding[a] the NAAQS 1-hour (≥35 ppm)	0	0	0
Days exceeding[a] the CAAQS 1-hour (≥20 ppm)	0	0	0
Maximum 8-hour concentration (ppm)	1.72	1.67	1.81
Days exceeding[a] the NAAQS 8-hour (≥9 ppm)	0	0	0
Days exceeding[a] the CAAQS 8-hour (≥9.0 ppm)	0	0	0
Nitrogen Dioxide (NO_2) **– Redwood City**			
State maximum 1-hour concentration (ppm)	0.059	0.056	0.046
Annual average concentration (ppm)	0.012	0.012	-
Days exceeding[a] the CAAQS 1-hour (0.18 ppm)	0	0	0
Particulate Matter (PM10)[c] **– Cupertino**			
National[b] maximum 24-hour concentration (μg/m^3)	27.9	28.36	39.1
State[c] maximum 24-hour concentration (μg/m^3)	27.4	28.9	41.5
Days exceeding[a] the NAAQS 24-hour (>150 μg/m^3)[g]	0	0	0
Days exceeding[a] the CAAQS 24-hour (>50 μg/m^3)[g]	0	0	0
Particulate Matter (PM2.5) **– Redwood City**			
National[b] maximum 24-hour concentration (μg/m^3)	36.5	39.7	33.3
State[c] maximum 24-hour concentration (μg/m^3)	32.7	24.0	34.3
Days exceeding[a] the NAAQS 24-hour (>35 μg/m^3)	1	1	0

Source: California Air Resources Board. 2013. Top 4 Summary Pollutant/Year Range Selection. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed: June 6, 2013; U.S. Environmental Protection Agency 2013. Monitor Values Report| Air Data| US EPA. Available: http://www.epa.gov/airdata/ad_rep_mon.html. Last Updated: September 9, 2013. Accessed: October 2013.

Notes:

ppm = parts per million
NAAQS = National Ambient Air Quality Standards
CAAQS = California Ambient Air Quality Standards
μg/m3 = micrograms per cubic meter
mg/m3 = milligrams per cubic meter
- = data not available

a. An exceedance is not necessarily a violation. This is a mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

b. Measurements usually are collected every 6 days.

c. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

were two exceedances of the national 24-hour standard in 2010 at the Redwood City monitoring station. Carbon monoxide, a product of incomplete combustion, was formerly a problem for the Peninsula, but with improved motor vehicles and fuels, air quality at Redwood City meets state and federal standards. Due to the City's close proximity to the monitoring stations in Redwood City and Cupertino, it can be assumed that pollutant concentrations are similar in the City.

Attainment Status

Measurements of local ambient concentrations of the criteria pollutants (CP) are used by EPA and ARB to assess and classify the air quality of each regional air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national and state standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in *attainment* for that pollutant. If the pollutant exceeds the standard, the area is in marginal, moderate, serious, severe, or extreme *nonattainment*, depending on the magnitude of the air quality standard exceedance. *Attainment* is assigned to areas where pollutant concentrations, used to exceed the standards, meet the standard over a designated period of time. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated *unclassified*.

EPA and ARB use different standards for determining whether the SFBAAB is an attainment area. Under national standards (NAAQS), the SFBAAB is currently classified as a nonattainment area for O_3 and PM2.5. The SFBAAB is in attainment or designated as unclassified for all other pollutants under national standards. Under state standards (CAAQS), the SFBAAB is designated as a nonattainment area for O_3, PM10, and PM2.5, and an attainment area for all other pollutants. Table 3.4-3 summarizes the attainment status of San Mateo County with regard to the NAAQS and CAAQS.

Project Site Inventory

Existing development at the Project site consists of an unused 217,396 square-foot (sf) warehouse and distillery industrial complex that has been vacant since July 2011 (Commonwealth Site), and an in-use 20,462-sf light industrial building (Jefferson Site). Due to the vacancy of the former distillery on the Commonwealth Site, no existing emissions are assumed from this site. Only the existing emissions associated with the Jefferson Site are considered in the discussion below.

Table 3.4-3. Federal and State Attainment Status for San Mateo County

Criteria Pollutant	Federal Designation	State Designation
O_3 (1-hour)	--[a]	Serious Nonattainment
O_3 (8-hour)	Nonattainment	Nonattainment
CO	Maintenance	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified[b]
Visibility	(No Federal Standard)	Unclassified[b]

Source:
California Air Resources Board. 2013. Top 4 Summary Pollutant/Year Range Selection. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed: June 6, 2013; U.S. Environmental Protection Agency. 2013b. The Green Book Nonattainment Areas for Criteria Pollutants. Last revised: July 31, 2013. Available: http://www.epa.gov/oar/oaqps/greenbk/. Accessed: October 2013.

Notes:
CO = carbon monoxide
PM10 = particulate matter less than or equal to 10 microns
PM2.5 = particulate matter less than or equal to 2.5 microns
NO_2 = nitrogen dioxide
SO_2 = sulfur dioxide

a. The federal 1-hour standard of 12 parts per hundred million (pphm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in the state implementation plans.

b. *Unclassified* is assigned to areas where there are not enough data available to determine whether the pollutant concentrations are below or exceed the standard.

An inventory of the CP emissions generated by existing uses on the Project site is provided in Table 3.4-4. The CP emissions were estimated using the California Emission Estimator Model (CalEEMod), version 2011.1.1 (see *Methods for Analysis* for more information on this model). CalEEMod is a BAAQMD-approved model for emission estimates for the Project. The inventory includes the following emissions.

- **Area Source Emissions.** Area source emissions are direct emissions sources, which include emissions from landscaping equipment and consumer product use. Existing emissions generated by these sources were estimated using CalEEMod default emission factors and land use assumptions.
- **Emissions Associated with Energy Use.** The combustion of natural gas on-site for heating and other purposes in buildings generates direct emissions of CPs. Existing emissions generated by natural gas usage were estimated using the existing usage data provided by the Sobrato Organization (Project Sponsor).
- **Vehicular Emissions.** Emissions associated with existing vehicle trips were estimated using the employee trips shown in Section 3.3, *Transportation and Traffic*, CalEEMod default emission

factor for the year 2013, and CalEEMod default trip lengths for work-related trips in the San Mateo County.

It is believed that the above sources represent the vast majority of the CP emissions associated with existing operations within the Project area. Therefore, the CP inventory presented in Table 3.4-4 represents a reasonable estimate of all emissions directly associated with current onsite operations. CalEEMod model inputs and assumptions and model outputs are provided in Appendix 3.4-1.

Table 3.4-4. Existing Operational Criteria Pollutant Emissions

Source Category	ROG	NO_X	CO	PM10	PM2.5	ROG	NO_X	CO	PM10	PM2.5
	Average (lbs/day)					Tons/Year				
Area	0.44	0	0	0	0	0.08	0	0	0	0
Energy Use	0	0.02	0.02	0	0	0	0	0	0	0
Vehicular	0.57	0.89	5.64	1.14	0.07	0.09	0.14	0.86	0.14	0.01
Total	1.01	0.91	5.66	1.14	0.07	0.17	0.14	0.86	0.14	0.01

Source: ICF, 2013.
Note:
Please refer to Appendix 3.4-1 for emission calculation assumptions and model inputs and outputs.

Sensitive Receptors

Populations that are more susceptible to the effects of air pollution than the population at large are often referred to as *sensitive receptors*. While the ambient air quality standards are designed to protect public health and are generally regarded as conservative for healthy adults, there is greater concern to protect adults who are ill or have long-term respiratory problems and young children whose lungs are not fully developed. According to ARB, sensitive receptors include children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to BAAQMD,

> . . . examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities. Residences can include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers.[4]

Sensitive Receptors in the vicinity of the Project site include residences and schools, described below.

- Residential uses located south of the Project site, separated by US 101, approximately 250 feet from the Project site boundary and 500 feet from the center of the Commonwealth Site.
- Beechwood School located southeast of the Project site, separated by the Dumbarton Rail Corridor, approximately 350 feet from the Project site boundary and 950 feet from the center of the Commonwealth Site.

[4] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

Environmental Impacts

This section describes the impact analysis relating to air quality for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people

A cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment status under federal or state air quality standards, typically also constitutes a significant impact. This issue is discussed in *Cumulative Impacts* section.

According to the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make significance determinations for potential impacts on environmental resources. As discussed above, the BAAQMD is responsible for ensuring that state and federal ambient air quality standards are not violated within the SFBAAB. Analysis requirements for construction- and operational-related pollutant emissions are contained in the BAAQMD's *CEQA Air Quality Guidelines*.[5] The *CEQA Air Quality Guidelines* also contain thresholds of significance for ozone, CO, PM2.5, PM10, TACs, and odors; these thresholds are presented in Table 3.4-5.

[5] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

Table 3.4-5. BAAQMD Criteria Pollutant Emissions Thresholds

Pollutant	Construction	Operations
ROG	54 lbs/day	54 lbs/day or 10 tons/year
NO_X	54 lbs/day	54 lbs/day or 10 tons/year
CO	No standard	Violation of CAAQS
PM10	82 lbs/day (exhaust)	82 lbs/day or 15 tons/year (total)
PM2.5	54 lbs/day (exhaust)	54 lbs/day or 10 tons/year (total)
PM10/ PM2.5 (fugitive dust)	Best management practices (BMPs)	No standard
TACs (Project-level)	Increased cancer risk of 10 in 1 million; increased non-cancer risk of greater than 1.0 (hazard index [HI]); PM2.5 increase of greater than 0.3 micrograms per cubic meter	Same as construction
TACs (cumulative)	Increased cancer risk of 100 in 1 million; increased non-cancer risk of greater than 10.0; PM2.5 increase of greater than 0.8 microgram per cubic meter at receptors within 1,000 feet	Same as construction
Odors	–	Five complaints per year averaged over three years

Source: Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May.

The City has independently reviewed the BAAQMD proposed thresholds and determined that they are supported on substantial evidence and are appropriate for use to determine significance in the environmental review of this Project. Specifically, the City has determined that the BAAQMD thresholds are well-grounded on air quality regulations, scientific evidence, and scientific reasoning concerning air quality and GHG emissions. Using these thresholds for the Project also allows a rigorous standardized approach of determining whether the Project would cause a significant air quality impact. BAAQMD's Justification Report explains the agency's reasoning for adopting the thresholds.[6] Below is a summary of the basis upon which the BAAQMD's thresholds were developed.

1. The significance thresholds, as shown in Table 3.4-5, for criteria pollutants (ROG, NO_X, PM10, and PM2.5) are based on the stationary source emission limits of the federal CAA and the BAAQMD Regulation 2, Rule 2. The federal New Source Review (NSR) program, created by the federal CAA, set the emissions limits to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of NAAQS. Similarly, to ensure that new stationary sources do not cause or contribute to a violation of an NAAQS, BAAQMD Regulation 2 Rule 2 requires any new source that emits criteria air pollutants above specified emissions limits to offset those emissions. Although the emission limits are adopted in the regulation to control stationary source emissions, when addressing public health impacts of regional criteria pollutants, the amount of emissions is the key determining factor, regardless of source. Thus, the emission limits are appropriate for the evaluation of land use development and construction activities as well as stationary sources. Those projects that result in emissions

[6] Bay Area Air Quality Management District. 2009. Revised Draft Options and Justification Report: California Environmental Quality Act Thresholds of Significance. October. San Francisco, CA.

below the thresholds would not be considered to be projects that would contribute to an existing or projected air quality violation or result in a considerable net increase in criteria pollutant emissions. The federal NSR emission limits and BAAQMD's offset limits are identified in the regulation on an annual basis (in tons per year). For construction activities, the limits are converted to average daily emissions (in pounds per day), as shown in Table 3.4-5, because of the short-term intermittent nature of construction activities and, if emissions would not exceed the average daily emission limits, the Project would also not exceed the annual levels.

2. Similar to the criteria pollutant thresholds, the health risk impact thresholds are developed based on the cancer and non-cancer risk limits for new and modified sources adopted in the BAAQMD Regulation 2, Rule 5 and the EPA Significant Impact Level (SIL) for PM2.5 emissions. The EPA SIL is a measure of whether a source may cause or contribute to a violation of NAAQS. Health risks due to toxic emissions from construction, though temporary, can still result in substantial public health impacts due to increases cancer and non-cancer risks. Applying quantitative thresholds allows a rigorous standardized method of determining when a construction project will cause a significant increase in increases cancer and non-cancer risks. The cumulative health risk thresholds are based on EPA guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level and are also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on the BAAQMD's recent regional modeling analysis and the non-cancer Air Toxics Hot Spots (ATHS) mandatory risk reduction levels.
3. The odor threshold is consistent with the BAAQMD Regulation 7 for Odorous Substances and reflects the most stringent standards derived from the BAAQMD rule.

Methods for Analysis

The analysis of air quality impacts involves determining the CP and TAC emission inventories for the Project sources and comparing these inventories against thresholds of significance to determine if air quality impacts would result. In addition, a screening-level health risk assessment (HRA) was conducted to determine the impacts of TACs emitted by the Project on existing sensitive receptors consistent with BAAQMD CEQA Guidelines. The HRA described in this document also considers the impacts of other nearby emission sources on existing sensitive receptors to determine the cumulative impacts of the Project. The HRA characterizes the relationship between the magnitude of TAC exposure and the nature and magnitude of adverse health effects that may result from such exposure. The HRA identify the exposure to TAC concentrations by predicting health risks in terms of excess cancer risks, non-cancer hazard indexes, and elevated PM2.5 concentrations.

To conduct an HRA, emission inventories are presented together for both buildings and the landscaping activities at the Project site, where the Jefferson and Commonwealth Sites are counted as one entity. These inventories consider five categories of criteria emissions: construction, area sources, energy use, traffic, and emergency generator testing. The inventories in this report are a reflection of the guidance and knowledge currently available.

CalEEMod is the primary tool used to assist in quantifying the emissions from the Project presented in this section. CalEEMod is a statewide program designed to calculate both CP and GHG emissions from development projects in California. This model was developed under the auspices of the South Coast Air Quality Management District (SCAQMD), which received input from other California air districts, including BAAQMD, and is the currently model accepted by BAAQMD for use in quantifying the emissions associated with development projects undergoing environmental review. CalEEMod utilizes

widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. These models and default estimates use sources, such as the EPA AP-42 compendium of emission factor,[7] ARB's onroad and offroad equipment emission models, such as the EMission FACtor model (EMFAC) and the Offroad Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies, such as the California Energy Commission (CEC) and CalRecycle.

Consistency with the Clean Air Plan. The most current air quality plan for the region is the recently adopted 2010 Clean Air Plan, which updates the 2005 Ozone Strategy and represents a unique approach to air planning by including GHGs, as well as CPs and TACs. For the 2010 Clean Air Plan, the travel activity adjustments used in preparing the on-road mobile source inventory are the same as those used in the Transportation Air Quality Conformity Analysis for MTC's regional transportation plans. MTC's travel demand model utilizes regional demographic forecasts from ABAG's socioeconomic and population projections. Under BAAQMD methodology, for consistency with the 2010 Clean Air Plan, a project or plan must demonstrate that the population or VMT assumptions contained in the Clean Air Plan would not be exceeded and that the project or plan implements transportation control measures (TCMs) as applicable.

Mass Construction Emissions. This section describes the estimation of Criteria Pollutants (CP) emissions from construction activities at the Project site. Construction activities associated with the Project would generate short-term emissions of ROG, NO_X, CO, PM10, and PM2.5. Emissions would originate from onroad hauling trips, workers' commute trips, construction-site fugitive dust, off-gassing from paving, and offroad construction equipment. Construction-related emissions would vary substantially depending on the level of activity, the specific equipment in operation, and wind and precipitation conditions.

CalEEMod was used in quantifying the construction emissions based on the construction activities and the anticipated schedule and durations provided by the Project Sponsor. The construction equipment list was developed independently by ICF, using CalEEMod defaults as a basis, and verified by the Project Sponsor. The equipment load factors were adjusted to reflect the updated load factors from the Carl Moyer Program.[8,9] The CalEEMod model inputs and assumptions are provided for reference in Appendix 3.4-2.

Mass Operational Emissions. The baseline against which the Project operation impacts are measured is the vacant Commonwealth Site and the operational Jefferson Site, which is occupied with approximately 30 employees. The operational CP emissions associated with the Project are outlined below. Emissions from Project traffic, area sources, and natural gas combustion would occur every year after build out. Emergency generator testing would also occur periodically. CalEEMod model was used to assist in quantification of the operational emissions, except for emergency generator testing, which was based on the manufacture specified emission factors for the proposed diesel generators and the emission factors from OFFROAD2011.

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[7] The EPA maintains a compilation of Air Pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Website: http://www.epa.gov/ttnchie1/ap42/.

[8] The Carl Moyer Program achieves reductions in emissions of key pollutants that are necessary for California to meet its clean air commitments under regulatory requirements. Eligible projects include cleaner on-road, off-road, marine, locomotive, lawn and garden, light duty passenger vehicles being scrapped and agricultural equipment.

[9] California Air Resources Board. 2011. *The Carl Moyer Program Guidelines*. Approved: April 28, 2011.

Project-specific data and assumptions used to estimate the operational CP emissions for each source category are briefly described below within the additional information and CalEEMod model inputs and assumptions provided in Appendix 3.4-1.

- **Area Source Emissions.** Proposed emissions generated by these area sources were estimated using the same approach described for the existing Project site inventory above.
- **Emissions Associated with Energy Use.** Proposed emissions generated by natural gas usage were estimated using the site-specific data provided by the Project Sponsor. The natural gas analysis takes into account that the Project would meet CalGreen/Title 24 standards (see Section 3.13, *Utilities and Service Systems*).
- **Vehicular Emissions.** Proposed emissions associated with vehicle trips were estimated using the same approach described for the existing Project site inventory above.
- **Emissions Associated with Generator Test.** Emergency generators emit CPs when they are tested to ensure proper functioning. It was assumed that each of the two proposed emergency generators would be tested once per week for 30 minutes, as specified by the Project Sponsor. To calculate emissions, the horsepower rating of the engine is multiplied by an emission factor for each pollutant and the total number of hours operated per year. Manufacture-specified emission factors were obtained from information supplied by the Project Sponsor.

CO Hotspot Analysis. Traffic generated by the Project would have the potential to create CO hotspots at nearby roadways and intersections. The effects of localized CO hotspots were evaluated through CO dispersion modeling consistent with the Transportation Project-Level Carbon Monoxide Protocol, which was developed for the California Department of Transportation (Caltrans) by the Institute of Transportation Studies at the University of California, Davis.[10] The CO protocol details a qualitative step-by-step procedure to determine whether project-related CO concentrations have a potential to generate new air quality violations, worsen existing violations, or delay the attainment of NAAQS or CAAQS for CO.

Existing (2013), build year (2015), and cumulative year (2030) traffic conditions were modeled to evaluate CO hotspot concentrations at the following three intersections: Bayfront Expressway/Marsh Road, Bayfront Expressway/Willow Road, Bayfront Expressway/University Avenue, because these study intersections would result in a combination of high traffic volume and high vehicle delay. CO concentrations were estimated using ARB's EMFAC2011 model, the CALINE4 dispersion model, peak-hour traffic data shown in Section 3.3, *Transportation and Traffic*, and local background CO concentration shown in Table 3.4-2. Detailed information on emissions modeling and quantification methods are included in Appendix 3.4-4.

[10] Garza et al. 1997. Transportation Project-Level Carbon Monoxide Protocol. Davis, CA: Institute of Transportation Studies, University of California, Davis.

Screening-Level Health Risk Assessment. In order to evaluate the impacts of TACs and PM2.5 on nearby existing sensitive receptors, an screening-level HRA was performed in this analysis consistent with BAAQMD's CEQA Air Quality Guidelines and *Air Quality Guidelines and Recommended Methods for Screening and Modeling Local Risks and Hazards*.[11,12]

Analysis of health risks for the Project considers exposure of nearby sensitive receptors to DPM and PM2.5 generated by diesel-powered equipment and vehicles during construction and operations. The HRA evaluates the impact of project construction and operations on cancer risk levels, non-cancer hazard index (HI) levels, and PM2.5 concentrations at the sensitive receptors. While NO_X and ROG influence overall atmospheric chemistry, they do not drive primary health risks associated with the types of activities that would occur under the Project. Accordingly, this analysis focuses on DPM, which are the primary pollutants of concern with regard to diesel-powered equipment.

Project sources include the construction equipment activity under Project construction and testing of emergency generators under Project operation. Other sources within 1,000 feet of the Project site include other commercial generators, US 101, and area sources from industry. The screening-level HRA is performed with the following steps.

1. Use EPA's AERSCREEN model, which is the screening-level model for AERMOD, to predict PM10 and PM2.5 hourly concentrations at sensitive receptors based on the estimated daily exhaust emissions (see discussions of *Mass Construction Emissions* and *Mass Operational Emissions* above).
    - For construction equipment, the average daily exhaust emissions for each phase were converted to the PM 10 and PM 2.5 emission rates based on 8 hour operation per day.
    - For generator test, the exhaust emissions generated during each test were converted to the PM 10 and PM 2.5 emission rates based on one hour operation per test for both generators.
2. Calculate the project-level cancer risk, non-cancer HI, and annual PM2.5 concentrations based on the modeled AERSCREEN hourly concentrations at the sensitive receptors.
    - For construction, the health risk and hazard are calculated for each construction phase using the construction duration for each phase.
    - For generator test, the health risk and hazard are calculated based on the proposed test schedule (30 minutes for each generator per test at 60 minutes total for both generators, one test per week, and 52 weeks per year).
3. Identify background stationary and roadway sources within 1,000 feet of the Project site that contribute to existing cancer and non-concern risk, using Google Earth map files provided by the BAAQMD. The following background sources were identified and included in the analysis.
    - Stationary: Three stationary sources were identified using Google Earth map files provided by BAAQMD: Infolmage generator set (#18216), Geron Corporation generator

[11] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

[12] Bay Area Air Quality Management District. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May. San Francisco, CA. Available: http://www.baaqmd.gov/Home/Divisions/Planning%20and%20Research/CEQA%20GUIDELINES/Tools%20and%20Methodology.aspx. Accessed: October 2013.

set (#16110), and Caltrans generator set at the edge of US 101 in front of Project site (#19890). The Google Earth map file include estimated health risk and hazard index at each site, which were converted to the health risk and hazard index at the sensitive receptors using the BAAQMD's distance multiplier tool for backup generators.[13]

- Roadway: US 101 is the only roadway source within 1,000 feet of the Project site with daily traffic volume greater than 10,000 vehicles. Health risk and hazard index associated with US 101 in the project vicinity were estimated using the Google Earth map file for highway sources, which provides the health risk and hazard index at various distances from the highway segment.

4. Calculate the cumulative-level health risks by adding the background health risks sources identified in step 3 to the project-level health risk and hazard impacts estimated in step 2.

Additional details for health risk calculations and AERSCREEN model inputs and outputs are provided in Appendix 3.4-3.

Impacts and Mitigation Measures

Impact AQ-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan. The Project would not conflict with or obstruct implementation of the applicable air quality plan. (LTS)

Metropolitan Transportation Commission (MTC) maintains an inventory of population for the region and by county, the latest version of which was published in 2008.[14] The MTC population estimates cite a 2035 population of 861,600 in San Mateo County. Implementation of the Project would result in an employment increase of approximately 1,300. As discussed in Section 3.11, *Population and Housing*, this represents approximately 262 new residents in the region, which represents approximately 0.04 percent of the total anticipated growth in the County according to ABAG 2013 Projections.

MTC also maintains an inventory of VMT for the Bay Area region and by county. For 2035, MTC data shows VMT for San Mateo County to be 19,657,142 miles per day. Full operation of the Project would result in a vehicle trip generation of 3,713 trips per weekday. The resulting regional increase in VMT would be 37,130 miles per weekday.[15] The addition of Project-related VMT represents approximately 0.2 percent of the total anticipated VMT growth in the Bay Area in 2035. The Project's contribution to VMT would not exceed the regional VMT projections and do not constitute a significant share of overall VMT for the Bay Area according to MTC's VMT inventory.

[13] Bay Area Air Quality Management District. 2012b. Google Earth map files for San Mateo County to identify stationary and highway sources and associated estimated risk and hazard impacts for the cumulative analysis. Last updated: May 31. Available at: http://www.baaqmd.gov/Divisions/ Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx. Accessed: October 2013.

[14] Metropolitan Transportation Commission. 2008. Travel Forecasts Data Summary, Transportation 2035 Plan For the San Francisco Bay Area. December. Available: http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035-Travel_Forecast_Data_Summary.pdf. Accessed: October 2013.

[15] The average trip length is assumed to be 10 miles per one-way trip based on the CalEEMod's default trip length for work-related trips in San Mateo County.

Both the 2010 Clean Air Plan and the 2005 Ozone Strategy emphasize the need for smart growth and a reduction of single automobile usage. The Project includes a TDM program to reduce vehicular traffic generated by the Project, as described in Section 3.3, *Transportation and Traffic*. The Project would also enhance non-automotive access to and within the Project site, including providing bicycle parking and showers and changing rooms for cyclists.

The transportation improvements explained in more detail in Section 3.3, *Transportation and Traffic*, would collectively promote carpool and vanpool, increase accessibility to transit, and promote safe bicycle circulation. These improvements are consistent with and supportive of the TCMs identified in the 2005 Ozone Strategy and the 2010 Clean Air Plan, as critical to attaining the CCAA ozone standard. Therefore, the Project does not conflict with or obstruct implementation of the applicable Air Quality Plan, and impacts are considered ***less than significant***.

Impact AQ-2: Violation of Any Air Quality Standard During Construction. The Project could result in the violation of a BAAQMD air quality standard or substantial contribution to an existing or projected air quality violation during Project construction. (PS)

Construction of the Project has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, and truck hauling trips. In addition, fugitive dust emissions would result from demolition of existing structures, excavation, and grading. Mass criteria pollutant emissions generated by these sources were quantified using CalEEMod (version 2011.1.1) and information provided by the Project Sponsor.

Estimation of construction emissions are described above in the *Methods for Analysis* section, and the estimated construction emissions are summarized in Table 3.4-6. The construction activities are categorized into three major construction phases: demolition; excavation and grading; and building construction. Table 3.4-6 shows the maximum daily emissions that would be generated during these major phases and accounts for the overlapping construction activities that would occur during the building construction phase.

It is anticipated that the construction process would start in April 2014 with the demolition of the existing buildings and would continue over approximately 15 months, with full buildout by mid-2015. As shown in the Table 3.4-6, daily construction emissions generated during demolition and excavation/grading phases and the portion of building construction phase in 2014 would exceed the BAAQMD threshold for NO_X emissions. The exceedance is due to the larger amount of construction equipment required onsite for these construction phases and the larger amount of truck hauling trips occurring during site excavation and grading. During the 15-month construction period, NO_X construction emissions are estimated to exceed the BAAQMD threshold for 91 days. Therefore, impacts would be ***potentially significant***.

Table 3.4-6. Project Construction Criteria Air Pollutant Emissions by Phase

Construction Phase	Days of Construction	ROG	NO_X	CO	PM10 Dust	PM10 Exhaust	PM2.5 Dust	PM2.5 Exhaust
		Maximum Daily Emission in pounds per day						
Demolition	60	7.02	54.33	39.58	27.20	2.54	0.06	2.54
Excavation and Grading	6	15.44	123.26	111.26	23.73	4.56	1.88	4.56
Building Construction (2014) [a]	123	11.89	86.61	45.11	1.63	4.14	0.08	4.14
Building Construction (2015) [a]	145	6.44	39.03	12.46	1.63	1.80	0.08	1.80
BAAQMD Thresholds		54	54	-	BMPs	82	BMPs	54
Exceed Thresholds?		No	Yes	-	-	No	-	No
Number of days Exceed Thresholds			91					

Source: ICF, 2013.
Notes:
Please refer to Appendix 3.4-2 for a summary of phases assumed during each construction period.
Underlined emissions exceed BAAQMD thresholds.
a. Building construction would take place in both 2014 and 2015.

MITIGATION MEASURE. Because construction emissions are predicted to exceed BAAQMD's daily emissions threshold for NO_X, this impact is considered significant and would require implementation of Mitigation Measure AQ-2.1, below.

AQ-2.1: Implement Tailpipe Emission Reduction for Project Construction. NO_X emissions generated during construction are primary contributed by tailpipe exhaust emissions from diesel powered construction equipment and haul trucks. Therefore, in order to reduce the NO_X emissions, mitigation measures to reduce tailpipe exhaust emissions during construction shall be implemented according to the mitigation measures recommended by the BAAQMD's CEQA Guidelines.

The Project Sponsor shall require all construction contractors to implement the Basic Construction Mitigation Measures and Additional Construction Mitigation Measures recommended by BAAQMD to control tailpipe emissions. Emission reduction measures shall include at least the following measures and may include other measures identified as appropriate by the air district and/or contractor:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 2 minutes.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities in the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- The Project shall develop a plan that demonstrates that the offroad equipment (more than 50 horsepower) to be used in construction of the Project (i.e., owned, leased, and subcontractor vehicles) shall achieve a Project-wide fleet-average 20 percent NO_X

reduction and 45 percent PM reduction compared with 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 as such become available.

- All construction equipment, diesel trucks, and generators shall be required to be equipped with Best Available Control Technology for emission reductions of NO_X and PM.
- All contractors shall be required to use equipment that meets ARB's most recent certification standard for offroad heavy-duty diesel engines.

Table 3.4-7 summarizes the maximum daily emissions with the implementation of Mitigation Measure AQ-2.1, which results in a 20 percent reduction of NO_X emissions and 45 percent reduction of PM10 and PM2.5 emissions generated from onsite equipment exhaust. However, even with the implementation of Mitigation Measure AQ-2.1, NO_X emissions would still exceed BAAQMD's NO_X threshold during the short-period of excavation/grading phase and the portion of 2014 building construction phase for about 20 days. Because the mitigated emissions would still exceed the threshold, the impact would be ***significant and unavoidable***.

Note that while PM10 and PM2.5 exhaust emissions do not exceed BAAQMD thresholds, the mitigation measures to reduce the tailpipe emissions would also reduce the PM10 and PM2.5 emissions that are part of the exhaust emissions generated by diesel powered construction equipment and haul trucks. Therefore, although the construction emissions impact from PM10 and PM2.5 is less than significant, the implementation of Mitigation Measure AQ-2.1 to reduce the significant impact of NO_X emissions would further reduce the impact level of PM10 and PM2.5 emissions.

MITIGATION MEASURE. With respect to fugitive dust emissions of PM10 and PM2.5, BAAQMD does not have mass emission thresholds for fugitive emissions, but rather requires implementation of BMPs as mitigation measures for all proposed projects. The BAAQMD CEQA Guidelines consider dust impacts to be less than significant if BMPs are employed to reduce these emissions. Implementation of Mitigation Measure AQ-2.2, below, would further reduce the less-than-significant impact of construction-related dust.

AQ-2.2: Implement BAAQMD Basic Construction Mitigation Measures to Reduce Construction-Related Dust. The Project Sponsor shall require all construction contractors to implement the basic construction mitigation measures recommended by BAAQMD to reduce fugitive dust emissions. Emission reduction measures shall include, at a minimum, the following measures. Additional measures may be identified by BAAQMD or contractor as appropriate.

- 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 offsite shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- 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.
- A publicly visible sign shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Table 3.4-7. Construction Criteria Air Pollutant Emissions - Mitigated

Construction Phase	Days of Construction	ROG	NO_X	CO	PM10 Dust	PM10 Exhaust	PM2.5 Dust	PM2.5 Exhaust
		Maximum Daily Emission in pounds per day						
Demolition	60	7.02	45.25	39.58	27.20	1.51	0.06	1.51
Excavation and Grading	6	15.44	111.11	111.26	23.73	3.30	1.88	3.30
Building Construction (2014) [a]	123	11.89	70.54	45.11	1.63	2.36	0.08	2.36
Building Construction (2015) [a]	145	6.44	39.03	12.46	1.63	1.07	0.08	1.07
BAAQMD Thresholds		54	54	-	BMPs	82	BMPs	54
Exceed Thresholds?		No	Yes	-	-	No	-	No
Number of days Exceed Thresholds			21					

Notes:
Please refer to Appendix 3.4-2 for a summary of phases assumed during each construction period.
Underlined emissions exceed BAAQMD thresholds.
a. Building construction would take place in both 2014 and 2015.

Impact AQ-3: Violation of Any Air Quality Standard during Operation. Project operations would not result in a violation of a BAAQMD air quality standard or a substantial contribution to an existing or projected air quality violation. (LTS)

Project operation has the potential to create air quality impacts primarily associated with mobile and area sources. Motor vehicle traffic would include daily employee trips, visitor trips, vender delivery trucks, and waste management trucks. Area sources include landscaping equipment and consumer products. Onsite natural gas combustion for space and water heating represents another type of area source associated with the Project. Each of these sources was taken into account in calculating the Project's long-term operational emissions, which were quantified using CalEEMod (version 2011.1.1) and traffic data provided in Section 3.3, *Transportation and Traffic*. In addition, emissions from emergency generator testing were quantified based on the manufacture specified emission factors for the proposed diesel generators and the emission factors from OFFROAD2011.

Estimated operational emissions under both existing and Project conditions are summarized in Table 3.4-8. The difference in operational emissions between the Project and the existing land uses represents the net new impact of the Project. As shown in Table 3.4-8, operation of the Project is expected to result in an increase in all criteria pollutant emissions, relative to existing conditions. However, these increases would all be below applicable BAAQMD significance thresholds. Therefore, this impact is considered ***less than significant***.

Table 3.4-8. Project Operational Criteria Air Pollutants

Source Category	ROG	NO_X	CO	PM10	PM2.5	ROG	NO_X	CO	PM10	PM2.5
	Average lbs/day					tons/year				
Existing Operations (164 Jefferson Only) [a]										
Area [b]	0.44	0	0	0	0	0.08	0	0	0	0
Energy Use [c]	0	<0.01	<0.01	0	0	0	0	0	0	0
Vehicular	0.65	1.05	6.59	1.37	0.09	0.10	0.16	0.98	0.16	0.01
Total Existing Emissions	1.09	1.05	6.59	1.37	0.09	0.18	0.16	0.98	0.16	0.01
Proposed Operations [d]										
Area [b]	5.56	0	0	0	0	1.02	0	0	0	0
Energy Use [c]	0.04	0.41	0.34	0.03	0	0.01	0.07	0.06	0.01	0.01
Vehicular	17.9	26.88	173.92	45.28	2.88	2.31	3.79	22.94	4.8	0.39
Generator	0.07	1.18	0.00	0.06	0.05	0.002	0.031	0.000	0.002	0.001
Total Project Emissions	23.57	28.47	174.26	45.37	2.96	3.34	3.89	23.00	4.81	0.40
Net Emission Increase [e]	22.48	27.42	167.67	44.00	2.87	3.16	3.70	22.02	4.65	0.39
BAAQMD Thresholds	54	54	CAAQS [f]	82	54	10	10	CAAQS [f]	15	10
Exceed Thresholds?	No	No	-	No	No	No	No	-	No	No

Notes:

Please refer to Appendix 3.4-1 for emission calculation assumptions and model inputs and outputs.

a. Represents emissions associated with existing commercial uses currently operating on the Project site. Emissions would cease with implementation of the Project. Emissions estimates are based on CalEEMod defaults for the land uses similar to those currently operating on the Project site.

b. Area sources include landscaping equipment and consumer products.

c. Energy use includes onsite natural gas use.

d. Represents emissions associated with the Project. Emissions are modeled for the first operational year of 2016.

e. Represents the net Project impact, or the change in emissions relative to existing conditions.

f. Refer to the CO hotspot analysis under Impact AQ-5.

Impact AQ-4: Exposure to Diesel Particulate Matter (DPM) Concentrations. The Project would not expose existing sensitive receptors to excessive DPM concentrations. (LTS)

Diesel-fueled engines, which generate DPM, would be used during Project construction and operation. The BAAQMD considers PM2.5 emissions to be the DPM of greatest health concern. Cancer risks associated with exposure to diesel exhaust are typically associated with chronic exposure, in which a 70-year exposure period is assumed. In addition, DPM concentrations, and thus cancer risks, dissipate as a function of distance from the emissions source. The BAAQMD has determined that operation of diesel-fueled engines occurring at distances of greater than 1,000 feet from a sensitive receptor likely do not pose a significant health risk.

Multiple sensitive receptors are located within 1,000 feet of the Project site, including single-family residences located south of the Project site across US 101 and the Belle Haven neighborhood and Beechwood School located southeast of the Project site (across the Dumbarton Rail Corridor). Kelly Park, located next to the Beechwood School, is closer to the Project site; however, the exposure duration and frequency of park users to the Project construction and operation sources would be much less than the students at the adjacent Beechwood School. In addition, distance between Kelly Park and the Project site is similar to the distance between the nearest single-family residences and the Project site except that the single-family residences would have much higher exposure duration and frequency. Therefore, the analysis focuses on evaluating health risk at the Beechwood School and the nearest single-family residences. Exposure to DPM and PM2.5 emissions were assessed by predicting the cancer risks, non-cancer HI levels, and elevated PM2.5 concentrations at these nearest sensitive receptors.

A screening-level HRA was performed using the AERSCREEN dispersion model with the estimated PM10 and PM2.5 exhaust emissions, as discussed in Impact AQ-2 and Impact AQ-3. The results of the HRA are summarized in Table 3.4-9 and are compared to BAAQMD's project-level health risk thresholds. The analysis calculated the cancer risks, non-cancer HI levels, and PM2.5 concentrations for each construction phase using the PM10 and PM2.5 concentrations modeled by AERSCREEN, construction duration of each phase, and exposure duration and frequency of the analysis receptors. The calculated risks for each construction phase are individually compared to the BAAQMD thresholds to determine the health risk impacts of the construction activities. For health risks at analysis receptors due to generator testing during Project operation, the cancer risks, non-cancer HI levels, and PM2.5 concentrations were calculated using the PM10 and PM2.5 concentrations modeled by AERSCREEN, operation duration and frequency of the generators, and exposure duration and frequency of the analysis receptors. The calculated risks for generator testing are also compared to the BAAQMD thresholds to determine the health risk impacts of Project operation.

As shown in Table 3.4-9, Project construction and operation would not result in significant increases of the non-cancer HI, cancer risk, or annual PM2.5 concentrations at sensitive receptors within 1,000 feet of the Project site. Therefore, this impact is considered ***less than significant***.

As noted under Impact AQ-2, the implementation of Mitigation Measure AQ-2.1 to reduce tailpipe NO_X emissions from construction equipment and diesel vehicles would also reduce the PM10 and PM2.5 emissions because they are part of the exhaust emissions generated by diesel powered construction equipment and haul trucks. Therefore, although significant impacts related to health risk were not identified, implementation of Mitigation Measure AQ-2.1 would further reduce this less-than-significant impact at nearby receptors during Project construction.

Table 3.4-9. Maximum Project-Level Health Risks at Sensitive Receptors

Source	Maximum Project-Level Health Risk at Nearest Residence[a]			Maximum Project-Level Health Risk at Nearest School (Beechwood)[b]		
	Non-Cancer Hazard Index	Increased Cancer Risk (per million)	Annual PM2.5 Concentration (µg/m3)	Non-Cancer Hazard Index	Increased Cancer Risk (per million)	Annual PM2.5 Concentration (µg/m3)
Project Construction						
Demolition	0.03	1.09	0.14	0.02	0.45	0.09
Excavation and Grading	0.003	0.13	0.02	0.002	0.06	0.01
Building Construction (2014)	0.06	2.17	0.28	0.04	0.90	0.18
Building Construction (2015)	0.03	1.10	0.14	0.02	0.45	0.09
Project Operation						
Emergency Generator Routine Test	0.002	6.29	0.009	0.001	0.22	0.006
BAAQMD Thresholds	1	10	0.3	1	10	0.3
Exceed Thresholds?	No	No	No	No	No	No

Notes:
Please refer to Appendix 3.4-3 for health risk calculation and model inputs and outputs.
[a] Nearest residence is modeled at about 550 feet to the center of construction activities in the Commonwealth site and at about 300 feet to the proposed generators.
[b] Beechwood School is modeled at about 800 feet to the center of construction activities in the Commonwealth site and at about 950 feet to the proposed generators.

Consistent with the BAAQMD's *CEQA Guidelines*, cumulative health risk exposure at the analysis sensitive receptors was evaluated by adding background health risks to the estimated health risks for the Project (Table 3.4-9). Table 3.4-10 summarizes the estimated background health risks (without the Project) at the analysis sensitive receptors. US 101, Infolmage generator set (#18216), Geron Corporation generator set (#16110), and Caltrans generator set at the edge of US 101 in front of the Project site (#19890) were identified as background sources within 1,000 feet of the Project Site. The results of the cumulative HRA are summarized in Table 3.4-11 by adding the results of Table 3.4-10 and Table 3.4-9.

Table 3.4-10. Background Health Risks at Sensitive Receptors

Source	Maximum Project-Level Health Risk at Nearest Residence			Maximum Project-Level Health Risk at Nearest School (Beechwood)		
	Non-Cancer Hazard Index	Increased Cancer Risk (per million)	Annual PM2.5 Concentration (µg/m3)	Non-Cancer Hazard Index	Increased Cancer Risk (per million)	Annual PM2.5 Concentration (µg/m3)
Infolmage	0.00	0.16	0.00	0.00	0.16	0.00
Geron Corporation	n/a	0.03	0.00	n/a	0.03	0.00
Caltrans	0.00	0.28	0.00	0.00	0.04	0.00
US 101	0.04	41.07	0.41	0.01	12.39	0.12
Total Background Sources	0.04	41.52	0.41	0.01	12.59	0.12

Note:
Please refer to Appendix 3.4-3 for health risk calculation and model inputs and outputs.

As shown in Table 3.4-11, construction and operation of the project would not result in cumulatively considerable increases of the non-cancer HI, cancer risk, or annual PM 2.5 concentrations. This impact is, therefore, ***less than significant***. No mitigation is required.

Table 3.4-11. Maximum Cumulative-Level Health Risks at Sensitive Receptors

Source	Maximum Cumulative-Level Health Risk at Nearest Residence, 500 feet to the center of the Commonwealth site			Maximum Cumulative-Level Health Risk at Nearest School (Beechwood)		
	Non-Cancer Hazard Index	Increased Cancer Risk (per million)	Annual PM2.5 Concentration (µg/m3)	Non-Cancer Hazard Index	Increased Cancer Risk (per million)	Annual PM2.5 Concentration (µg/m3)
Project Construction plus Background Sources						
Demolition	0.07	42.60	0.55	0.03	13.04	0.21
Excavation and Grading	0.04	41.65	0.43	0.01	12.64	0.13
Building Construction (2014)	0.10	43.68	0.69	0.05	13.49	0.30
Building Construction (2015)	0.07	42.61	0.55	0.03	13.04	0.21
Project Operation plus Background Sources						
Emergency Generator Routine Test	0.04	47.81	0.42	0.01	12.81	0.13
BAAQMD Thresholds	10	100	0.8	10	100	0.8
Exceed Thresholds?	No	No	No	No	No	No

Note:
Please refer to Appendix 3.4-3 for health risk calculation and model inputs and outputs.

Impact AQ-5: Exposure to CO Concentrations. The Project would not expose existing sensitive receptors to excessive CO concentrations. (LTS)

Traffic generated by the Project would have the potential to create CO hotspots at nearby roadways and intersections. Existing (2013), build year (2015), and cumulative (2030) traffic conditions were modeled using the CALINE4 model to evaluate CO concentrations relative to the state and federal air quality standards. CO concentrations were modeled at the following three intersections: Bayfront Expressway/Marsh Road, Bayfront Expressway/Willow Road, Bayfront Expressway/University Avenue, because these study intersections combine high traffic volumes with high vehicle delays.

Table 3.4-12 presents the results of the CO hotspot modeling. CO concentrations are not expected to occur or contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards. Consequently, this impact is ***less than significant***.

Table 3.4-12. CO Hotspot Concentrations at Affected Intersections

	Existing No Project		2015 No Project		2015 Plus Project		2030 No Project		2030 Plus Project	
	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr
Intersection	(parts per million)									
Bayfront Expy/Marsh Rd	10.20	6.28	10.00	6.14	10.20	6.28	5.70	3.13	5.80	3.20
Bayfront Expy/Willow Rd	9.4	5.72	9.10	5.51	9.20	5.58	5.50	2.99	5.60	3.06
Bayfront Expy/University Ave	11.9	7.49	11.10	6.91	11.20	6.98	6.10	3.41	6.10	3.41
NAAQS CO Standard	35	9	35	9	35	9	35	9	35	9
CAAQS CO Standard	20	9	20	9	20	9	20	9	20	9
Exceeds Thresholds?	No	No	No	No	No	No	No	No	No	No

Impact AQ-6: Exposure to Objectionable Odors. The Project would not create objectionable odors affecting a substantial number of people. (LTS)

Although offensive odors rarely cause any physical harm, they can be unpleasant and lead to considerable distress among the public. This distress may often generate citizen complaints to local governments and air districts. Any project with the potential to expose the public to objectionable odors frequently would be deemed as one having a significant impact.

According to ARB's *Air Quality and Land Use Handbook*,[16] land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, and manufacturing plants. Odor impacts on residential areas and sensitive receptors, such as hospitals, day care centers, schools, etc., warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites, and commercial areas.

Potential odor sources during construction include diesel exhaust from heavy-duty equipment. Construction-related operations near existing receptors would be temporary in nature, and construction activities would not be likely to result in nuisance odors that would violate BAAQMD Regulation 7 (Odorous Substances). This impact is ***less than significant***.

[16] California Air Resources Board. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. Available: http://www.arb.ca.gov/ch/handbook.pdf. Accessed: October 2013.

Potential odor sources from Project operations would include diesel exhaust from landscaping equipment and emergency generators during routine maintenance. The odor impacts from Project operation would be limited and infrequent. Project operation is not expected to result in odor impacts that would exceed BAAQMD's odor threshold. This impact is less than significant. The Project would not create objectionable odors affecting a substantial number of people during construction or operation and, therefore, the overall impact would be ***less than significant***.

Cumulative Impacts

The geographic context for a discussion of cumulative impacts on regional air quality, such as ozone, is the SFBAAB, and for localized air quality, such as for CO and PM10, the geographic context is the Project vicinity (including the City and San Mateo County). This cumulative analysis examines the effects of the Project, in combination with other current projects, probable future projects, and projected future growth within the SFBAAB, San Mateo County, and the City in the next 20 years.

Odors are not addressed cumulatively for the Project because the types of uses anticipated to be developed or allowed under the proposed zoning would not generate significant sources of odor. In addition, the Project site is not located in an area where existing or future odor-producing uses are proposed. Therefore, the additive effect of assessing cumulative odor impacts is not relevant for this Project and would not be cumulatively considerable.

The BAAQMD CEQA Guidelines are applied to the cumulative analysis of impacts to regional air quality. Based on the justification that BAAQMD utilized in establishing its thresholds of significance for air quality pollutants, it is not necessary to consider the impacts of other foreseeable projects, such as the Tier 1 and Tier 2 projects. As stated on page 2-1 of BAAQMD's CEQA Guidelines,

> . . . In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary.

Although additional analysis to assess cumulative impacts is not required, it is consistent with the analysis approach of the Project for cumulative impacts; therefore, below is a detailed discussion of Project impacts, in combination with Tier 1 and Tier 2 projects, on regional and local air quality.

Impact C-AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. The Project, combined with other development within the City, would not conflict with or obstruct implementation of the applicable air quality plan. (LTS)

Tier 1

As discussed above, the 2010 Clean Air Plan is based on ABAG's projections. Under BAAQMD methodology, for consistency with the 2010 Clean Air Plan, a project or plan must demonstrate that the population or VMT assumptions contained in the Clean Air Plan would not be exceeded and that the project or plan implements TCMs as applicable. As discussed in Section 3.11, *Population and Housing*, the Tier 1 projects would develop 98 dwelling units, which, when taken together with the Project's 262 new residents, would result in an increase in resident population of 514 (based on the current City persons per household [pph] ratio of 2.57).[17] ABAG projects that the City's population will be approximately

[17] 514 new residents = 262 residents resulting from the Project + (98 dwelling units * 2.57 pph)

38,700 in 2020. If the Tier 1 projects are completed concurrently with the Project, an increase of 514 total residents would result from cumulative development. Added to the current population of 36,820, this would result in a total City population of 37,334 persons in 2020, which is below ABAG projections. Therefore, implementation of the Tier 1 projects would not result in a conflict with the Clean Air Plan. The cumulative impacts associated with Tier 1 projects are considered ***less than significant***.

Tier 2

The Tier 2 projects encompass a larger geographic area and consist of projects that are in the early stages of planning or whose development could be considered somewhat speculative. The geographic context for the Tier 2 analysis would be the County of San Mateo. As discussed, in Section 3.11, *Population and Housing*, the Tier 2 projects, if completely realized, could result in a direct population increase of 13,305 residents[18] and an indirect population increase through creation of approximately 9,830 jobs[19] that would generate 1,971 new residents.[20] The direct and indirect growth from (13,305 direct and 1,971 indirect) Tier 2 projects would total approximately 15,276 new residents.

Population in San Mateo County is projected to increase by approximately 56,650 residents from 2010 to 2020. The growth resulting from Tier 2 projects would total approximately 27 percent of this forecasted population growth. The Project would add approximately 262 new residents to San Mateo County, which represents approximately 1.7 percent of the population growth that could result from Tier 2 projects, or 0.46 percent of total projected San Mateo County growth. The Project's contribution to this potential cumulative impact is not considerable. Therefore, the Project's cumulative impact regarding consistency with the Clean Air Plan would be ***less than significant***.

Impact C-AQ-2: Violation of a BAAQMD Air Quality Standards or Substantial Contribution to an Existing or Projected Air Quality Violation during Project Construction. Construction activities associated with the Project, in combination with other construction activities in the City, could generate substantial NO_X emissions in excess of BAAQMD threshold. (PS)

Tier 1

There are 10 Tier 1 projects around the Project area. As discussed in Impact AQ-2, NO_X emissions generated during Project construction would exceed the BAAQMD threshold and are considered a significant and unavoidable impact. BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, the Project, in combination with these Tier 1 projects that would be built in the same time frame as the Project, would result in a cumulatively significant impact for NO_X.

Mitigation Measures AQ-1, as discussed in Impact AQ-2, has been identified to reduce the exhaust NO_X emissions but would not reduce the emissions below the BAAQMD threshold. Therefore, the cumulative impact of the Project and Tier 1 projects for NO_X emissions is therefore ***significant and unavoidable***.

[18] 13,305 residents = 5,177 dwelling units * 2.57 pph
[19] Based on an average of 3.5 employees per 1,000 sf and one employee per four hotel rooms
[20] 1,971 new residents = 9,830 new jobs * 7.8 percent City share * 2.57 pph

Tier 2

Tier 2 cumulative projects are still in their planning stages and may not be completed as currently planned or programmed. Therefore, the evaluation of their specific potential impacts would be speculative. While construction-related emissions are localized and tend not to cumulate with other projects unless they are immediately nearby, the Project would build out over a 2-year period, making it possible that other projects could occur in the Project vicinity, but unlikely in this time frame. It is assumed that any of these projects going forward would conduct analyses that assess their emissions and implement feasible mitigation to reduce any large emissions, including the dust control BMPs typically required by BAAQMD. Small projects with short construction schedules would likely not add to large amounts of emissions based on the screening criteria in BAAQMD's CEQA guidelines. Since the larger Tier 2 projects would not likely be constructed concurrently with the Project, whose buildout is anticipated to be completed by 2015, cumulative emissions are considered ***less than significant***.

Impact C-AQ-3: Violation of a BAAQMD Air Quality Standard or Substantial Contribution to an Existing or Projected Air Quality Violation from Project Operation. The Project operation, in combination with other cumulative development within the City, would not generate substantial CP emissions in excess of BAAQMD thresholds. (LTS)

Tier 1 and Tier 2

As discussed in Impact AQ-3, criteria pollutant emissions generated during Project operation would be below the BAAQMD thresholds and are considered a less-than-significant impact. BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Because the Project operation would result in a less-than-significant impact on criteria pollutant emissions, the Project, in combination with the Tier 1 and Tier 2 projects within the City would also result in a ***less-than-significant*** impact for cumulative criteria pollutant emissions.

Impact C-AQ-4: Exposure of Existing Sensitive Receptors to Excessive DPM Concentrations. Cumulative development in the Project vicinity would not expose sensitive receptors to substantial DPM emissions. (LTS)

Tier 1 and Tier 2

According to the BAAQMD CEQA Guidelines, analysis of local community risks and hazards cumulative impacts should examine the DPM sources within 1,000 feet of a proposed project site. This includes both existing and foreseeable sources. As show in Figure 3.0-1, there are no Tier 1 and Tier 2 projects, with the exception of the Dumbarton Rail Corridor Project, located within 1,000 feet of the Project site and the sensitive receptors identified for the Project. Therefore, the cumulative HRA analysis considered the existing stationary and roadway sources within 1,000 feet of the Project site. As discussed in Impact AQ-4, cumulative health risk exposure at the analysis sensitive receptors was evaluated by adding background health risks to the estimated health risks for the Project. As shown in Table 3.4-11, construction and operation of the project would not result in cumulatively considerable increases of the non-cancer HI, cancer risk, or annual PM 2.5 concentrations. The cumulative impact on health risks at sensitive receptors within 1,000 feet of the Project site is, therefore, ***less than significant***.

The Dumbarton Rail Corridor Project, a Tier 2 project, could have the potential to result in a cumulatively considerable health risk impacts at the sensitive receptors in the Project vicinity during construction and operation of the Project. The Dumbarton Rail Corridor Project would be subject to CEQA and would be required to mitigate impacts to the extent feasible.

Impact C-AQ-5: Exposure of Existing Sensitive Receptors to Excessive CO Concentrations. Cumulative development in the Project vicinity would not result in CO concentrations above the ambient air quality standards. (LTS)

Tier 1 and Tier 2

Cumulative growth in the City could lead to increased local CO concentrations from vehicular traffic, although there is the possibility that future traffic noise could be decreased through implementation of TDM measures and a focus on transit-oriented development that would reduce vehicle trips. The traffic model used to predict future traffic levels assumed approved development and regional growth through the year 2030.

As noted above under Impact AQ-5, the Project generated traffic, in combination with traffic from other development in the City, would create CO hotspots at intersections in the Project vicinity. As shown in Table 3.4-12, CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards. Consequently, the cumulative impact on local CO concentrations is ***less than significant***.

3.5 Greenhouse Gas Emissions

This section describes the affected environment and regulatory setting for greenhouse gas (GHG) emissions and climate change. It also describes the impacts on GHG emissions and climate change that would result from implementation of the project and mitigation measures for significant impacts where feasible and appropriate.

Climate change is the cumulative effect of all natural and anthropogenic sources of GHGs on a global scale. The GHG emissions from an individual project, even a very large development project, would not individually generate sufficient GHG emissions to measurably influence global climate change. Consideration of a project's climate change impact, therefore, is essentially an analysis of a project's contribution to a cumulatively significant global impact through its emission of GHGs. While it is possible to examine the quantity of GHGs that would be emitted from individual project sources, it is not currently possible to link these GHGs emitted from a specific source or location to particular global climate changes.

Although environmental impacts associated with climate change cannot be directly linked to individual development projects, the State of California recognizes the link between development activities and GHG emissions and is in the process of developing standards for assessment and, ultimately, regulation of the GHG emissions associated with land use. The State of California, through Assembly Bill (AB) 32 and Executive Order S-3-05, has set statewide targets for the reduction of GHG emissions. The goal of AB 32 and Executive Order S-3-05 is to reduce future California GHG emissions in a state that is expected to experience rapid growth in population and economic output. While the California Environmental Quality Act (CEQA) focuses on reducing emissions associated with new development, other regulatory means will need to be implemented to reduce existing emissions.

Additional information on GHG emissions and the technical data used to prepare this section is provided in Appendix 3.4.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. One comment pertaining to climate change was identified during the scoping meeting; this comment expressed concern over the impacts of the heat island effect related to the open asphalt parking lot planned for the Project.

Existing Conditions

Regulatory Setting

Federal

Although climate change and GHG reduction is a concern at the federal level, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. However, recent activity suggests that regulation may be forthcoming. Foremost among recent developments have been the U.S. Supreme Court's decision in *Massachusetts v. EPA*, the "Endangerment Finding," and the "Cause or Contribute Finding," which are described below. Despite these findings, the future of GHG regulations at the federal level is still uncertain.

In 2007, 12 states and cities, including California, in conjunction with several environmental organizations, sued the U.S. Environmental Protection Agency (EPA) to regulate GHGs as a pollutant, pursuant to the federal Clean Air Act (CAA). The court ruled that the plaintiffs had standing to sue, finding that GHGs fit within the CAA's definition of a pollutant and EPA's reasons for not regulating GHGs were insufficiently grounded. For the "Endangerment Finding", on December 7, 2009, the EPA administrator found that current and projected concentrations of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorinated carbons (PFCs), and sulfur hexafluoride (SF_6) threaten the public health and welfare of current and future generations. Additionally, the administrator found that combined emissions of CO_2, CH_4, N_2O, and HFCs from motor vehicles contribute to atmospheric concentrations and thus to the threat of climate change. Although the endangerment finding in itself does not place requirements on industry, it was an important step in EPA's process to develop GHG regulation.

President's Council on Environmental Quality Draft Guidance (2010). On February 18, 2010, Nancy Sutley, chair of the Council on Environmental Quality (CEQ), issued a memorandum providing guidance regarding consideration of the effects of climate change and GHG emissions under the National Environmental Policy Act (NEPA). The draft guidance suggests that the effects of projects directly emitting GHGs in excess of 25,000 metric tons of CO_2 equivalent (CO_2e) annually be considered in a qualitative and quantitative manner. CEQ does not propose this reference as a threshold for determining significance but as "a minimum standard for reporting emissions under the CAA." The draft guidance also recommends that the cumulative effects of climate change on a proposed project be evaluated. The draft guidance is still undergoing public comments and will not be effective until issued in final form.[1]

Corporate Average Fuel Economy Standards (2010/12). The current Corporate Average Fuel Economy (CAFE) standards, which went into effect in 2012 for vehicles, incorporate stricter fuel economy standards equivalent to those previously promulgated by the State of California (see Assembly Bill 1493 discussion below) into one uniform federal standard. The changes are expected to reduce GHG emissions from new vehicles by roughly 25 percent, relative to business-as-usual (BAU), by 2016.

In October 2012, EPA and the National Highway Traffic Safety Administration (NHSTA) established the final rule for fleet-wide passenger car and light truck model year 2017 to 2025. The new CAFE standards aim to reach an emission rating of 163 grams of CO_2 per mile, or the equivalent of 54.5 miles per gallon (mpg), by model year 2025. Fleet wide fuel economy standards will become more stringent with each subsequent model year through 2025. Due to a statutory requirement that NHSTA set average fuel economy standards five model years at a time, NHSTA requires that model years 2017 to 2022 have an industry fleet wide average of 40.3 to 41.0 mpg, and estimates 2025 model year vehicles will range from 48.7 to 49.7 mpg.[2]

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[1] Council on Environmental Quality. 2010. Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. Memorandum for Heads of Federal Departments and Agencies. February 18. Available: <http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf>. Accessed: April 5, 2013.

[2] U.S. Environmental Protection Agency. 2012. Federal Register. Vol. 77. No. 199. October 15, 2012. Rules and Regulations: 62627. Available: <http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/2017-25_CAFE_Final_Rule.pdf>. Accessed: October 2013.

State

With the passage of several pieces of legislation, including state senate and assembly bills and executive orders, California launched an innovative and proactive approach for addressing GHG emissions and climate change at the state level.

Executive Order S-3-05. The goal of this executive order is to reduce California's GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80 percent below the 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill (AB) 32.

Assembly Bill 32. The Global Warming Solutions Act of 2006 sets the same overall GHG emissions reduction goals outlined in Executive Order S-3-05 while further mandating that the California Air Resources Board (ARB) create a plan that includes market mechanisms and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Executive Order S-01-07. Governor Schwarzenegger set forth the low-carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill (SB) 97. Senate Bill (SB) 97 required the Governor's Office of Planning and Research (OPR) to develop amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Assembly Bill 1493—Pavley Rules (2002, Amendments 2009)/Advanced Clean Cars (2011). Known as "Pavley I," the AB 1493 standards were the nation's first GHG standards for automobiles. AB 1493 required ARB to adopt vehicle standards that would lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as "Pavley II," now referred to as the "Advanced Clear Cars" measure) has been proposed for vehicles built during model years 2017 through 2020. Together, the two standards are expected to increase average fuel economy to roughly 43 mpg by 2020 and reduce GHG emissions from the transportation sector in California by approximately 14 percent. In June 2009, EPA granted California's waiver request, enabling the state to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

EPA and CARB are currently working together on a joint rulemaking effort to establish GHG emissions standards for passenger vehicles built during the 2017 to 2025 model years. The Interim Joint Technical Assessment Report evaluated four potential future standards that ranged from 47 to 62 mpg by 2025.[3] The official proposal was released by both EPA and ARB on December 7, 2011, and unanimously approved by ARB on January 26, 2012.[4]

Renewable Energy Standard/Renewable Portfolio Standard (2002/2006/2011). SB 1078 (2002) and SB 107 (2006) created the Renewable Energy Standard (RES) program, which required electric

[3] U.S. Environmental Protection Agency. et. al. 2010. Interim Joint Technical Assessment Report: Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2017-2025. Available:< http://www.epa.gov/oms/climate/regulations/ldv-ghg-tar.pdf>. Accessed: February 20, 2013.

[4] California Air Resources Board. 2012. News Release - California Air Resources Board Approves Advanced Clean Car Rules. Release # 12-05. January 27, 2012. Available: <http://www.arb.ca.gov/newsrel/newsrelease.php?id=282>. Accessed: October 2013.

companies to increase their procurement of eligible renewable energy resources by at least 1 percent of their retail sales annually, until reaching 20 percent by 2010. SB 2X 1 (2011) required a Renewable Portfolio Standard (RPS, functionally the same thing as the RES) of 33 percent by 2020.

Building Energy Efficiency Standards (CCR Title 24). Building energy consumption is regulated under Title 24 of the CCR. The efficiency standards contained in this title apply to new construction, both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water, and lighting. The current Building Energy Efficiency Standards were adopted in 2008 and effective January 1, 2010. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2013 Standards will continue to improve upon the current 2008 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2013 Standards will go into effect on July 1, 2014. The Project would adhere to the 2013 Standards. The analysis presented in this evaluation is based on the 2010 building standards.

State CEQA Guidelines (2013). The 2013 State CEQA Guidelines carryover Section 15064.4 that specifically addresses the significance of GHG emissions. Section 15064.4 calls for a good-faith effort to describe, calculate, or estimate GHG emissions. It further states that the significance of GHG impacts should include consideration of the extent to which the project would increase or reduce GHG emissions, exceed a locally applicable threshold of significance, and comply with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The revisions also state that a project may be found to have a less-than-significant impact if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (Section 15064(h)(3)). However, the revised guidelines do not require or recommend a specific analysis methodology or provide quantitative criteria for determining the significance of GHG emissions.

Cap and Trade. The development of a cap-and-trade program was included as a key reduction measure of the ARB's AB 32 Climate Change Scoping Plan.[5] The cap and trade emissions trading program developed by ARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap and trade program aims to regulate the GHG emissions from the largest producers in the state by setting a statewide firm limit, or *cap*, on the allowable annual GHGs. The cap contains three compliance phases. In compliance period one, large emitters from the electricity and industrial sector come under the cap. In the second period, which commences in 2015, fuels will be subject to the cap. Compliance phase three includes all three sectors (electricity, industry, fuels) and runs until 2020.

Each sector receives GHG trading allowances in a different way. Electricity receives allowances from ARB through a blend of auctions and free allocations based on emissions. Industry, by contrast, receives allowances based on their efficiency relative to other capped companies in their sector (benchmarks). The cap, or amount capped entities are able to emit, will decrease over time (approximately 2 to 3 percent each year. Capped entities with more allowances than emissions may bank some allowances to cover future emissions or sell those allowances back to the market established under the program. Capped entities with emissions that exceed their allowances must purchase more allowances in order to comply with the program.

ARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including

[5] California Air Resources Board. 2012. Cap-and-Trade Regulation Instructional Guidance. Chapter 1: How does the Cap-and-Trade Program Work? September 2012. Available: <http://www.arb.ca.gov/cc/capandtrade/guidance/chapter1.pdf>. Accessed: October 2013.

energy companies, agriculture and food industries, steel mills, cement companies, and universities.[6] It is anticipated that the program will cover around 350 to 400 businesses or *capped entities*, including those headquartered out of state if they operate facilities in California.

On November 13, 2012, the California Chamber of Commerce filed a lawsuit that claims the cap-and-trade "auction is not a 'fee schedule' authorized by AB 32," and that the auction of allowances is the equivalent of a tax, which would require an act of the California legislature. By most accounts, the claims are not expected to prevail because ARB under the Scoping Plan took great care to contrast cap-and-trade from a fee.

Local

Bay Area Air Quality Management District. Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for comprehensive air pollution control in the entire San Francisco Bay Area Air Basin (SFBAAB), including the City of Menlo Park (City). To that end, BAAQMD, a regional agency, works directly with the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and local governments. On June 1, 2005, the BAAQMD Board of Directors adopted a resolution establishing a Climate Protection Program and acknowledging the link between climate protection and programs to reduce air pollution in the San Francisco Bay Area (Bay Area). A central element of BAAQMD's climate protection program is the integration of climate protection activities into existing BAAQMD programs. BAAQMD's climate protection program emphasizes collaboration with ongoing climate protection efforts at the local and state level, public education and outreach and technical assistance to cities and counties.

Although BAAQMD is responsible for regional climate change planning efforts, it does not have the authority to directly regulate the GHG emission issues associated with local plans and new development projects within the Bay Area. Instead, BAAQMD has used its expertise and prepared the BAAQMD CEQA Guidelines to indirectly address these issues. The purpose of the BAAQMD CEQA Guidelines is to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Bay Area. Specifically, the BAAQMD CEQA Guidelines explain the procedures that BAAQMD recommends be followed during the environmental review processes required by CEQA. The BAAQMD CEQA Guidelines provide direction on how to evaluate potential GHGs impacts, how to determine whether these impacts are significant, and how to mitigate these impacts.

BAAQMD recently updated its CEQA Guidelines and adopted revised CEQA significance thresholds on June 2, 2010.[7] The BAAQMD CEQA Guidelines were the subject of legal action claiming that BAAQMD needed to comply with CEQA prior to adopting its 2010 CEQA Guidelines and significance thresholds. On appeal, the appellate court ruled that adoption of guidelines and thresholds is not considered a project subject to CEQA review, and adoption of the significance thresholds was not arbitrary and capricious. As of the time of writing in February 2014, BAAQMD has yet to formally re-recommend its CEQA Guidelines and significance thresholds for use by local agencies, but has indicated a lead agency has the discretion to determine the appropriate thresholds of significance based on substantial evidence in the record.

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[6] California Air Resources Board. 2012. California Air Resources Board Quarterly Auction 1. November 2012. Available: <http://www.arb.ca.gov/cc/capandtrade/auction/november_2012/auction1_results_2012q4nov.pdf>. Accessed: October 2013.

[7] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

Given the appellate court ruling and the substantial evidence supporting the thresholds, BAAQMD is expected to recommend its CEQA Guidelines and thresholds at any time; therefore, the BAAQMD CEQA Guidelines and thresholds are utilized in this Draft EIR.

BAAQMD CEQA Guidelines encourage local governments to adopt a qualified GHG Reduction Strategy that is consistent with AB 32 goals. The qualified GHG reduction plan should identify goals, policies, and implementation measures that would achieve AB 32 goals for the entire community. Plans with horizon years beyond 2020 should consider continuing the downward reduction path set by AB 32 and move toward climate stabilization goals established in Executive Order S-3-05. The BAAQMD CEQA Guidelines describe a qualified GHG reduction plan adopted by a local jurisdiction as including the following elements.

- A GHG inventory for current year and forecast for 2020 (and for 1990 if the reduction goal is based on 1990 emission levels).
- An adopted GHG reduction goal for 2020 for the jurisdiction from all sources (existing and future) which is consistent with AB 32 goals and the AB 32 Scoping Plan.
- Identified feasible reduction measures to reduce GHG emissions for 2020 to the identified target, including application of relevant reduction measures in the AB 32 Scoping Plan that are within the jurisdiction of the local land use authority (such as building energy efficiency, etc.).
- A quantification of the reduction effectiveness of each of the feasible measures identified, including disclosure of calculation method and assumptions.
- Identified implementation steps and financing mechanisms to achieve the identified goal by 2020.
- Procedures for monitoring and updating the GHG inventory and reduction measures at least twice before 2020 or at least every 5 years.
- Identified responsible parties for implementation and a schedule for implementation.
- A certified CEQA document or equivalent.

Neither the City nor San Mateo County has a qualified GHG reduction strategy as defined in the BAAQMD CEQA Guidelines. The City's Climate Action Plan (CAP), described in more detail below, does not include all the required elements. Therefore, it is not a qualified GHG reduction strategy as defined by BAAQMD CEQA Guidelines.

Menlo Park Climate Action Plan. The City's Climate Action Plan (CAP) (adopted in May 2009)[8] proposes local emissions reduction strategies designed to help meet AB 32 targets. The CAP provides the emission inventory from 2005-2009, the emission forecast for year 2020, a reduction goal for 2020, and the recommendation for GHG reduction strategies. The City subsequently prepared the CAP Assessment Report in July 2011. This report clarified and updated the CAP and is now the primary strategy for the City to reduce GHG emissions. Based on the emission inventory and forecast for year 2020, and in order to meet AB 32 goals, the City adopted a GHG reduction target of 27 percent below the 2005 level by 2020 in June 2013.

The CAP Assessment Report recommends various community and municipal strategies for near-term and mid-term considerations. The emissions reduction strategies are generally focused on community

[8] City of Menlo Park. 2009. Climate Change Action Plan. Available: http://www.menlopark.org/departments/env/CAP2009Complete.pdf. Accessed: October 2013.

actions, since more than 99 percent of the emissions are from community sources. A cost benefit analysis of the selected strategies will be presented to City Council prior to implementation.

Menlo Park General Plan. The General Plan guides development and use of land within the City. Several goals and policies of the Land Use and Circulation Element of the General Plan apply broadly to GHG emissions, as follows.

> ***Goal I-G:*** To promote the preservation of open-space lands for recreation, protection of natural resources, the production of managed resources, protection of health and safety, and/or the enhancement of scenic qualities.
>
> *Policy I-H-2:* The use of water-conserving plumbing fixtures in all new public and private development shall be required.
>
> *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 Landscape Ordinance.
>
> *Policy I-H-7:* The use of reclaimed water for landscaping and any other feasible uses shall be encouraged.
>
> *Policy I-H-12:* Street orientation, placement of buildings, and use of shading should contribute to the energy efficiency of the community.
>
> *Policy II-A-12:* The City shall endeavor to provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through good roadway design, maintenance, and effective traffic law enforcement.
>
> ***Goal II-B:*** To promote the use of public transportation.
>
> *Policy II-B-1:* The City shall consider transit modes in the design of transportation improvements and the review and approval of development projects.
>
> *Policy II-B-3:* The City shall promote improved public transit service and increased transit ridership, especially to office and industrial areas and schools.
>
> ***Goal II-C:*** To promote the use of alternatives to the single occupant automobile.
>
> *Policy II-C-1:* The City shall work with all Menlo Park employers to encourage employees to use alternatives to the single occupancy automobile in their commute to work.
>
> ***Goal II-D:*** To promote the safe use of bicycles as a commute alternative and for recreation.
>
> *Policy II-D-3:* The design of streets within Menlo Park shall consider the impact of street cross section, intersection geometrics, and traffic control devices on bicyclists.
>
> *Policy II-D-4:* The City shall require new commercial and industrial development to provide secure bicycle storage facilities on-site.

The following policies from the Open Space and Conservation Element of the City's General Plan pertain to the Project.

> ***Goal OSC4:*** Promote Sustainability and Climate Action Planning.
>
> *Policy OSC4.1:* Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.
>
> *Policy OSC4.2:* Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent

stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.

Policy OCS4.3: Renewable Energy. Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards, and/or provide incentives.

*Policy OCS4.*4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.

Policy OCS4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.

Policy OCS4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.

Policy OCS4.7: Waste Management Collaboration. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.

Policy OCS4.8: Waste Diversion. Develop and implement a zero waste policy, or implement standards, incentives, or other program that would lead the community towards a zero waste goal.

Policy OCS4.10: Energy Upgrade California. Consider actively marketing and providing additional incentives for residents and businesses to participate in local, state, and/or federal renewable or energy conservation programs.

Environmental Setting

Overview of Climate Change

Global climate change refers to changes in the normal[9] weather of the earth measured by alterations in wind patterns, storms, precipitation, and temperature relative to historical averages. Such changes vary considerably by geographic location. Over time, the earth's climate has undergone periodic ice ages and warming periods, as observed in fossil isotopes, ice core samples, and through other measurement techniques. Recent climate change studies use the historical record to predict future climate variations and the level of fluctuation that might be considered statistically normal given historical trends.

Temperature records from the Industrial Age (ranging from the late eighteenth century to the present) deviate from normal predictions in both rate and magnitude. Most modern climatologists predict an unprecedented warming period during the next century and beyond, a trend that is increasingly attributed to human-generated GHG emissions resulting from the industrial processes, transportation, solid waste generation, and land use patterns of the twentieth and twenty-first centuries. According to the Intergovernmental Panel on Climate Change (IPCC), GHG emissions associated with human activities have grown since pre-industrial times, increasing by 70 percent between 1970 and 2004.[10] Increased GHG emissions are largely the result of increasing fuel consumption, particularly the incineration of fossil fuels.

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[9] "Normal" weather patterns include statistically normal variations within a specified range.

[10] Intergovernmental Panel on Climate Change. 2007. Summary for Policy Makers. In B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer, (eds.), Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge, U.K. and New York, NY, USA: Cambridge University Press. Page 3. Available: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-spm.pdf>. Accessed: June 12, 2013.

The IPCC modeled several possible emissions trajectories to determine what level of reductions would be needed worldwide to stabilize global temperatures and minimize climate change impacts. Regardless of the analytic methodology used, global average temperature and sea level were predicted to rise under all scenarios.[11] In other words, there is evidence that emissions reductions can minimize climate change effects but cannot reverse them entirely. However, emissions reductions can reduce the severity of impacts. For example, the IPCC predicted that the range of global mean temperature change from year 1990 to 2100, given different emissions-reduction scenarios, could range from 1.1°C to 6.4°C.

Principal Greenhouse Gases

The primary GHGs generated by the Project would be carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and sulfur hexafluoride (SF_6). Note that PFCs and HFCs are not discussed as these gases are primarily generated by industrial processes, which are not anticipated as part of the Project.

To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) methodology defined in the IPCC reference documents.[12] The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2 equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (by definition, CO_2 has a global warming potential of 1).

Table 3.5-1 lists the global warming potential of CO_2, CH_4, N_2O, and SF_6, their lifetimes, and their concentrations in the atmosphere. Each of these gases is briefly described below.

Table 3.5-1. Lifetimes and Global Warming Potentials of Principal Greenhouse Gases

Greenhouse Gases	Global Warming Potential (over 100 years)	Lifetime (years)	Recent Atmospheric Concentration
CO_2	1	50–200	393 ppm
CH_4	21	9–15	1,874 ppb
N_2O	310	120	324 ppb
SF_6	23,900	3,200	7.5 ppt

Source:
Intergovernmental Panel on Climate Change. 1996. 1995: Science of Climate Change. (Second Assessment Report). Cambridge, U.K.: Cambridge University Press. 2001:388–390. Carbon Dioxide Information Analysis Center 2013.[13]
Notes:
ppb = parts per billion by volume.
ppm = parts per million by volume.
ppt = parts per trillion by volume.

[11] Intergovernmental Panel on Climate Change. 2007. Summary for Policy Makers. In Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Page 13. Available: <http://www.bcdc.ca.gov/planning/climate_change/maps/16_55/cbay_south.pdf>. Accessed: June 12, 2013.

[12] Intergovernmental Panel on Climate Change. 1996. 1995: Science of Climate Change. (Second Assessment Report). Cambridge, U.K.: Cambridge University Press. 2001: 241-280.

[13] Carbon Dioxide Information Analysis Center. 2013. *Recent Greenhouse Gas Concentrations*. Last Revised: February 2013. Available: <http://cdiac.ornl.gov/pns/current_ghg.html>. Accessed: December 17, 2013.

Carbon Dioxide. CO_2 is the most important anthropogenic GHG and accounts for more than 75 percent of all GHG emissions caused by humans. Its atmospheric lifetime of 50 to 200 years ensures that atmospheric concentrations of CO_2 will remain elevated for decades even after mitigation efforts to reduce GHG concentrations are promulgated.[14] The primary sources of anthropogenic CO_2 in the atmosphere include the burning of fossil fuels (including motor vehicles), gas flaring, cement production, and land use changes (e.g., deforestation, oxidation of elemental carbon). CO_2 can also be removed from the atmosphere by photosynthetic organisms. Atmospheric CO_2 has increased from a pre-industrial concentration of 280 parts per million (ppm) to 393 ppm.[15,16]

Methane. CH_4, the main component of natural gas, is the second most abundant GHG and has a GWP of 21.[17] Sources of anthropogenic emissions of CH_4 include growing rice, raising cattle, using natural gas, landfill outgassing, and mining coal.[18] Certain land uses also function as a both a source and sink for CH_4. For example, wetlands are a terrestrial source of CH_4, whereas undisturbed, aerobic soils act as a CH_4 sink (i.e., they remove CH_4 from the atmosphere).

Atmospheric CH_4 has increased from a pre-industrial concentration of 715 parts per billion (ppb) to 1,874 ppb.[19,20]

Nitrous Oxide. N_2O is a powerful GHG, with a GWP of 310.[21] Anthropogenic sources of N_2O include agricultural processes (e.g., fertilizer application), nylon production, fuel-fired power plants, nitric acid production, and vehicle emissions. N_2O also is used in rocket engines, racecars, and as an aerosol spray propellant. Natural processes, such as nitrification and denitrification, can also produce N_2O, which can be released to the atmosphere by diffusion. In the United States, more than 70 percent of N_2O emissions are related to agricultural soil management practices, particularly fertilizer application.

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[14] Intergovernmental Panel on Climate Change. 2007. Introduction. In B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer, (eds.), Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge, U.K. and New York, NY, USA: Cambridge University Press. Available: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter1.pdf>. Accessed: April 5, 2013.

[15] Carbon Dioxide Information Analysis Center. 2013. *Recent Greenhouse Gas Concentrations*. Last Revised: February 2013. Available: <http://cdiac.ornl.gov/pns/current_ghg.html>. Accessed: December 17, 2013.

[16] Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). Available: <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>. Accessed: April 5, 2013.

[17] Intergovernmental Panel on Climate Change. 1996. 1995: Science of Climate Change. (Second Assessment Report). Cambridge, U.K.: Cambridge University Press.

[18] National Oceanic and Atmospheric Administration. 2013. Greenhouse Gases. Available: <http://www.ncdc.noaa.gov/cmb-faq/greenhouse-gases.php>. Accessed: October 2013.

[19] Carbon Dioxide Information Analysis Center. 2013. *Recent Greenhouse Gas Concentrations*. Last Revised: February 2013. Available: <http://cdiac.ornl.gov/pns/current_ghg.html>. Accessed: December 17, 2013.

[20] Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). Available: <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>. Accessed: April 5, 2013.

[21] Intergovernmental Panel on Climate Change. 1996. 1995: Science of Climate Change. (Second Assessment Report). Cambridge, U.K.: Cambridge University Press.

N_2O concentrations in the atmosphere have increased 18 percent from pre-industrial levels of 270 ppb to 324 ppb.[22,23]

Sulfur Hexafluoride. SF_6, a human-made chemical used as an electrical insulating fluid for power distribution equipment, in the magnesium casting, in semiconductor manufacturing, and also as a tracer chemical for the study of oceanic and atmospheric processes.[24] SF_6 is the most powerful of all GHGs listed in IPCC studies, with a GWP of 23,900.[25] SF_6 concentrations in the atmosphere have risen from 0 to more than 7.5 ppt since pre-industrial times.[26]

Greenhouse Gas Emissions Inventories

A GHG inventory is an accounting of the amount of GHGs emitted to or removed from the atmosphere over a specified period of time attributed to activities by a particular entity (e.g., annual emissions and reductions attributed to the state of California). A GHG inventory also provides information on the activities that cause emissions and removals, as well as the methods used to make the calculations. Table 3.5-2 outlines the most recent global, national, state, and local GHG inventories available to help contextualize the magnitude of potential Project-related emissions.

Project Site Inventory

Existing development at the Project site consists of a 217,396-square-foot (sf) warehouse and distillery industrial complex, which has been vacant since July 2011 (Commonwealth Site), and an in-use 20,462-sf light industrial building (Jefferson Site). However, due to the vacancy of the former distillery on the Commonwealth Site, no existing emissions are assumed at this location. Only the existing emissions associated with the current operations at the Jefferson Site are considered in the discussion below.

An inventory of the GHG emissions generated by existing uses at the Jefferson Site is provided in Table 3.5-3, below. The GHG emissions were estimated using the California Emission Estimator Model (CalEEMod), version 2011.1.1. The emissions of the individual GHG gases (CO_2, CH_4, and N_2O) were estimated and the total CO_2e emissions are calculated using the GWP for each gas. The inventory includes the following emissions.

- **Area Source Emissions.** Area source emissions are direct emissions sources including existing emissions from landscaping equipment. These emissions were estimated using CalEEMod default emission factors and land use assumptions.

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[22] Carbon Dioxide Information Analysis Center. 2013. *Recent Greenhouse Gas Concentrations*. Last Revised: February 2013. Available: <http://cdiac.ornl.gov/pns/current_ghg.html>. Accessed: December 17, 2013.

[23] Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). Available: <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>. Accessed: April 5, 2013.

[24] U.S. Environmental Protection Agency. 2013. *F-Gases Emissions| Climate Change| US EPA*. Available: <http://epa.gov/climatechange/ghgemissions/gases/fgases.html#Trends>. Last revised: September 9, 2013. Accessed: October 2013.

[25] Intergovernmental Panel on Climate Change. 1996. 1995: Science of Climate Change. (Second Assessment Report). Cambridge, U.K.: Cambridge University Press.

[26] Carbon Dioxide Information Analysis Center. 2013. *Recent Greenhouse Gas Concentrations*. Last Revised: February 2013. Available: <http://cdiac.ornl.gov/pns/current_ghg.html>. Accessed: December 17, 2013.

Table 3.5-2. Global, National, and State Greenhouse Gas Emissions Inventories

Emissions Inventory	CO_2e (metric tons)
2004 IPCC Global GHG Emissions Inventory	49,000,000,000
2011 EPA National GHG Emissions Inventory	6,708,300,000
2010 ARB State GHG Emissions Inventory	451,600,000
2007 SFBAAB GHG Emissions Inventory	95,800,000

Sources:

- Bay Area Air Quality Management District. 2010. Source Inventory of Bay Area Greenhouse Gas Emissions. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_2_10.ashx>. Accessed: June 5, 2013.
- Intergovernmental Panel on Climate Change. 2007. Introduction. In B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer, (eds.), Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge, U.K. and New York, NY, USA: Cambridge University Press. Available: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter1.pdf>. Accessed: April 5, 2013.
- California Air Resources Board. 2013. California Greenhouse Gas Inventory for 2000-2010 – by Category as Defined in the Scoping Plan. Last Reviewed: March 21, 2013. Available: <http://www.arb.ca.gov/cc/inventory/data/data.htm>. Accessed: April 5, 2013.
- U.S. Environmental Protection Agency. 2013. Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2011: Executive Summary. Available: <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2011-ES-Executive-Summary.pdf>. Accessed: April 5, 2013.

CO_2e = carbon dioxide equivalent

- **Emissions Associated with Energy Use.** The generation of electricity through the combustion of fossil fuels typically yields CO_2, and to a much smaller extent, CH_4 and N_2O. By consuming electricity, existing facilities generate indirect GHG emissions. Electrical power is supplied to the Project site by Pacific Gas and Electric (PG&E). Accordingly, indirect GHG emissions from electricity usage are calculated using the PG&E carbon-intensity factor used by the City of 0.568 pounds per kilowatt hour (lb/kWh).[27] The combustion of natural gas onsite for heating and other purposes in buildings generates direct emissions of CO_2 and, to a much smaller extent, CH_4 and N_2O. Existing electricity and natural gas usage, which was used to estimate GHG emissions from existing facilities, is based on the existing usage data provided by the Sobrato Organization (Project Sponsor).
- **Emissions Associated with Water Supply.** GHG emissions are also generated by the infrastructure used to distribute and treat the domestic water supply and by infrastructure used to collect and treat wastewater. By consuming water and generating wastewater, development at the Jefferson Site contributes to these emissions. Emissions associated with the existing water demand were provided in the Water Supply Assessment (WSA) Report prepared for the Project.

[27] Menlo Park. 2012. Chapter 3.7, Greenhouse Gas Emissions, of the Facebook Campus Project - Environmental Impact Report. April.

- **Solid Waste Disposed Emissions.** According to EPA's emissions reporting protocol, emissions of CO_2 from solid waste interment are considered to be biogenic GHGs and part of the carbon cycle; therefore, they are typically not included in GHG emission inventories.[28] Nevertheless, fugitive CH_4 emissions associated with solid waste management have been estimated for use in this analysis based on the method used by CalEEMod.
- **Vehicular Emissions.** Employee and visitor vehicle trips associated with existing land uses represent the largest portion of the existing emissions inventory. GHG emissions associated with existing vehicle trips were estimated using the employee trips shown in Section 3.3, *Transportation and Traffic*, CalEEMod default emission factors for the year 2013, and CalEEMod default trip lengths for work-related trips in San Mateo County.
- **Urban Forest.** *Urban forest* refers to trees and other vegetation planted within developed areas, including residential trees, urban parks, and median trees. Unlike other sectors described above, urban forests are emissions sinks that actively sequester (i.e. remove) atmospheric CO_2. There are currently 45 trees on the Project site. Forestry emission sinks under existing and Project conditions were estimated using CalEEMod.

It is believed that the above sources represent the vast majority of the GHG emissions associated with existing development on the Jefferson Site. Existing facilities may emit a small amount of HFC emissions from leakage and service of refrigeration and air conditioning equipment and from disposal at the end of the life of the equipment; however, the contributions of these emissions to the total inventory are likely quite small. PFCs and SF_6 are typically used in industrial activities that are not conducted at the Project site. Ozone has characteristics of a GHG; however, unlike regulated GHGs, ozone in the troposphere is relatively short-lived and, therefore, has localized rather than global effects. According to ARB,[29] it is difficult to make an accurate determination of the contribution of ozone precursors (nitrogen oxides [NO_X] and reactive organic gases [ROGs]) to global warming. Therefore, the inventory presented in Table 3.5-3 represents an estimate of all emissions directly and indirectly associated with current onsite operations.

Predicted Effects of Climate Change

Climate change could have a number of adverse effects. Although these effects would have global consequences, in most cases they would not disproportionately affect any one site or activity. In other words, many of the effects of climate change are not site-specific. Emission of GHGs would contribute to the changes in the global climate, which would in turn, have a number of physical and environmental effects. A number of general effects are discussed below.

Sea Level Rise and Flooding. Measurements taken in the San Francisco Bay (Bay) indicate that the current rate of sea level rise is about 3.5 inches per century at Alameda and 8.4 inches per century at San Francisco.[30] Climate change effects on sea levels could lead to even higher rates of sea level rise (accelerated sea level rise).

[28] U.S. Environmental Protection Agency. 1995. AP 42, Fifth Edition: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources.

[29] California Air Resources Board. 2004. Fact Sheet, Climate Change Emission Control Regulations.

[30] California Department of Water Resources. 2006. Progress on Incorporating Climate Change into Planning and Management of California's Water Resources Technical Memorandum Report. Table 2-6. Available at: <http://www.water.ca.gov/climatechange/docs/DWRClimateChangeJuly06.pdf>. Last Accessed: June 12, 2013.

Table 3.5-3. Existing Operational Greenhouse Gas Emissions at the Project Site

	CO_2	CH_4	N_2O	CO_2e
Source Category	Metric tons/year			
Area	< 0.01	0	0	< 0.01
Energy Use[a]	1.33	0	0	1.34
Vehicular[b]	141.03	0.01	0	141.16
Water[c]	0.36	0.01	0	0.59
Waste[d]	1.66	0.1	0	3.73
Urban Forest	-31.15			-31.15
Total	113.23	0.12	0	115.67

Sources:
a. Sobrato Organization, 2013
b. DKS Associates, 2013
c. GHD, 2013
Notes:
Please refer to Appendix 3.4-1 for emission calculation assumptions and model inputs and outputs.
a. Based on the existing usage data provided by the Project Sponsor.
b. Based on the existing employee trips shown in Section 3.3, Transportation and Traffic and Appendix 3.3.
c. Existing water demand was provided in the Water Supply Assessment (WSA) Report (Appendix 3.13)
d. No existing waste data is available. Existing waste generation rate of tons per square feet is assumed to be the same as proposed Project.

Different scenarios and models used to predict sea level rise result in different estimates of the magnitude of sea level rise. For example, the California Climate Change Center predicts that accelerated sea level rise could result in a sea level rise in California of 4.3 to 28.2 inches above the existing mean sea level (msl) by 2099.[31] The California Climate Action Team (CAT) projects that sea levels could rise as much as 71.6 inches by the year 2099.[32]

In October 2011, the San Francisco Bay Conservation and Development Commission (BCDC) adopted the latest amendment to the Bay Plan. The Bay Plan states that the Bay will rise 10 to 17 inches by 2050, 17 to 32 inches by 2070, and 55 to 69 inches by the end of the century if current trends continue.[33]

[31] Cayan, D. P. Bromirski, K. Hayhoe, M. Tyree, M. Dettinger, and R. Flick. 2006. Projecting Future Sea Level. California Energy Commission. Table 3. July 2006. Available at:<http://www.energy.ca.gov/2005publications/CEC-500-2005-202/CEC-500-2005-202-SF.PDF>. Last Accessed: June 12, 2013.

[32] California Climate Action Team. 2006. Executive Summary, 2006 Final Climate Action Team Report to the Governor and Legislature. April. Available at: <http://www.water.ca.gov/climatechange/docs/DWRClimateChangeJuly06.pdf>. Last Accessed: October, 2013.

[33] San Francisco Bay Conservation and Development Commission. 2011. Resolution No. 11-08: Adoption of Bay Plan Amendment No. 1-08 Adding New Climate Change Findings and Policies to the Bay Plan; And Revising the Bay Plan Tidal Marsh and Tidal Flats; Safety of Fills; Protection of the Shoreline; and Public Access Findings and Policies. Page 11. Adopted October 2011. Available at:<http://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf>. Last Accessed: June 12, 2013.

In the future, precipitation events are predicted to vary in terms of timing, intensity, and volume according to many climate change models. Extreme storm events may occur with greater frequency.[34] Alterations in the flow regime and subsequent flood potential could also occur from effects of climate change on local and regional precipitation patterns. These issues are addressed in Section 3.9, *Hydrology and Water Quality*.

Water Supply. California Health and Safety Code Section 38501(a) recognizes that climate change "poses a serious threat to the economic well-being, public health, natural resources, and the environment of California," and notes, "the potential adverse impacts of [climate change] include…reduction in the quality and supply of water to the State from the Sierra snowpack." As most of the state, including the Bay Area, depends on surface water supplies originating in the Sierra Nevada, this water supply reduction is a concern.

Most of the scientific models addressing climate change show that the primary effect on California's climate would be a reduced snow pack and a shift in stream-flow seasonality. A higher percentage of the winter precipitation in the mountains would likely fall as rain rather than as snow in some locations, thereby reducing the overall snowpack. Further, as temperatures rise, snowmelt is expected to occur earlier in the year resulting in peak runoff that would likely come a month or so earlier. The end result of this would be that the state may not have sufficient surface storage to capture the resulting early runoff. As a result of absent construction of additional water storage projects, a portion of the current supplies would be lost to the oceans rather than be available for use in the state's water delivery systems.

Water Quality. Climate change could have adverse effects on water quality, which would, in turn, affect the beneficial uses (habitat, water supply, etc.) of surface water bodies and groundwater. The changes in precipitation discussed above could result in increased sedimentation, higher concentration of pollutants, higher dissolved oxygen levels, increased temperatures, and an increase in the amount of runoff constituents reaching surface water bodies. Sea level rise, discussed above, could result in the encroachment of saline water into freshwater bodies.[35]

Ecosystems and Biodiversity. Climate change is expected to have effects on diverse types of ecosystems, from alpine to deep sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation would occur; this could affect the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that "[a]pproximately 20-30 percent of plant and animal species assessed so far are likely to be at increased risk of extinction if increases in global average

[34] U.S. Environmental Protection Agency. 2013. Climate Change Indicators in the United States| Weather and Climate. Available at: <http://www.epa.gov/climatechange/science/indicators/weather-climate/index.html>. Last updated: April 22, 2013. Last Accessed: June 12, 2013.

[35] Intergovernmental Panel on Climate Change. 2007. Summary for Policy makers. In Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.). Cambridge University Press, Cambridge, United Kingdom, 1000 pp. Available: <http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg2_report_impacts_adaptation_and_vulnerability.htm>. Last Accessed: June 12, 2013.

temperature exceed 1.5-2.5°C" relative to pre-industrial levels.[36] Shifts in existing biomes could also make ecosystems vulnerable to encroachment of foreign species. These disruptions can cause ripple effects in food webs for a wide range of organisms. In general terms, climate change is expected to put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.[37]

Human Health Impacts. Climate change may also increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects, such as Lyme disease and West Nile Virus. The presence of harmful bacteria and *Cryptosporidium* and *Giardia*, water-borne parasites, could also increase in the event of heavy rainfall or flooding and contaminate drinking water. While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase ground-level ozone, which could adversely affect individuals with heart and respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency and could adversely affect sensitive populations, such as the elderly and children. Finally, the water supply impacts and seasonal temperature variations expected as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.[38]

Heat Island Effect. Although not a direct cause by climate change, the impact of the heat island effect may be exasperated by the increase frequency of heating days due to climate change. The heat island effect is created by paved urban areas that tend to absorb rather than reflect solar radiation due to dark asphalt surfaces, resulting in greater temperatures above and surrounding these areas than nearby rural areas. According to EPA, this effect can result in greater energy demands for air conditioning, increased air pollution and GHG emissions due to these increased energy demands, heat-related illness and mortality, and effects on water quality.[39]

Environmental Impacts

This section describes the impact analysis relating to GHGs and climate change for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

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[36] Intergovernmental Panel on Climate Change. 2007. Summary for Policy makers. In Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.). Cambridge University Press, Cambridge, United Kingdom, 1000 pp. Available: <http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg2_report_impacts_adaptation_and_vulnerability.htm>. Last Accessed: June 12, 2013.

[37] U.S. Environmental Protection Agency. 2013. Ecosystems Impacts & Adaptation. Available:<http://www.epa.gov/climatechange/impacts-adaptation/ecosystems.html>. Last Updated: April 22, 2013. Last Accessed June 12, 2013.

[38] U.S. Environmental Protection Agency. 2013. Human Health Impacts & Adaptation. Available at:<http://www.epa.gov/climatechange/impacts-adaptation/health.html#impactsdiseases>. Last Updated: May 14, 2013. Last Accessed: June 12, 2013.

[39] U.S. Environmental Protection Agency. 2013. Heat Island Effect. Available at: <http://www.epa.gov/hiri/>. Last updated: March 7, 2013. Last Accessed: June 12, 2013.

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Climate Change

The State CEQA Guidelines are currently silent on whether CEQA evaluations should address the potential impacts of climate change on a project.

The Court of Appeals recently found that while an EIR must analyze environmental effects that may result from a project, it is not required to examine the effects of the environment on the project (see *Ballona Wetland Foundation v. City of Los Angeles*, 201 Cal. App. 4th 455). The *Ballona* decision potentially eliminates the need for lead agencies in the second appellate district to consider impacts of climate change on proposed projects. Unless legislation overturns the *Ballona* decision,[40] courts throughout the state will be presented with the case as precedent. Nonetheless, courts outside the second district will have the discretion to differ in their interpretation of the State CEQA Guidelines and may find that an analysis of climate change effects on proposed projects is required.[41] Accordingly, a discussion of the climate change issue has been included in this EIR for informational purposes.

Construction Emissions

Construction emissions represent a small portion of overall emissions in the Bay Area. Unlike operational emissions, they are also temporary and limited to the construction period. BAAQMD has not established a quantitative threshold for the evaluation of construction-related GHG emissions. However, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and that a determination regarding the significance of these GHG emissions be made with respect to whether a project is consistent with the AB 32 GHG emission reduction goals. The BAAQMD further recommends that best management practices (BMPs) be incorporated to reduce GHG emissions during construction, as feasible and applicable. BMPs may include using alternative-fueled (e.g., biodiesel, electric) construction vehicles and equipment for at least 15 percent of the fleet, using at least 10 percent of local building materials, and recycling or reusing at least 50 percent of construction waste or demolition materials.[42] The significance of construction GHG emissions is therefore evaluated by considering the overall magnitude of emissions, as well as determining whether the Project has incorporated feasible BMPs.

Operational Emissions

BAAQMD's CEQA Guidelines outline advisory GHG thresholds for operational emissions of GHGs for both stationary sources that require a district permit to operate, and projects other than stationary sources.[43]

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[40] On March 21, 2012, the California Supreme Court denied case review and depublication requests submitted by several environmental organizations.

[41] Menlo Park is in the first district.

[42] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

[43] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

The City has independently reviewed the BAAQMD proposed thresholds and determined that they are supported on substantial evidence and are appropriate for use to determine significance in the environmental review of this Project. Specifically, the City has determined that the BAAQMD thresholds are well-grounded on regulations, scientific evidence, and scientific reasoning concerning air quality and GHG emissions. Using these thresholds for the Project also allows a rigorous standardized approach of determining whether the Project would cause a significant air quality impact. BAAQMD's Justification Report explains the agency's reasoning for adopting the thresholds.[44] Below is a summary of the basis upon which the BAAQMD's thresholds were developed.

The stationary source threshold for permitted sources is 10,000 MT of CO_2e per year and is used to evaluate the emergency generator testing emissions.

For project emissions other than permitted stationary sources, BAAQMD has three options that can be used for comparison based on the lead agency's discretion.

- Compliance with a qualified GHG Reduction Strategy; or
- Annual emissions less than 1,100 metric tons of CO2e per year; or
- Annual emissions of less than 4.6 metric tons of CO2e per service population[45] (MT CO_2e/SP/yr).

As described in the *Regulatory Setting*, although the City has a greenhouse gas reduction target and a CAP, they do not constitute a qualified GHG reduction plan as defined in the BAAQMD CEQA Guidelines. Accordingly, compliance with a qualified GHG reduction strategy is not an option. Emissions from a project of this magnitude are likely to exceed the second threshold, 1,100 MT of CO_2e per year. BAAQMD recommends that land-use driven projects be analyzed using either the second or the third threshold, which is a GHG efficiency metric. GHG efficiency metrics were developed from the emissions rates at the state level for the land use sector that would accommodate projected growth (as indicated by population and employment growth) under trend forecast conditions allowing for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020).[46] The land use efficiency metric is appropriate because the threshold can be applied evenly to all project types (residential or commercial/retail only or mixed use) and uses only the land use inventory that is comprised of all land use projects. For this Project, the efficiency goal of 4.6 MT CO_2e per service population per year has been selected by the City, as the Lead Agency, as the threshold of significance for the land use related emissions of the Project combined with the amortized construction emissions.

Methods for Analysis

The analysis of climate change impacts involves determining a GHG emission inventory for the Project sources that then can be used as a comparison to thresholds of significance to determine if the Project would result in cumulative impacts. This section describes the methodology that was used to develop the GHG emissions inventories associated with the Project. As recommended by the BAAQMD CEQA

[44] Bay Area Air Quality Management District. 2009. Revised Draft Options and Justification Report: California Environmental Quality Act Thresholds of Significance. October. San Francisco, CA.

[45] Service population is the sum of residents and employees of a land use development project.

[46] Bay Area Air Quality Management District. 2009. Revised Draft Options and Justification Report: California Environmental Quality Act Thresholds of Significance. October. San Francisco, CA.

Guidelines,[47] these inventories consider the following categories of GHG emissions: construction, area sources, energy use, water use, waste disposed, traffic, and stationary source emissions (which, in this case, consist solely of emergency generator testing). The CalEEMod model was used to assist in quantifying the GHG emissions in the inventories for the Project presented in this Draft EIR.

Legislation and rules regarding climate change, as well as the scientific understanding of the extent to which different activities emit GHGs, continue to evolve; as such, the inventories in this report are a reflection of the guidance and knowledge currently available.

Construction Emissions

There are three major construction phases associated with development of the Project site: demolition, excavation and grading, and building construction. CalEEMod was used in quantifying the construction emissions based on the construction activities and the anticipated schedule and durations provided by the Project Sponsor. The construction equipment list was developed independently by ICF, using CalEEMod defaults as a basis, and verified by the Project Sponsor. GHG emissions from these construction phases are largely attributable to fuel use from construction equipment and vehicle trips. The primary GHG emissions generated by these sources are CO_2, CH_4, and N_2O, which were estimated using the CalEEMod. The CalEEMod model inputs and assumptions are provided for reference in Appendix 3.4-2.

Operational Emissions

Direct emissions from traffic and area sources and indirect emissions from energy, water use, wastewater, and waste management would occur every year after buildout. Emergency generator testing would also occur periodically. The CalEEMod model was used to assist in quantification of the operational emissions, except for emergency generator testing, which was based on the manufacturer-specified emission factors for the proposed diesel generators and the emission factors from OFFROAD2011. This methodology is also discussed in Section 3.4, *Air Quality*.

Project-specific data and assumptions used to estimate the operational GHG emissions for each source category are briefly described below within the additional information and CalEEMod model assumptions provided in Appendix 3.4-1.

- **Area Source Emissions.** Proposed emissions generated by these area sources were estimated using the same approach described for the existing Project site inventory above.
- **Emissions Associated with Energy Use.** The combustion of natural gas on-site for heating, cooking, and other purposes in buildings generates direct emissions of GHG emissions. The onsite electricity usage generates indirect GHG emissions through the combustion of fossil fuels to generate electrical power. Proposed emissions generated by electricity and natural gas usage were estimated using the site-specific data provided by the Project Sponsor. The electricity and natural gas analysis takes into account that the Project would meet Title 24 standards.
- **Emissions Associated with Water Supply.** Proposed emissions associated with interior and exterior water demand were estimated using the same approach described for the existing Project site inventory above.

[47] Bay Area Air Quality Management District. 2010. Draft CEQA Air Quality Guidelines. May. Available: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed: October 2013.

- **Solid Waste Disposed Emissions.** Proposed fugitive CH_4 emissions associated with solid waste management have been estimated for use in this analysis based on the site-specific data provided by the Project Sponsor. The Project would recycle 50 percent of total office waste (about 88 tons per year) and compose all the food waste (about 19.3 tons per year), which would result in a reduction of about 59 percent of the solid waste generated at the site, according to the data provided by the Project Sponsor.
- **Vehicular Emissions.** Vehicle emissions associated with proposed employee and visitor vehicle trips were estimated using the same approach described for the existing Project site inventory above. Note the analysis of motor vehicle emissions does not include the effects of the proposed TDM Plan/Program associated with the Project as discussed in Chapter 2, *Project Description*.
- **Emissions Associated with Generator Test.** Emergency generators emit GHGs when they are tested to ensure proper functioning. It was assumed that each of the two emergency generators would be tested once per week for 30 minutes, as specified by the Project Sponsor. To calculate emissions, the horsepower rating of the engine is multiplied by an emission factor for each pollutant and the total number of hours operated per year. Manufacturer-specified emission factors were obtained from information supplied by the Project Sponsor.
- **Urban Forest.** Emission associate with proposed emission sinks were estimated using the same approach described for the existing Project site inventory above. There would be 474 new trees planted at the Project site to replace the 44 existing trees.

Because the Project would replace existing operations at the Project site, operational emissions generated by the existing businesses would be replaced with operational emissions associated with the Project. Therefore, net operational emissions increase at the Project site is calculated by taking into account the existing operational emissions at the Jefferson Site[48] as a credit and subtracting the existing emissions at the Jefferson Site from the operational emissions associated with the Project.

Impacts and Mitigation Measures

Impact GHG-1: Greenhouse Gas Emissions during Project Construction. The Project would generate greenhouse gas emissions during Project construction. (PS)

Project construction would generate emissions of CO_2, CH_4, and N_2O from mobile and stationary construction equipment exhaust, and employee and haul truck vehicle exhaust. Estimated construction emissions associated with the Project are summarized in Table 3.5-4. There are three major construction phases associated with development of the Project site: demolition of the existing structures, excavation/grading, and building construction. For purposes of this analysis, it is anticipated that the construction process would start in approximately April 2014 with the demolition of the existing buildings and would continue over approximately 15 months, with full buildout by approximately mid-2015.[49] Construction emissions are estimated based on the construction activities and the anticipated schedule and durations provided by the Project Sponsor. Detailed information on emissions modeling and quantification methds is provided in Appendix 3.4-2.

[48] As previously indicated, no existing emissions are assumed at the Commonwealth Site, while current operations at the Jefferson Site represent existing emissions.

[49] When the NOP for this Project was issued in August 2012, a start date of April 2014 was anticipated. Therefore, the analysis presented in this EIR assumes an April 2014 construction start date. However, due to unforeseen delays, it is anticipated that the actual start date will be later. The construction dates are estimates and used for analytical purposes only; the delayed construction start date does not impact the accuracy of the analysis.

As shown in Table 3.5-4, Project construction would generate approximately 862 MT of CO_2e during the construction period. This is equivalent to adding 169 typical passenger vehicles per year[50] to the road during the construction period.[51] The construction emissions are primarily the result of diesel-powered construction equipment and heavy-duty haul trucks. Because construction emissions would cease once construction is complete, they are considered short-term.

Table 3.5-4. Project Construction Greenhouse Gas Emissions

	CO_2	CH_4	N_2O	CO_2e
Construction Phase		Metric tons		
Demolition	183.39	0.02	0.00	183.73
Excavation and Grading	48.36	0.00	0.00	48.43
Building Construction (2014)[a]	339.20	0.03	0.00	339.91
Total 2014 Annual Emissions	570.96	0.05	0.00	572.06
Building Construction (2015)[a]	289.33	0.02	0.00	289.78
Total Construction Emission	860.29	0.07	0.00	861.84

Notes:
Please refer to Appendix 3.4-2 for a summary of phases assumed during each construction period.
a. Building construction would occur in both 2014 and 2015 based on the construction schedule provided by the Project Sponsor.

As discussed above, BAAQMD's CEQA Guidelines do not recommend a GHG emission threshold for construction-related emissions. Therefore, the construction GHG impact is considered ***potentially significant***.

MITIGATION MEASURE. Because BAAQMD recommends implementation of BMPs to help control and reduce GHG emissions, the BMPs listed below are recommended for reducing construction-related GHG emissions. As discussed in Chapter 2, *Project Description*, the Project would recycle approximately 75 percent of all debris resulting from demolition and excavation activities during construction. The construction-related GHG impact is considered ***less than significant*** with implementation the Project Sponsor's commitment to recycle 75 percent of construction debris and the other BAAQMD-recommended BMPs, deemed feasible, as listed in Mitigation Measure GHG-1.1.

GHG-1.1: Implement BAAQMD Best Management Practices for Construction. The Project Sponsor shall require all construction contractors to implement the BMPs recommended by the BAAQMD to reduce GHG emissions. Emission reduction measures shall include, at a minimum, the use of local building materials of at least 10 percent, the reuse of materials, such as concrete on site of at least 20 percent, and the use of alternative fueled vehicles for construction vehicles/equipment.

[50] A typical passenger vehicle emits about 5.1 metric tons of carbon dioxide per year (EPA 2011).

[51] U.S. Environmental Protection Agency. 2011. Emission Facts: Greenhouse Gas Emissions from a Typical Passenger Vehicle. December. Available: <http://www.epa.gov/otaq/climate/documents/420f11041.pdf>. Accessed: October 2013.

Impact GHG-2: Greenhouse Gas Emissions During Project Operation. The Project would not generate significant greenhouse emissions during operation. (LTS)

Project operation would generate direct and indirect GHG emissions. Sources of direct emissions include mobile vehicle trips, natural gas combustion, and landscaping activities. Indirect emissions would be generated by electricity generation and consumption, waste and wastewater generation, and water use. Emission sinks that remove atmospheric CO_2 include trees and vegetation planted on the Project site. Similar emissions sources and sinks are currently operating on the Project site at the existing office and commercial buildings. Emissions generated by these uses represent existing conditions, against which the Project must be evaluated.

Estimated operations emissions under both existing and Project conditions are summarized in Table 3.5-5. The difference in operational emissions between the Project and the existing commercial uses represents the net new impact of the Project. Note that operational emissions associated with the Project reflect design features associated with building energy use and waste disposal. Please refer to Chapter 2, *Project Description*, for a discussion of design features that would help to reduce GHG emissions. The electricity and natural gas analysis takes into account that the Project would meet CalGreen/Title 24 standards (based on the 2010 Building Energy Efficiency Standards). The 2013 Building Energy Efficiency Standards will go into effect on July 1, 2014 will continue to improve upon the current 2010 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The Project would adhere to the 2013 Standards. The Project would also recycle about 34 percent of the solid waste generated at the site, according to the data provided by the Project Sponsor.

Table 3.5-5 summarizes the GHG emissions and the comparison to the applicable threshold of significance. The emergency generator testing emissions of approximately 4 MT of CO_2e per year are well below the stationary source threshold of 10,000 MT of CO_2e per year. The operational emissions result in approximately 3.5 MT of CO_2e per service population per year, which is less than the threshold of 4.6 MT of CO_2e per service population per year.

Based on the justification that BAAQMD utilized in establishing its threshold of significance for GHGs, it is not necessary to consider the impacts of other foreseeable projects such as the Tier 1 and Tier 2 projects. As stated on page 2-1 of BAAQMD's CEQA Guidelines:

> The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts. BAAQMD's approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant.

As stated above, the Project would not generate GHG emissions above the threshold and, therefore, in combination with present and future projects, would not contribute to a significant cumulative impact. The impact of operational GHG emissions is considered ***less than significant***.

Impact GHG-3: Conflicts with Applicable Greenhouse Gas Emission Plans, Policies, and Regulations. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. (LTS)

The Project would not pose any explicit conflict with the applicable list of ARB GHG reduction strategies outlined in the Climate Change Scoping Plan designed to meet the objectives of AB 32 to reduce GHG emissions to 1990 levels by 2020. Many of the reduction strategies outlined in the Scoping Plan require statewide action by government, industry, or both. Some of the measures are applicable to the Project that do not require government action, such as improving building energy use, constructing green buildings, water efficiency, and reducing solid waste through recycling, many of which have been incorporated as part of the Project.

The Project is consistent with AB 32 goals by virtue of the City's reliance on the BAAQMD's AB 32 derived per-capita efficiency threshold of 4.6 MT of CO2e per service population per year under Impact GHG-2, above. The BAAQMD threshold was based on the 1990 GHG emission level divided by the service population for 2020. Since the Project's GHG emissions fall below this BAAQMD threshold derived from AB 32 attainment goals, the Project would not conflict with AB 32 and its associated planning efforts.

The General Plan includes goals and policies in the Open Space and Conservation Element that focus on GHG emissions and climate change. In addition, a number of goals and policies from the Land Use and Circulation Element in the General apply broadly to planning efforts aimed to reduce GHG emissions. The Project would be consistent and would not conflict with a variety of General Plan goals and policies, as listed earlier in this document *Regulatory Setting*.

In 2009, the City published a CAP that outlines a number of municipal and community emissions reduction strategies. In 2011, a CAP Assessment Report was published, which evaluates the recent GHG emissions and suggests new GHG reduction strategies to consider. On July 26, 2011, the City Council approved that the strategies listed in this new assessment replace the strategies from the 2009 CAP. Table 3.5-6 presents the community strategies contained in the CAP and correlates each to a specific element or mitigation measure of the Project that address the strategy.

A review of Table 3.5-6 indicates that the Project is consistent with all of the strategies that would reasonably be applicable to a land use development project. In addition, the Project would implement several GHG reduction measures as discussed in Chapter 2, *Project Description*. These measures include including installing conduit in the parking lots to accommodate potential electric vehicle charging stations, "quick chargers", and potential photovoltaic arrays; designing the electrical panels to account for the future load of potential charging stations; structurally accounting for rooftop loads for potential photovoltaic arrays or a potential solar thermal hot water system; and locating future shafts for tubing of a thermal hot water system. Furthermore, as indicated above, the Project would adhere to the 2013 Building Energy Efficiency Standards.

Beyond the goals of AB 32, Executive Order S-3-05 sets a goal of reducing emissions to 80 percent below 1990 emissions by 2050. AB 32 met one of S-3-05 objectives of reducing GHG emissions to 1990 levels by 2020. At this time, no specific strategies have been identified to reach the 2050 goal. The technologies needed to reach this goal are unknown and speculative but will likely be a result of technologies that reduce building energy use, water use, improve vehicle economy and decarbonization of the fuel supply for vehicles and electricity generation. Furthermore, it is unknown if the Project will have been modified from the use and design evaluated in this Draft EIR, as land uses may change within this time frame. Therefore, it is too speculative at this time to assess if the Project is consistent with the GHG emission goal for 2050.

Table 3.5-5. Project Operations Greenhouse Gas Emissions

	CO_2	CH_4	N_2O	CO_2e
Source Category	Metric tons/year			
Existing Operations [a]				
Area	< 0.01	0	0	< 0.01
Energy Use	1.33	0	0	1.34
Vehicular	141.03	0.01	0	141.16
Waste	1.66	0.1	0	3.73
Water	0.36	0.01	0	0.59
Urban Forest	-31.15			-31.15
Total	127.36	0.08	0	115.67
Proposed Operations [b]				
Area	< 0.01	0	0	< 0.01
Energy Use	729.6	0.03	0.01	734.68
Vehicular	3,940.46	0.15	0	3,943.59
Waste	9.13	0.54	0	20.46
Water	12.05	0	0.01	13.89
Urban Forest	-57.35			-57.35
Total without Generator	4,633.89	0.72	0.02	4,655.27
Net Emission Increase [c]	4,520.66	0.60	0.02	4,539.60
Net Emission Increase Service Population [d]				3.5
BAAQMD Threshold (MT CO_2e/SP/yr)				4.6
Exceed Thresholds?				No
Proposed Emergency Operation				
Generator	4.20	0.001	0.00	4.23
BAAQMD Threshold for Stationary Source				10,000
Exceed Thresholds?				No

Notes:

Please refer to Appendix 3.4-1 for emission calculation assumptions and model inputs and outputs.

a. Represents emissions associated with existing commercial uses currently operating on the Project site. These emissions would cease with implementation of the Project. No emissions are assumed for the currently unoccupied portion of the Project site.

b. Represents emissions associated with the Project. Emissions are modeled for the first operational year of 2016. Modeling accounts for the following design strategies: solid waste recycle rate of about 59 percent; and Title 24 standard (based on the 2010 Building Energy Efficiency Standards) for electricity and natural gas usage.

c. Represents the net Project impact, or the change in emissions relative to existing conditions.

d. The Project buildout would have capacity of approximately 1,300 office employees. The 3.5 Service Population threshold was calculated by dividing net GHG emissions by the number of employees at buildout (4540/1300), for a project Service Population of 3.5.

In addition, the MTC and ABAG are responsible for developing the local sustainable community strategy (SCS) that implements SB 375 GHG reductions. On July 18, 2013, MTC and ABAG jointly approved *Plan Bay Area*, which is the region's 2040 Regional Transportation Plan and includes the region's SCS. The SCS is required to promote compact, mixed-use commercial and residential development and *Plan Bay Area* fulfills this requirement by accelerating efforts to emphasize, encourage, and expand infill growth and development. Because the Project would include redevelopment of previously developed parcels, the Project is consistent with the goals of *Plan Bay Area* to promote infill development, thereby ensuring consistency with SB 375 reduction requirements.

Table 3.5-6. Climate Action Plan Strategies to be Implemented at the Community Level

CAP Strategies	Project Compliance
Energy Efficiency	
Consider adopting Sustainable Development/Green Building standards that exceed California's 2010 Green Building Code (CalGreen) for Residential and Commercial	The Project would meet CalGreen/Title 24 and any amendments required by the City, which would provide 15 percent greater energy efficiency than the California Energy Code. Project lighting would be designed to follow the performance standards set by LEED.
Consider actively marketing and providing additional incentives for residents to participate in the new Regional Energy Upgrade California Program	This strategy is not applicable to local development as it is a City-sponsored education program designated for further study.
Expand Menlo Park Municipal Water District Conservation Programs	This strategy is not applicable to local development as it is a City-sponsored program designated for further study.
Consider developing an Energy Efficiency/ Renewable Energy Program for Residential sector	This strategy is not applicable to local development as it is a City sponsored program designated for residential sector and not commercial.
Develop a commercial energy efficiency program to encourage businesses to participate in a free energy efficiency audit when business license is issued or renewed	This strategy is not applicable to local development as it is a City-sponsored program designated for further study.
Consider local energy efficiency and renewable energy financing program	This strategy is not applicable to local development as it is a City-sponsored program designated for further study.
Consider development of an ordinance for energy and water efficiency standards for transfer of title transactions	This strategy is not applicable to local development as it is a City-sponsored program designated for further study.
Transportation	
Consider amending the City's General Plan to include new sustainability policies, goals and programs	These strategies are designated for further study and would be City-sponsored policies, goals and programs that are not developed at this time and therefore not applicable to the Project.
Consider social marketing programs/ campaigns to promote alternative transportation (walking, biking, public transit, etc.)	This strategy is not applicable to local development as it is a City-sponsored education program designated for further study. The Project's TDM program already includes this.

Table 3.5-6. Climate Action Plan Strategies to be Implemented at the Community Level

CAP Strategies	Project Compliance
Consider implementation for City Car Sharing Program	The Project would have parking spaces available for the implementation of car share programs.
Implement Bike Improvements	The Project would include bicycle storage facilities and showers and changing rooms.
Solid Waste	
Consider adopting a Zero Waste Policy with 75 percent diversion by 2020 and 90 percent diversion by 2030.	These strategies are designated for further study and would be City-sponsored infrastructure and/or ordinance efforts to reduce solid waste disposal that would not be applicable to a land use project.
Consider adopting a mandatory Commercial Recycling Ordinance	These strategies are designated for further study and would be City-sponsored infrastructure and/or ordinance efforts to reduce solid waste disposal that would not be applicable to a land use project. The Project would recycle 50 percent of its office waste and compose the food waste. In addition, the Project would recycle approximately 75 percent of all debris resulting from demolition and excavation activities during construction.
Other	
Establish Climate Action Plan monitoring and progress reporting program	These strategies are designated for further study and would be City-sponsored policies, goals, and programs that are not applicable to the Project.
Expand Green Business Certification Program/Include Green Business education to new business permit applicants	This strategy is not applicable to local development as it is a City-sponsored education program designated for further study.
Consider amending the City's General Plan to include a "GHG Reduction Strategy" as outlined in the new CEQA Guidelines	These strategies are designated for further study and would be City sponsored policies, goals and programs that are not developed at this time and therefore not applicable to the Project.
Develop social marketing campaign to educate residents on reducing their personal greenhouse gas emissions.	This strategy is not applicable to local development as it is a City sponsored education program designated for further study.
Develop a promotion and education program to encourage local and or organic food production	This strategy is not applicable to local development as it is a City sponsored education program designated for further study.

Table 3.5-6. Climate Action Plan Strategies to be Implemented at the Community Level

CAP Strategies	Project Compliance
Consider an educational program and/or local ordinance to limit vehicle idling	This strategy is not applicable to local development as it is a City-sponsored program and ordinance designated for further study. Additionally, the ARB has already implemented a heavy-duty truck idling emission reduction program that restricts truck idling to five minutes.
Research opportunities to improve methane capture at Marsh Road Landfill (Methane Emissions Mitigation)	These strategies are designated for further study and would be City-sponsored infrastructure and/or ordinance efforts to reduce emissions from solid waste disposal at a specific facility that would not be applicable to a land use project.
Source: City of Menlo Park. 2011. Climate Action Plan Assessment Report. July, Available: http://www.menlopark.org/departments/env/Menlo_CAP_Assessment_Report_2010_12_14_draft_final_final6.pdf. Accessed: October 2013; ICF 2013.	

The Project would not conflict with any applicable plans or policies that do not require speculation as to future emission reductions that could occur based on technologies not yet developed. Therefore, the Project's impact relative to conflicts with applicable plans and policies would be ***less than significant***.

Impact GHG-4: Exposure of Property and People to Climate Change. The Project would not result in the exposure of property and persons to the physical effects of climate change, including flooding, public health, and wildfire risk. (LTS)

As discussed earlier under *Predicted Effect of Climate Change*, several impacts on the environment are expected throughout California as a result of global climate change. The extent of these effects is still being defined as climate modeling tools become more refined. Regardless of the uncertainty in precise predictions, it is widely understood that substantial climate change is expected to occur in the future. As discussed above, potential climate change impacts in California and the Bay Area include sea level rise, extreme heat events, increased energy consumption, increase in infectious diseases and respiratory illnesses, reduced snowpack and water supplies, increased water consumption, and potential increase in wildfires.

The Project site is located in an area subject to future sea level rise inundation. According to the National Oceanic and Atmospheric Administration (NOAA) online Sea Level Rise and Coastal Flooding Impact Viewer,[52] and maps available from the BCDC,[53] the northern portion of the Jefferson Site would potentially be subject to inundation with an expected mid-century sea level rise (1.3 and 1.57 feet by 2050). The buildings at the Commonwealth Site would not be subject to mid-century sea level rise.

[52] NOAA. 2013. Sea Level Rise and Coastal Flooding Impact Viewer. Accessed: October 28, 2013. Available: http://csc.noaa.gov/digitalcoast/tools/slrviewer.

[53] San Francisco Bay Conservation and Development Commission. 2007. San Francisco Bay Scenarios for Sea Level Rise Index Map. Available: http://www.bcdc.ca.gov/planning/climate_change/index_map.shtml. Accessed: April 16, 2013.

In addition to sea level rise, a range of other potential climate change impacts may affect the Project, including increased temperatures and heat stress days. However, the Project would not exacerbate these issues; rather, energy efficient building materials associated with the Project could reduce potential heat-related climate change impacts on employees. Likewise, while regional water supplies are subject to potential future climate change effects that could impact water supplies, the Project includes water-efficiency measures that would help alleviate demand for scarce statewide water resources. The Project would provide landscaping throughout the Project site with a variety of shade trees planted in the surface parking lot, which would also help reduce the heat island effect that may be exasperated by the increased frequency of heating days due to climate change.

As identified above, although the Project site could potentially be affected by the projected sea level rise from mid-century to the end of century, it is unknown if the Project would be in existence at this time. Moreover, the Project would incorporate designs to reduce exposure of property or persons to the potential effects of climate change. Consequently, the impact of climate change on the Project is considered ***less than significant***.

Cumulative Impacts

GHGs and climate change are exclusively cumulative impacts, and there is no non-cumulative GHG emission impact from a climate change perspective.[54] Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. GHGs are emitted by countless sources worldwide, accumulate in the atmosphere and have long atmospheric lifetimes. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative. In accordance with scientific consensus regarding the cumulative nature of GHGs, the analysis above considers the cumulative contribution of project-related GHG emissions and no additional cumulative impact analysis has been provided.

[54] California Air Pollution Control Officers Association. 2008. CEQA & Climate Change. January. Available: <http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf>. Accessed: January 10, 2014.

3.6 Noise

This section describes the affected environment and regulatory setting for noise. It also describes the noise impacts that would result from implementation of the Commonwealth Corporate Center Project (Project) and provides mitigation measures that would reduce these impacts, where applicable. Technical noise data is provided in Appendix 3.6-1. Cumulative and growth-inducing impacts are discussed at the end of this section.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified pertain to the noise and vibration levels that would be generated by construction activities and the traffic noise from US 101 that the proposed buildings could potentially reflect to the residential neighborhoods south of US 101.

Existing Conditions

Regulatory Setting

City of Menlo Park General Plan. The California Government Code requires that a noise element be included in the general plan of each county and city in the state. The noise element establishes the local government's goals, objectives, and policies relating to noise control. The Noise Element of the City of Menlo Park's (City's) General Plan establishes goals and policies for assuring that existing and proposed land uses are compatible with their noise environments. To this end, the City has adopted quantitative exterior noise compatibility criteria for various land uses. The purpose of these criteria is to reduce the potential adverse noise effects of new developments on people, including sleep disturbance, interference with speech communication, and the general sense of dissatisfaction that is often associated with high noise exposure.

Under the City's Noise Element, noise levels up to 65 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) are considered normally acceptable for residential and hotel uses, while noise levels are conditionally acceptable up to 70 dBA CNEL for these uses as long as noise insulation features are included in the design to reduce interior noise levels. For schools, noise levels up to 70 dBA CNEL are normally acceptable and up to 80 dBA are normally unacceptable. For office and industrial uses, noise levels up to 70 dBA CNEL are considered normally acceptable, and levels up to 77.5 dBA CNEL are conditionally acceptable.

The following goal and policies from the Noise Element of the City's General Plan pertain to the Project.

> **Goal NI:** Achieve Acceptable Noise Levels.
>
> *Policy N1.1:* Compliance with Noise Standards. Require new projects to comply with the noise standards of local, regional, and building code regulations.
>
> *Policy N1.2:* Land Use Compatibility Noise Standards. Protect people in new development from excessive noise by applying the City's Land Use Compatibility Noise Standards for New Development to the siting and required mitigation for new uses in existing noise environments.
>
> *Policy N1.4:* Noise Sensitive Uses. Protect existing residential neighborhoods and noise sensitive uses from unacceptable noise levels and vibration impacts.
>
> *Policy N1.7:* Noise and Vibration from New Non-Residential Development. Design non-residential development to minimize noise impacts on nearby uses. Where vibration impacts may occur,

reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration (FTA) near rail lines and industrial uses.

Policy N1.8: Potential Annoying or Harmful Noise. Preclude the generation of annoying or harmful noise on stationary noise sources, such as construction and property maintenance activity and mechanical equipment.

City of Menlo Park Municipal Code. In addition to the General Plan, the City's Municipal Code also contains noise regulations. Chapter 8.06 of the Municipal Code contains noise limitations and exclusions for land uses within the City. The Noise Ordinance addresses noise limits that would constitute a noise disturbance, primarily as measured on residential land uses. The following Municipal Code regulations would be applicable to the Project.

8.06.030 Noise Limitations

a. Except as otherwise permitted in this chapter, any source of sound in excess of the sound level limits set forth in Section 8.06.030 shall constitute a noise disturbance. For purposes of determining sound levels from any source of sound, sound level measurements shall be made at a point on the receiving property nearest where the sound source at issue generates the highest sound level.

    1. For all sources of sound measured from any residential property:

        A. "Nighttime" hours (10:00 p.m. to 7:00 a.m.)—50 dBA

        B. "Daytime" hours (7:00 a.m. to 10:00 p.m.)—60 dBA

8.06.040 Exceptions

a. Construction Activities

    1. Construction activities between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday.

    4. Notwithstanding any other provision set forth above, all powered equipment shall comply with the limits set forth in Section 8.06.040(b).

b. Powered Equipment

    1. Powered equipment used on a temporary, occasional or infrequent basis operated between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday. No piece of equipment shall generate noise in excess of 85 dBA at 50 feet.

c. Deliveries

    1. Deliveries to food retailers and restaurants.

    2. Deliveries to other commercial and industrial businesses between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. Saturdays, Sundays and holidays.

8.06.050 Exemptions

a. Sound Generated by Motor Vehicles. Sound generated by motor vehicles, trucks and buses operated on streets and highways, aircraft, trains, and other public transport.

    1. This exemption shall not apply to the operation of any vehicle including any equipment attached to any vehicle (such as attached refrigeration and/or heating units or any attached auxiliary equipment) for a period in excess of 10 minutes in any hour while the vehicle is stationary, for reasons other than traffic congestion.

Environmental Setting

Fundamentals of Environmental Noise and Vibration

Terminology

A brief description of noise and vibration concepts and terminology used in this assessment is provided below.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water and capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used for environmental noise assessments.
- **Maximum Sound Levels (L_{max}).** The maximum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq})**. The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy. The 1-hour A-weighted equivalent sound level (L_{eq} 1h) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10-dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within one dBA of each other and, for all intents and purposes, are interchangeable.
- **Vibration Velocity Level (or Vibration Decibel Level, VdB).** The root mean square velocity amplitude for measured ground motion expressed in dB.
- **Peak Particle Velocity (PPV).** A measurement of ground vibration defined as the maximum speed at which a particle in the ground is moving, expressed in inches per second (in/sec).

Overview of Noise and Sound

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of

an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process referred to as *A-weighted decibels* (dBA). Table 3.6-1 summarizes typical A-weighted sound levels for different noise sources.

Table 3.6-1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: California Department of Transportation 2009.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear; a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, for example, this means that the volume of traffic on a roadway would typically needs to double to result in a noticeable increase in noise.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source such as free flowing traffic

on a freeway, sound attenuates at a rate of 3 dB per doubling of distance.[1] Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Community noise environments are generally perceived as *quiet* when the 24-hour average noise level is below 45 dBA, *moderate* in the 45 to 60 dBA range, and *loud* above 60 dBA. Very noisy urban residential areas are usually around 70 dBA CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA CNEL. Increments of 3 to 5 dB to existing 1-hour L_{eq}, or to the CNEL, are commonly used as thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be sufficiently protective in areas where noise-sensitive uses are located and CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended.[2] Noise intrusions that cause short-term interior levels to rise above 45 dBA at night can disrupt sleep. Exposures to noise levels greater than 85 dBA of 8-hours or longer can cause permanent hearing damage.

Overview of Ground-borne Vibration

Ground-borne vibration is an oscillatory motion of the soil with respect to the equilibrium position and can be quantified in terms of velocity or acceleration. Ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, as it can cause buildings to shake and generate rumbling sounds. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and operating heavy earth-moving equipment.

Ground-borne vibration can be quantified by its peak or root-mean-square (RMS) velocity amplitudes. The RMS amplitude is useful for assessing human annoyance; the RMS amplitude is expressed in terms of the velocity level in decibel units (VdB). The peak amplitude is most often used for assessing the potential for damage to building structures; the peak amplitude is typically assessed in terms of peak particle velocity (PPV), measured in inches per second.

In extreme cases, ground-borne vibrations can cause damage to buildings. Building damage is not a factor for normal transportation projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance is well below the damage threshold for normal buildings.

Table 3.6-2 summarizes the typical ground-borne vibration velocity levels and average human response to vibration that may be anticipated when a person is at rest in quiet surroundings. If the person is engaged in any type of physical activity, vibration tolerance increases considerably. The duration of the

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1 California Department of Transportation 2009. "Caltrans Technical Noise Supplement." November. Available: <http://www.dot.ca.gov/hq/env/noise/.> Accessed: August 14, 2012.

2 Federal Transit Administration. 2006. "Transit Noise and Vibration Impact Assessment." FTA-VA-90-1003-06. Office of Planning and Environment.

event has an effect on human response, as does its daily frequency of occurrence. Generally, as the duration and frequency of occurrence increase, the potential for adverse human response increases.

Table 3.6-2. Typical Levels of Ground-Borne Vibration

Human or Structural Response	Vibration Velocity Level (VdB)	Typical Sources (50 feet from source)
Threshold for minor cosmetic damage to fragile buildings	100	Blasting from construction project
		Bulldozer or heavy tracked construction equipment
Difficulty in reading computer screen	90	
		Upper range of commuter rail
Threshold for residential annoyance for occasional events (e.g. commuter rail)	80	Upper range of rapid transit
Threshold for residential annoyance for frequent events (e.g. rapid transit)		Typical commuter rail. Bus or truck over bump
	70	Typical rapid transit
Approximate threshold for human perception of vibration Limit for vibration sensitive equipment		Typical bus or truck on public road
	60	
		Typical background vibration
	50	

Source: Federal Transit Administration 2006.

The background vibration velocity level in residential areas is usually around 50 VdB or lower. The vibration velocity level threshold of perception for humans is approximately 65 VdB. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are heavy construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration from traffic is rarely perceptible.

Ground-borne noise is a secondary phenomenon of ground-borne vibration. When building structure vibrates, noise is radiated into the interior of the building. Typically, this is a low frequency sound that would be perceived as a low rumble. The magnitude of the sound depends on the frequency characteristic of the vibration and the manner in which the room surfaces in the building radiate sound. Ground-borne noise is quantified by the A-weighted sound level inside the building. The sound level accompanying vibration is generally 25 to 40 dBA lower than the vibration velocity level in VdB. Ground-borne vibration levels of 65 VdB can result in ground-borne noise levels up to 40 dBA, which can disturb sleep. Ground-borne vibration levels of 85 VdB can result in ground-borne noise levels up to 60 dBA, which can be annoying to daytime noise-sensitive land uses such as schools.[3]

Existing Noise Levels

The Project site is generally bound to the north and west by commercial buildings, to the southwest by US 101, and to the south by the Dumbarton Rail Corridor. The Dumbarton Rail Corridor is currently not

[3] Federal Transit Administration. 2006. "Transit Noise and Vibration Impact Assessment." FTA-VA-90-1003-06. Office of Planning and Environment.

in use for any railroad operations. Therefore, the rail corridor is not an existing source of noise and vibration in the area.

Noise-sensitive land uses[4] in the Project vicinity include single family residences located south of the Project site across US 101, and Beechwood School, which is located southeast of the Project site across the Dumbarton Rail Corridor. Joseph P. Kelly Park, located directly to the east of the Project site, is primarily used for active recreation, such as soccer and baseball activities; therefore, it is not considered a noise-sensitive land use for this analysis.

The existing ambient noise environment in the Project area is characteristic of an urban environment (e.g., local traffic, aircraft overflights, and commercial and industrial noise sources). To quantify existing ambient noise levels in the Project vicinity, continuous (24-hour) and short-term (15-minute) ambient noise measurements were conducted on April 23, 2013 and April 25, 2013 at various locations around and on the Project site. Noise measurement data is included in Appendix 3.6-1. Figure 3.6-1 shows the long-term and short-term noise measurement locations. Table 3.6-3 summarizes the results of the noise measurements. The ambient noise level measured at the southwest of the Project site facing US 101 was about 75.2 dBA CNEL with the average daytime L_{eq} of 70.5 dBA (7:00 a.m. to 10:00 p.m.) and nighttime L_{eq} of 68.0 dBA (10:00 p.m. to 7:00 a.m.). Vehicular traffic on US 101 is the primary source of noise in the Project vicinity.

Table 3.6-3. Noise Levels Measurements at Selected Locations in/around the Project Site

Site	Site Description	Date and Time	Primary Noise Sources	Measured Noise Level (dBA)		
				CNEL	L_{eq}	L_{max}
LT1	Southwest of the existing building inside of the property, facing US 101	4/23/2013 at 1:00 p.m. to 4/25/2013 at 12:00 p.m.	Traffic on US 101	75.2	Daytime: 70.5; Nighttime: 68.0	--
ST1	Kelly Park parking lot at the end of Terminal Avenue	4/23/2013 at 1:40 p.m.	Traffic on US 101; school soccer activity	--	59.2	66.1
ST2	Sidewalk in front of 259 Hedge Road	4/25/2013 at 12:50 p.m.	Traffic on US 101 and Hedge Road	--	60.3	71.7
ST3	Sidewalk in front of 227 Hedge Road	4/25/2013 at 12:15 p.m.	Traffic on US 101 and Hedge Road	--	58.0	67.2
ST4	Parking lot behind the Exponent building at 149 Commonwealth Drive	4/23/2013 at 1:05 p.m.	Traffic on US 101	--	64.4	68.3

Note: See Appendix 3.6-1 for data sheets.
LT = continuous (24-hour) ambient noise measurement.
ST = short-term (15-minute) ambient noise measurement.

[4] Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include single and multi-family residential areas, health care facilities, lodging facilities, and schools. Recreational areas where quiet is an important part of the environment can also be considered sensitive to noise. Some commercial areas may be considered noise sensitive as well, such as the outdoor restaurant seating areas.

Existing Ground-borne Vibration Levels

The most common sources of ground-borne vibration in the Project area and the City are construction activities and roadway truck traffic. Heavy trucks currently transport goods and materials along US 101 surrounding the Project site. Large delivery trucks typically generate ground-borne vibration velocity levels around 63 VdB at 50 feet from the source.[5] As described above, the vibration velocity level threshold of perception for humans is approximately 65 VdB. Therefore, existing traffic vibration is neither distinctly nor generally perceptible. Additionally, vibration velocity levels around 63 VdB would generally not produce ground-borne noise that would disturb sleep.

Environmental Impacts

This section describes the impact analysis relating to noise for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

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

This analysis uses the General Plan's land use compatibility guidelines and the City's Noise Ordinance to assess the noise exposure of land uses in the Project vicinity. The General Plan sets the outdoor noise threshold of 70 dBA CNEL for new office buildings. The Noise Ordinance establishes a daytime noise level limit of 60 dBA L_{eq} for noise increases from all sources (except construction sources) at existing residential land uses and a noise level limit of 85 dBA L_{max} at 50 feet for operation of construction equipment. The Noise Ordinance does not provide a daytime noise limit for existing school uses; therefore, this analysis uses a noise limit of 70 dBA L_{eq} for noise increases at existing schools. This is consistent with the noise limit established in the General Plan's land use compatibility guidelines.

[5] Federal Transit Administration. 2006. "Transit Noise and Vibration Impact Assessment." FTA-VA-90-1003-06. Office of Planning and Environment.

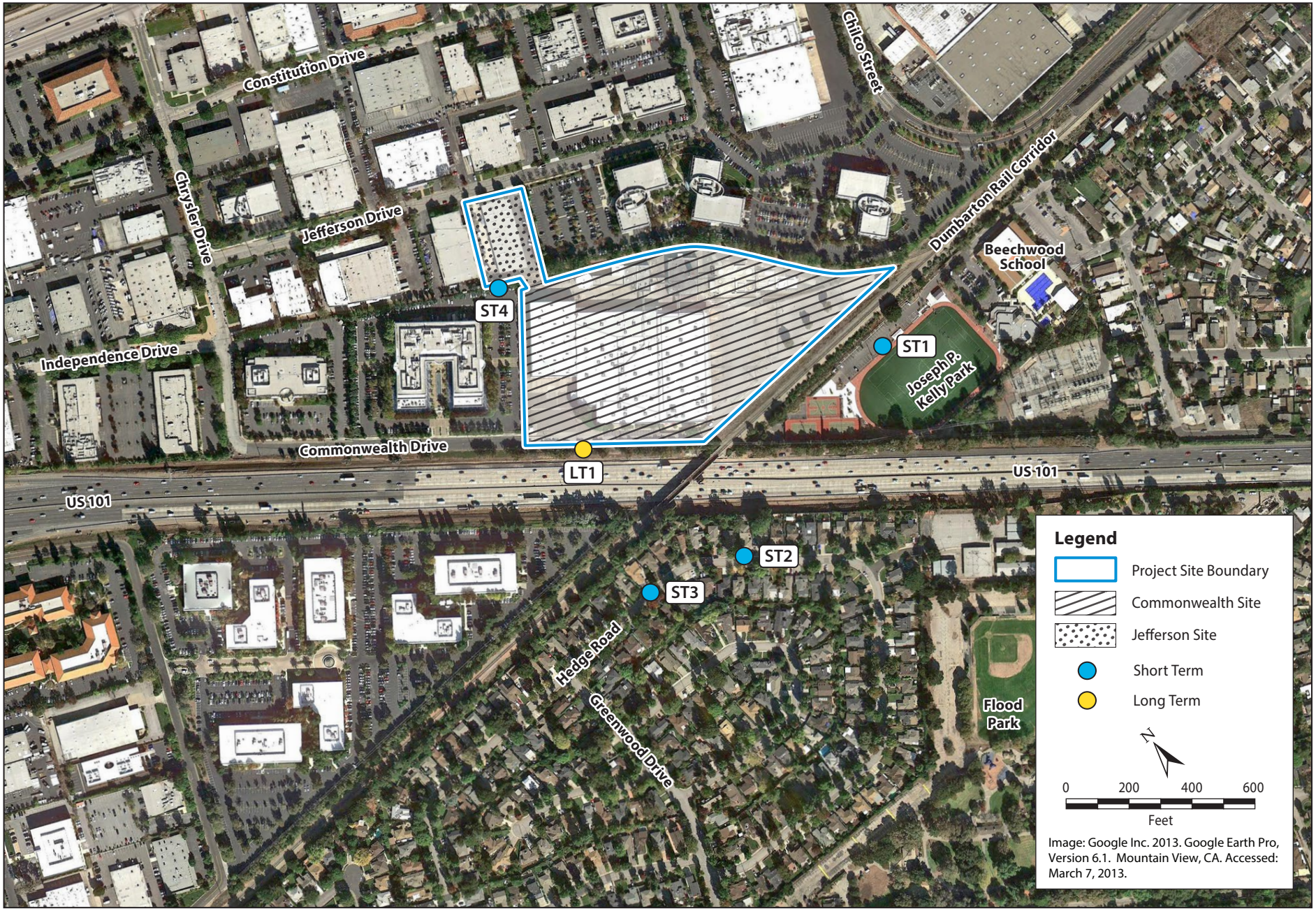

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Figure 3.6-1
Noise Measurement Locations

Neither the General Plan nor the Noise Ordinance establishes thresholds for ground-borne vibration or noise. The Federal Transit Administration (FTA) vibration and noise impact thresholds for infrequent events are used to assess ground-borne vibration and noise. Infrequent events are defined as fewer than 30 vibration events of the same kind per day. The thresholds for residences and buildings where people normally sleep are 80 VdB for ground-borne vibration and 43 dBA for ground-borne noise, which are the thresholds for residential annoyance for occasional events. The ground-borne vibration threshold for buildings where vibration would interfere with interior equipment operations is 65 VdB. Vibration-sensitive equipment is generally not sensitive to ground-borne noise; therefore, no corresponding ground-borne noise threshold is established.

Neither the General Plan nor the Noise Ordinance establishes thresholds for increased traffic noise as a result of a project. For this analysis, a significant traffic noise impact would occur if the Project would result in an increase in Project traffic noise of greater than 3 dB above the traffic noise levels without the Project at the neighborhoods along major Project traffic access roadways. The 3 dB is generally considered to be the threshold of a perceptible change.

In accordance with the California Environmental Quality Act (CEQA), City regulations, and professional standards, the Project's noise impact would be considered significant if the Project would result in any of the following.

- Generate construction equipment noise in excess of 85 dBA L_{max} at 50 feet from the construction site.
- Expose the onsite outdoor common areas to noise greater than 70 dBA CNEL.
- Result in Project operation noise of greater than 60 dBA L_{eq}.at nearby residences and 70 dBA L_{eq} at the Beechwood School.
- Result in an increase in Project traffic noise of greater than 3 dB above the traffic noise levels without the Project at the neighborhoods along major Project traffic access roadways.
- Generate ground-borne vibration and noise at nearby office buildings in excess of 65 VdB and at nearby residences in excess vibration level of 80 VdB and noise level of 43 dBA.

Methods for Analysis

This noise impact analysis evaluates the temporary noise increase associated with Project construction activities, operational noise generated by sound-generating equipment and onsite activities, traffic noise associated with Project-related changes in traffic patterns, and the exposure of Project site to traffic noise.

Noise impacts associated with onsite demolition and construction activities were evaluated using the noise calculation method and construction equipment noise data in the Federal Highway Administration (FHWA) roadway construction noise model (RCNM). The noise data include the A-weighted L_{max}, measured at a distance of 50 feet from the construction equipment and the utilization factors for the equipment. The utilization factor is the percentage of time each piece of construction equipment is typically operated at full power over the specified time period and is used to estimate L_{eq} values from L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power over 50 percent of the time is 3 dB less than the L_{max} value.[6]

[6] Federal Highway Administration. 2006. "FHWA Roadway Construction Noise Model User's Guide." FHWA-HEP-05-054. January.

Noise impacts associated with increased traffic volumes generated by the Project were evaluated for the existing condition, existing plus Project condition, cumulative no Project condition, and cumulative plus Project condition, using a spreadsheet based on the FHWA traffic noise model (TNM). This spreadsheet calculates the traffic noise level at a fixed distance from the centerline of a roadway based on the traffic volume, roadway speed, and vehicle mix that is predicted to occur under each condition. Peak hour intersection traffic volumes and average daily traffic volumes shown in Section 3.3 *Transportation and Traffic* were utilized to determine the traffic noise impact along the major project traffic access routes. The vehicle mix (i.e., the proportion of automobiles, trucks, buses, and other vehicles) for future and Project-related traffic was adjusted consistent with the existing conditions vehicle mix. Traffic noise was evaluated in terms of how Project-related traffic noise increases could affect existing noise-sensitive land uses along the major Project traffic access roadways (Willow Road and Marsh Road) and how the Project uses could be affected by noise from traffic on US 101.

Operational noise impacts associated with the proposed onsite activities and stationary sources were evaluated based on the proposed layout and the types of noise generating equipment and noise generating activities provided by the Sobrato Organization (Project Sponsor).

Noise generated by point sources (e.g., construction equipment and stationary operational equipment) was estimated to include point-source attenuation of 6 dB per doubling of distance. Noise generated by line sources (e.g., vehicles traveling on streets) was estimated to include line-source attenuation of 3 dB per doubling of distance from the noise source.

Impacts Not Evaluated In Detail

Adjacency to Airports. The closest airport to the Project site is the Palo Alto Airport Terminal, located approximately 3.4 miles to the southeast. This general aviation airport does not serve commercial aviation and has one runway; the majority of the aircraft operations are small, single engine planes.[7] This airport does not have an adopted Airport Land Use Compatibility Plan, and the Project site is more than 2 miles from the airport. Additionally, this airport has noise abatement policies and procedures in place to limit aircraft noise during departures and landings.[8] Therefore, the Project would not be exposed to excessive noise from this airport. The closest airport with an adopted airport land use plan is the San Carlos Airport, located about 4.8 miles to the northwest. This airport is included in the San Mateo County Comprehensive Airport Land Use Plan, adopted in December 1996. The Project site is not located within the 55 dBA noise contour of this airport.[9] There would be ***no impacts*** related to operations from public or private airports and, therefore, these impacts are not evaluated further.

[7] AirNav.com. 2013. "KPAO—Palo Alto Airport of Santa Clara County." Available: <http://www.airnav.com/airport/KPAO.> Accessed: October 21, 2013.

[8] County of Santa Clara Airports Department. 2013. "Noise Abatement Policy/Recommended Procedures." Available: <http://www.countyairports.org/pao-noise.html.> Accessed October 21, 2013.

[9] County of San Mateo. 2002. San Carlos Airport Master Plan Update Airport Modernization Project Draft Environmental Impact Report.

Impacts and Mitigation Measures

Impact NOI-1: Substantial Temporary or Periodic Increase in Noise Levels. The Project could generate construction equipment noise in excess of 85 dBA L_{max} at 50 feet from the construction equipment. (PS)

Project construction is proposed to begin in April 2014, with a total duration of approximately 15 months. However, the highest anticipated noise levels are expected to occur at the beginning of Project construction during the demolition and grading phases. The construction activities would be limited to the hours between 8:00 a.m. and 6:00 p.m. from Monday to Friday in compliance with the Menlo Park Municipal Code.

Project construction would require the use of heavy equipment that would temporarily increase noise levels near the work sites. Construction activities are expected to include building demolition, excavation/grading, building construction, and landscaping/paving activities. Table 3.6-4 presents the typical L_{max} of the construction equipment that would be used for the Project's construction work and the corresponding average total L_{eq} levels for each construction activity. The A-weighted L_{max} levels area measured at a distance of 50 feet from the construction equipment, and the utilization factors for the equipment are defined as the fraction of time that the equipment typically runs at maximum capacity. The utilization factor is used to estimate L_{eq} values from L_{max} values. The average total L_{eq} for each construction activity is determined by combining the L_{eq} for all equipment to be used for the construction activity.

Note that the noise levels in Table 3.6-4 are typical values based on the typical construction equipment that is likely to be used for Project construction; thus, there could be wide fluctuations in the noise levels, depending on actual site-specific conditions and the type and mix of equipment used at the construction site. Regardless, the expected construction noise levels at nearby noise sensitive land uses, discussed below, have been calculated using the shortest distance between the construction activities and the land uses, and thus present the worst-case scenario. In general, construction equipment would operate throughout the Project site on a daily and monthly basis and would only occasionally be operating on the edges of the construction site closest to the adjacent uses. Therefore, exposures to substantially high noise levels during construction are expected to be intermittent and short term.

As shown in Table 3.6-4, the construction equipment used for the Project would generate L_{max} and L_{eq} noise level in excess of the Noise Ordinance limit of 85 dBA at a distance of 50 feet during the building demolition, excavation, and grading activities. When the construction activities occur in the northern portions of the Project site, the operation of heavy construction equipment could potentially result in a substantial temporary increase in ambient noise at the adjacent commercial and office uses adjacent to the Project site. The adjacent buildings are between 50 and 150 feet from the existing buildings on the Project site. The construction activities could generate the loudest L_{eq} noise levels of 86 dBA at 50 feet and 76 dBA at 150 feet during the building demolition phase,[10] which exceed the Noise Ordinance exterior noise limit of 85 dBA at a distance of 50 feet and are substantially higher than the measured ambient level of 64.4 dBA L_{eq} in the area (site ST4). Therefore, impacts related to construction noise on adjacent commercial and office uses are considered ***potentially significant***.

[10] Based on the formula dBA at D feet = dBA at 50 feet – 20 x log (D/50), the noise levels at 150 feet from the source (86 dBA at 50 feet) is 76 dBA.

Normal construction materials and techniques typically provide 25 to 35 dB of noise reduction with closed windows.[11] Conservatively assuming noise reduction of 25 dB, the interior noise levels at the adjacent office buildings are expected to be about 61 dBA at 50 feet and 51 dBA at 150 feet during the building demolition phase. The City does not have an interior noise standard for office or school uses. However, these noise levels are consistent with typical office and speech noise levels indicated in Table 3.6-1. The Beechwood School is approximately 350 feet from the Project boundary. During the excavation/grading phase in the southeastern portions of the Project site, the construction activities could generate the loudest L_{eq} noise level of approximately 69 dBA at the school building. Although the noise level is higher than the measured ambient level of 59 dBA L_{eq} in the area (site ST1), it is lower than the General Plan exterior noise limit of 70 dBA for school uses. Furthermore, when construction occurs in the southeastern portions of the Project site, the interior noise levels experienced at the classrooms are expected to be about 44 dBA L_{eq}, While the City does not have an noise standard for school uses, Caltrans indicates that an interior noise level of 52 dBA L_{eq} is acceptable for school uses.[12] Therefore, using Caltrans standards, impacts on Beechwood School that are related to construction noise are considered ***less than significant***.

The nearest residences are located south of the Project site, separated by US 101, approximately 350 feet from the existing buildings on the Commonwealth Site. There are noise walls behind these first-row residences to reduce traffic noise from US 101 that would also provide noise abatement of about 8 to 10 dBA[13] for construction noise generated at the Project site. The construction activities could generate the loudest L_{eq} noise level of 59–61 dBA at 350 feet during the building demolition phase, which are similar to the measured ambient levels of 58 to 60 dBA L_{eq} in this residential area (sites ST2 and ST3). Therefore, impacts on the residential area that are related to construction noise are considered ***less than significant***.

Table 3.6-4. Typical Noise Levels for Construction Equipment and Activity

Equipment	Typical L_{max} at 50 feet from Source (dBA)	Acoustical Utilization Factor (%)	Average L_{eq} at 50 feet from Source (dBA)
Demolition	-	-	86[a]
Concrete/Industrial Saw	90	20	83
Dozer	82	40	78
Excavator	81	40	77
Tractor/Loader/Backhoe	84	40	80
Excavation/Grading	-	-	86[a]
Dozer	82	40	78
Excavator	81	40	77
Grader	85	40	81
Scraper	84	40	80
Tractor/Loader/Backhoe	84	40	80

[11] FHWA 2011. Highway traffic noise: analysis and abatement guidance. Washington, D.C.

[12] Caltrans 2011. Caltrans traffic noise analysis protocol. Sacramento, CA.

[13] Federal Highway Administration. 2006. "FHWA Roadway Construction Noise Model User's Guide." FHWA-HEP-05-054. January.

Table 3.6-4. Typical Noise Levels for Construction Equipment and Activity

Equipment	Typical L_{max} at 50 feet from Source (dBA)	Acoustical Utilization Factor (%)	Average L_{eq} at 50 feet from Source (dBA)
Building Construction	-	-	84 [a]
Concrete Mixer Truck	79	40	75
Crane	81	16	73
Generator	81	50	78
Man Lift	75	20	68
Tractor/Loader/Backhoe	84	40	80
Landscaping/Paving	-	-	82 [a]
Compressor	78	40	74
Concrete Mixer Truck	79	40	75
Paver	77	50	74
Roller	80	20	73
Welder	74	40	70

Note:
[a] Total noise level for each phase was calculated by combining the noise levels of all equipment to be used for the activity.
Source: Federal Highway Administration 2006.

MITIGATION MEASURES. Implementation of Mitigation Measure NOI-1.1 would reduce construction-related impacts to a less-than-significant level.

NOI-1.1: Implement Noise Control Measures to Reduce Construction Noise during Project Construction. The Project Sponsor shall implement the following measures during demolition and construction of the Project.

- To the extent feasible, the noisiest construction activities, such as demolition and grading activities, shall be scheduled during times that would have the least impact on nearby office uses. This could include restricting construction activities in the areas of potential impact to the early and late hours of the work day, such as from 8:00 a.m. to 10:00 a.m. or 4:00 p.m. to 6:00 p.m., Monday through Friday.
- Equipment and trucks used for Project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

- Construction contractors, to the maximum extent feasible, shall be required to use "quiet" gasoline-powered compressors or other electric-powered compressors, and use electric rather than gasoline or diesel powered forklifts for small lifting.
- Stationary noise sources, such as temporary generators, shall be located as far from nearby receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible.
- Install temporary noise barriers eight feet in height around the construction site to minimize construction noise to 90 dBA as measured at the applicable property lines of the adjacent uses, unless an acoustical engineer submits documentation that confirms that the barriers are not necessary to achieve the attenuation levels.
- Trucks shall be prohibited from idling along streets serving the construction site.

Impact NOI-2: Expose Onsite Users to Excessive Noise Levels. The Project would not expose the onsite outdoor common areas to noise greater than 70 dBA CNEL. (LTS)

Vehicular traffic on US 101 is the primary source of noise on the Project site. The ambient noise level measured at Project site approximately 130 feet to the center of US 101 was 75.2 dBA CNEL (site LT1). The proposed outdoor common areas would be located between the two new buildings, approximately 340 feet from the center of US 101 and behind the Building 1 approximately 420 feet from the center of US 101.

Due to acoustical shielding from the four-story buildings[14] and additional setback[15] of the outdoor areas, traffic noise transmitted to the outdoor areas between two new buildings would be about 9 dB quieter than under existing conditions. Therefore, traffic noise levels at the outdoor areas would be approximately 66 dBA CNEL, which is less than the exterior noise standard of 70 dBA CNEL required by the General Plan for new office developments. Therefore, the exterior noise impact on the Project site is ***less than significant***.

Impact NOI-3: Expose Sensitive Receptors to Excessive Noise Levels. The Project would not expose the nearby residences or Beechwood School to Project operation noise of greater than 60 dBA L_{eq} at nearby residences and 70 dBA L_{eq}.at Beechwood School. (LTS)

Operation of the Project would consist of typical office activities. Noise sources associated with the Project include stationary mechanical equipment (e.g. HVAC units, emergency generators), parking lot activities, and truck loading activities. Existing noise-sensitive land uses that could be affected by operational noise from the Project include single-family residences located south of the Project site across US 101 and the Beechwood School located southeast of the Project site. Table 3.6-3 shows that daytime ambient noise levels measured at the residential area (sites ST2 and ST3) are between 58.0 and 60.3 dBA L_{eq} and at the Beechwood School (site ST1) is 59.2 dBA L_{eq}. According to the City's Noise Ordinance, the daytime noise limit is 60 dBA L_{eq} for noise increases from all sources (except construction sources) at existing residential land uses. The Noise Ordinance does not provide a daytime noise limit for existing school uses; therefore, for this analysis, the noise limit of 70 dBA L_{eq} is used,

[14] The noise reduction provided by the barriers with some gaps between the noise source and receptor is about 5 dB.

[15] The noise measurement setback was 130 feet from the US 101 centerline, and the proposed outdoor area would be set back approximately 340 feet from the US 101 centerline, which would result in a 4.3 dB noise reduction from the measure noise level.

which is consistent with the noise limit established in the General Plan's land use compatibility guidelines. The potential for Project operation noise sources to exceed the noise limits is discussed below.

Stationary Mechanical Equipment. The Project would include installation of noise-generating equipment including HVAC units and emergency generators. All HVAC equipment would be located on the roof of two new buildings behind an acoustic wall/parapet. The emergency generators would be installed at the south corner of the Project site within an enclosed structure.

Mechanical HVAC equipment located on rooftops of new buildings have the potential to generate an average hourly noise level of between 50 and 65 dBA L_{eq} at 50 feet from the equipment or an average daily noise level of between 57 and 72 dBA CNEL at a distance of 50 feet when equipment is operating continuously for 24 hours. The screen installed around these mechanical systems and the roof parapet would typically reduce noise levels by approximately 15 dBA, which would reduce HVAC equipment noise to approximately 50 dBA L_{eq} at 50 feet from the equipment, which would be approximately 57 dBA CNEL at 50 feet.[16] The proposed buildings would be located approximately 400 feet from the nearest residence and approximately 1,000 feet from Beechwood School. At these distances, noise from the HVAC systems would be well below the noise limits of 60 dBA L_{eq} for residences and 70 dBA L_{eq} for schools and the ambient noise levels at the residential area and school.

Emergency generators create temporary and periodic noise during periods of testing, which occur weekly for approximately 30 minutes. The generators are proposed to be located adjacent to US 101 and the northwestern property line and would be installed within enclosures that would be built with concrete masonry units (CMU). Based on specifications, and when inside the enclosure, it is anticipated that each generator and would generate sound levels of approximately 68 dBA L_{eq} at 23 feet when it operates continuously for 1 hour. The proposed generator would only operate 30 minutes during each routine test, resulting in an average hourly noise level of 65 dBA L_{eq} at 23 feet. The Project would have two generators; assuming both generators would run the routine test separately but within the same hour, the combined average noise level generated by both generators would be about 68 dBA L_{eq} at 23 feet during the hour of the testing. The distance between the nearest residence and the generator unit is approximately 280 feet. With a noise attenuation rate of 6 dB per doubling of distance for point sources, emergency generator testing would result in noise levels of 46 dBA L_{eq} at 280 feet, which is well below the Noise Ordinance limit of 60 dBA L_{eq} and the ambient noise levels at the residential area. Since Beechwood School is further than the nearest residence, noise from emergency generators would also be below 60 dBA L_{eq}. Therefore, impacts from stationary mechanical sources are ***less than significant***.

Parking Lot Activities. Noise sources from parking lots would include human speech, vehicle door slams, car starts, tire squeals, accidental car alarms, and other automotive noise. Quantification of parking lot noise is difficult to predict due to many variables. Variation in sound levels depends on such factors as parking lot design and the number of vehicles moving through at any given time. However, noise from parking lots is characterized as temporary and periodic noise. These temporary and periodic noise sources within the Project parking lots would be different from each other in kind, time, duration, and location, so that the overall effects would be separate and, in most cases, would not affect the same receptors at the same time. Therefore, this type of noise associated with parking lots is considered a nuisance noise effect that would result in a ***less-than-significant*** impact.

[16] City of Santa Ana. 2010. City of Santa Ana Transit Zoning Code (SD 84A and SD 84B) Final Environmental Impact Report. May.

Truck Loading Activities. Trucks used for pick-up and deliveries of supplies would result in intermittent noise, such as engines idling and beeping from backing warning signals. However, operation of the Project would not involve large-scale commercial services, manufacturing, or similar work that would require regular, frequent truck deliveries and pick-ups. Truck deliveries to the Project would be deliveries of supplies to the offices, pop-up retail, and food service amenities. Simultaneous truck deliveries to the same structure are not anticipated, and simultaneous deliveries to the both buildings would be expected to occur only occasionally, due to varying delivery schedules. Trucks are exempted from the City's short-term noise level limit of 60 dBA at residential land uses, provided the trucks do not idle for more than 10 minutes. Additionally, given the short duration and relative infrequency of truck trips to the Project site, truck deliveries would not be a source of excessive ambient noise. Therefore, impacts related to truck deliveries would be ***less than significant***.

US 101 Traffic Noise Reflected by New Buildings. US 101 separates the Project site and the Suburban Park–Lorelei Manor–Flood Park Triangle neighborhood to the south of US 101. There are existing sound walls separating the residential properties from US 101 in order to reduce traffic noise from the highway. US 101 is depressed in the Project vicinity by approximately 11 to 14 feet below the elevation of the Project site and the nearest residences, respectively. The Project would increase building height at the Project site from approximately 27 feet to 61 feet.

Concern has been expressed that the proposed increase in building height on the Project site could increase the reflection of highway noise into the neighborhood. Under maximum noise reflection conditions, a high, infinitely long reflecting surface on one side of a highway could reflect 100 percent of the sound energy to the opposite side of the highway. This could potentially double the sound energy on the opposite side of the highway. A doubling of sound energy corresponds to a 3 dB increase in sound levels. As discussed above, a 3dB increase in noise would be just noticeable. Because the existing buildings span a small portion of the area on the opposite side of US 101 from the neighborhoods, they currently reflect far less than 100 percent of the sound energy. As such, the potential increase in noise associated with building reflections under the Project would be well below 3 dB and would not be distinctly noticeable. Increasing the height of onsite buildings would only slightly increase the amount of reflected sound energy and would not be expected to result in any meaningful or noticeable increase in noise on the opposite of the US 101. Consequently, the impact would be ***less than significant***.

Traffic Noise Increase. The Project-generated traffic would mostly travel on Willow Road, Marsh Road, and Bayfront Expressway to the Project site. In the Project vicinity, residences along Willow Road and Marsh Road could be affected by the increase in traffic noise caused by the Project. Land uses along Bayfront Expressway consist primarily of office and light industrial, which are not expected to be affected by the increase of Project traffic noise because the land uses are not considered as noise-sensitive receptors related to Project operation. Therefore, traffic noise impact is evaluated for Willow Road and Marsh Road in the Project vicinity.

Table 3.6-5 summarizes the increase in traffic noise levels (CNEL) along Willow Road and Marsh Road as a result of Project-generated traffic. Traffic noise levels for Marsh Road were estimated based on the daily traffic volumes that are predicted to occur in 2015 and 2030. For Willow Road, where daily traffic volumes are not available, traffic noise levels are estimated using the predicted PM peak hour traffic volumes.[17] The calculation of traffic noise levels is included in Appendix 3.6-1.

[17] The PM peak hour volumes at intersections along the analysis segment are used to derive the daily traffic volumes. Daily traffic volumes are estimated by multiplying the PM peak hour volume by a factor of 1.1.

As shown in Table 3.6-5, the Project would result in traffic noise increases of less than 1 dB on Marsh Road and Willow Road. The traffic noise increase over the baseline conditions (2015 near-term and 2030 long-term, as defined in the Section 3.3, *Transportation and Traffic*) would be less than 3 dB, which is considered to be below the threshold of a perceptible change. Therefore, the traffic noise impact is considered ***less than significant*** at neighborhoods along the Project access roads in the Project vicinity.

Impact NOI-4: Substantial Temporary or Periodic Increase in Vibration Levels. The Project would generate ground-borne vibration levels in excess of 65 VdB at nearby office buildings but would not exceed vibration levels in excess of 80 VdB and noise levels in excess of 43 dBA at nearby residences. (PS)

The thresholds for residences and buildings where people normally sleep are 80 VdB for ground-borne vibration and 43 dBA for ground-borne noise, which are the thresholds for residential annoyance for occasional events. Buildings where vibration would interfere with sensitive interior equipment operations would have a lower threshold of 65 VdB, which is just above the perception level for humans.

Typical outdoor sources of perceptible ground-borne vibration and noise are construction equipment, steel-wheeled trains, and heavy vehicles on uneven surfaces. If the roadway is smooth, the ground-borne vibration and noise from traffic is rarely perceptible. Operation of the Project would consist of typical office operations and would not involve vibratory or impact equipment that would generate ground-borne vibration and noise. Therefore, there would be no ground-borne vibration and noise impact associated with Project operation. The discussion therefore focuses on the ground-borne vibration and noise impact associated with construction equipment during Project construction.

The operation of heavy construction equipment can generate localized ground-borne vibration and noise at buildings adjacent to the construction site. The ground-borne vibration rarely causes damage to normal buildings, with the occasional exception of blasting and pile driving during construction. Because the Project construction would not involve pile driving activities, damage to surrounding office buildings is not expected. Therefore, the annoyance thresholds for vibration velocity levels are used to determine the ground-borne vibration and noise impacts at surrounding buildings. A vibration level that causes annoyance is well below the damage threshold for typical buildings. Table 3.6-6 summarizes typical vibration velocity levels for various types of construction equipment that would be used for the Project.[18]

[18] Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Office of Planning and Environment.

Table 3.6-5. Project Traffic Noise Increase at Representative Locations in the Project Vicinity

Roadway	Segment	Distance to Center of the Road (feet)[b]	Traffic Noise Level CNEL without Project (dBA)	Traffic Noise Level CNEL with Project (dBA)	Increase in Noise Level as a Result of Project (dB)	Significant Impact?[d]
2015 Near-Term Condition[a]						
Marsh Road	US 101—Bay Road	120	67	67	0	No
Marsh Road	Bay Road—Middlefield Road	100	65	65	0	No
Willow Road	Bayfront Expressway—US 101[c]	120	61	61	0	No
Willow Road	US 101—Middlefield Road	110	61	62	1	No
2030 Long-Term Condition[a]						
Marsh Road	US 101—Bay Road	120	67	67	0	No
Marsh Road	Bay Road—Middlefield Road	100	66	66	0	No
Willow Road	Bayfront Expressway—US 101[c]	120	62	62	0	No
Willow Road	US 101—Middlefield Road	110	62	62	0	No

Notes:

a. Refer to Section 3.3, *Transportation and Traffic*, for a description of the traffic scenarios.

b. The average distance for each segment is measured from the center of the road to the back yard of the first row residences.

c. Noise barriers are presented to shield the first row residences along the segments.

d. A significant impact is determined by the traffic noise increase of 3 dB, which is generally considered to be the threshold of a perceptible change.

Table 3.6-6. Typical Vibration Levels for Construction Equipment

	Vibration Velocity Level (VdB)			
Equipment	25 Feet from Source	50 Feet from Source[a]	100 Feet from Source[a]	150 Feet from Source[a]
Vibratory Roller	94	85	76	71
Large Dozer	87	78	69	64
Loaded Truck	86	77	68	63
Jack Hammer	79	70	61	56
Small Dozer	58	49	40	35

Source: Federal Transit Administration 2006.
Note:
a. Based on the formula VdB at D feet = VdB at 25 feet – 30 x log (D/25).

Existing residences are located south of the Project site across US 101, about 300 feet from the Project site. Based on the information in Table 3.6-6, vibration levels from construction activities would be 62 VdB or lower at the nearest residences. The sound level accompanying vibration is generally 25 to 40 dBA lower than the vibration velocity level in VdB. Therefore, the ground-borne noise levels from construction activities would be no more than 37 dBA at the nearest residences. These ground-borne vibration and noise levels are well below the FTA-recommended thresholds of 80 VdB and 43 dBA for residences and buildings where people normally sleep. Therefore, the ground-borne vibration and noise impact on residences and buildings (other than office buildings described below) in the Project vicinity would be ***less than significant***.

Existing occupied office buildings are directly to the northwest and northeast of the Project site, about 150 and 100 feet to the existing building on the Project site, respectively. Office uses are generally not considered sensitive receptors; however, because of the nature of some of the businesses that are present in the vicinity, these uses may include vibration-sensitive equipment. Therefore, the adjacent office buildings are assumed to include vibration-sensitive uses. Based on the information in Table 3.6-6, vibration levels from excavation and grading activities that would likely use vibratory rollers could reach up to 71 VdB at 150 feet from the construction equipment. Vibration levels from typical construction activities that would likely use large dozers and large dump trucks could reach up to 69 VdB at 100 feet from the construction equipment. These vibration levels would be above the FTA-recommended threshold of 65 VdB for vibration-sensitive equipment. Based on the information in Table 3.6-6, vibration levels from the operation of a vibratory roller could exceed 65 VdB up to 225 feet away. Therefore, when the construction activities occur in the northwestern and northeastern portions of the Project site, the ground-borne vibration levels from operation of heavy construction equipment (such as vibratory rollers, larger dozers, or large trucks) could exceed 65 VdB at nearby office buildings, resulting in a ***potentially significant*** impact.

MITIGATION MEASURES. Construction of the Project would have the potential to result in significant ground-borne vibration that would disturb vibration-sensitive land uses. Mitigation Measure NOI-4.1 would require the notification of nearby businesses of potential impacts to vibration-sensitive equipment in order to identify any vibration-sensitive equipment in the Project vicinity and implementation of best management practices, as described in Mitigation Measure NOI-4.2, to help reduce impacts on buildings with vibration-sensitive equipment. However, although implementation of these measures would reduce ground-borne vibration impacts during construction, vibration-sensitive equipment at adjacent office buildings could still be exposed to excessive construction-generated

vibration levels. In general, construction equipment would operate throughout the Project site on a daily and monthly basis and would only occasionally be operating on the edges of the construction site closest to the adjacent uses. Therefore, the vibration disturbance during construction is expected to be intermittent and short term. Regardless, this impact is considered to be ***significant and unavoidable***.

NOI-4.1: Notify Nearby Businesses of Project Construction Activities that Could Affect Vibration-Sensitive Equipment. The Project Sponsor shall provide notification to property owners and occupants of vibration-sensitive buildings within 225 feet[19] of construction activities 10 days prior to the start of Project construction, informing them of the estimated start date and duration of vibration-generating construction activities, such as would occur during site preparation, demolition, excavation, and grading. This notification shall include information warning about potential for impacts related to vibration-sensitive equipment. The Project Sponsor shall provide a phone number for the property owners and occupants to call if they have vibration-sensitive equipment on their sites. A copy of the notification and any responses shall be provided to the Planning Division prior to building permit issuance.

NOI-4.2: Implement Construction Best Management Practices to Reduce Construction Vibration. If vibration-sensitive equipment is identified within 225 feet of construction sites, the Project Sponsor shall implement the following measures during construction.

- To the extent feasible, construction activities that could generate high vibration levels at identified vibration-sensitive locations shall be scheduled during times that would have the least impact on nearby office uses. This could include restricting construction activities in the areas of potential impact to the early and late hours of the work day, such as from 8:00 am to 10:00 a.m. or 4:00 p.m. to 6:00 p.m. Monday through Friday.
- Stationary sources, such as construction staging areas and temporary generators, shall be located as far from nearby vibration-sensitive receptors as possible.
- Trucks shall be prohibited from idling along streets serving the construction site where vibration-sensitive equipment is located.

Cumulative Impacts

The geographic context for the cumulative noise analysis from localized construction and stationary source noise includes areas immediately surrounding the Project site, as noise diminishes rapidly with distance (6 dBA per doubling of distance for point and stationary sources). For cumulative vehicular noise impacts, the cumulative context is based on the cumulative context for the traffic analysis, which includes existing and future developments, including other current projects, probable future projects, and projected future growth within the City through the year 2030.

[19] Based on the formula shown in Table 3.6-6, the vibration level from operation of a vibratory roller would exceed 65 VdB within 225 feet of the equipment.

Impact C-NOI-1: Cumulative Temporary or Periodic Increase in Noise Levels. Construction activities associated with Project-related development and other future development in the City would not expose sensitive receptors to a substantial temporary or periodic increase in ambient noise level. (LTS)

Tier 1 and Tier 2

Cumulative development in the City would not result in the exposure of people to a substantial temporary increase in ambient noise level during construction due to the localized nature of construction noise impacts and the fact that construction throughout the City would not occur at the same time. The construction activity with the potential to generate the highest noise levels from pile driving would not exceed the construction noise threshold of 85 dBA more than 300 feet from the source.[20] None of the cumulative projects, with the exception of the Dumbarton Rail Corridor Project, are located within 300 feet of the Project site. The Dumbarton Rail Corridor Project is in the preliminary stages of planning and would not be constructed at the same time as the Project. Therefore, construction noise from the cumulative projects would not combine to exceed the City's Noise Ordinance standards for construction. Therefore, the Project would have a ***less-than-significant*** cumulative impact due to the temporary nature of the ambient noise level increases.

Impact C-NOI-2: Cumulative Exposure of Onsite Users to Excessive Noise Levels. The Project, in combination with other development within the City, would not expose the onsite outdoor common areas to noise in excess of the standards established in the General Plan. (LTS)

Tier 1 and Tier 2

As noted above under Impact NOI-2, vehicular traffic on US 101 is the primary source of noise on the Project site, and the noise levels at the proposed outdoor areas would be about 66 dBA CNEL or lower, which is less than the exterior noise standard of 70 dBA CNEL required by the General Plan for new office developments. The cumulative traffic noise increase as a result of Tier 1 and Tier 2 projects would not cause the ambient noise level at the proposed outdoor areas to be in excess of 70 dBA CNEL because, based on the General Plan, a 1-dB traffic noise increase is predicted for US 101 between existing year and 2035. The General Plan accounts for the traffic increase from long-term land use developments in the City, which include both Tier 1 and Tier 2 projects. Therefore, the cumulative projects, with the exception of the Dumbarton Rail Corridor Project, would have a ***less-than-significant*** cumulative impact on the increase in ambient noise level at the Project site.

The Dumbarton Rail Corridor Project, a Tier 2 project, would have the potential to result in a cumulatively considerable increase in ambient noise level on the Project site. The Dumbarton Rail Corridor Project would be subject to CEQA and would be required to mitigate impacts to the extent feasible.

[20] The typical noise levels generated from a pile driver (either impact or vibratory) are about 101 dBA L_{max} and 94 dBA L_{eq} at 50 feet from the equipment. Based on the formula dBA at D feet = dBA at 50 feet – 20 x log (D/50), the noise levels at 300 feet from the source are 85 dBA L_{max} and 78 dBA L_{eq}.

Impact C-NOI-3: Cumulative Expose Sensitive Receptors to Excessive Noise. The Project, in combination with other development within the City, would not expose the nearby residences or Beechwood School to noise in excess of standards established in the General Plan or Municipal Code. (LTS)

Tier 1 and Tier 2

Onsite Operation Noise. Similar to the Project, operation of the cumulative projects would have the potential to generate noise from onsite equipment and activities and to cumulatively increase ambient noise levels at the noise-sensitive land uses in immediate vicinity of the Project site. This potential impact is limited to cumulative projects in the immediate vicinity of the Project site due to distance and intervening buildings that provide noise attenuation.

As noted above under Impact NOI-3, existing noise-sensitive land uses that could be affected by the Project operation noise include single-family residences located south of the Project site across US 101 and the Beechwood School located southeast of the Project site. The operation of the Project would not generate excessive noise from mechanical equipment and parking and truck activities and would not contribute to an ambient noise increase at the noise-sensitive land uses in excess of the Noise Ordinance limit of 60 dBA L_{eq}. As shown in Figure 3.0-1, there are no Tier 1 and Tier 2 projects, with the exception of the Dumbarton Rail Corridor Project, located in the vicinity of the noise-sensitive land uses; therefore, the cumulative operation impacts at the noise-sensitive land uses in vicinity of the Project would be less than significant.

The Dumbarton Rail Corridor Project, a Tier 2 project, would have the potential to result in a cumulatively considerable increase in ambient noise level in the project vicinity. The Dumbarton Rail Corridor Project would be subject to CEQA and would be required to mitigate impacts to the extent feasible. However, the Project itself would not generate noise levels that would result in an increase in ambient noise levels at existing noise-sensitive land uses. Therefore, because the Project's contribution is not considerable, the cumulative impact with respect to Project noise sources is ***less than significant.***

Traffic Noise. Cumulative growth in the City could lead to increased noise levels from vehicular traffic, although there is the possibility that future traffic noise could be decreased through implementation of Transportation Demand Management (TDM) measures and a focus on transit-oriented development that would reduce vehicle trips. The traffic model used to predict future traffic levels assumed approved development and City growth through the year 2030.

As noted above under Impact NOI-4, the Project-generated traffic would mostly travel on Willow Road, Marsh Road, and Bayfront Expressway to the Project site, of which residences along Willow Road and Marsh Road would be affected by the increase in traffic noise caused by the Project because there are no noise-sensitive land uses along Bayfront Expressway in the Project vicinity. As shown in Table 3.6-7, under the cumulative condition, the traffic noise increase over the existing condition (1-2 dB) would be less than 3 dB, and the Project would only contribute to less than 1 dB of the cumulative traffic noise increase. Therefore, the cumulative traffic noise impact is considered ***less than significant*** at neighborhoods along the Project access roads in the vicinity of the Project.

Impact C-NOI-4: Cumulative Exposure to Ground-borne Vibration. Construction activities associated with Project-related development and other future development in the City would not expose sensitive receptors to excessive ground-borne vibration. (LTS)

Tier 1 and Tier 2

The most common sources of ground-borne vibration and noise in the Project area and the City are construction activities and roadway truck traffic. Heavy trucks currently transport goods and materials along the streets surrounding the Project area (i.e., US 101, Bayfront Expressway, and Willow Road). Large delivery trucks typically generate ground-borne vibration velocity levels around 63 VdB at 50 feet from the source, and these levels could reach 72 VdB where trucks pass over an uneven road surface. The vibration velocity level threshold of perception for humans is approximately 65 VdB. Therefore, existing traffic vibration is neither distinctly nor generally perceptible. Additionally, vibration velocity levels around 63 VdB would generally not produce ground-borne noise that would disturb sleep.

Cumulative development in the City would not result in the exposure of people to or the generation of excessive ground-borne vibration and noise due to the localized nature of vibration impacts and the fact that construction throughout the City would not occur at the same time. High ground-borne vibration at each of the construction sites would continue to be isolated and only affect receptors within close proximity to the individual pieces of construction equipment. Therefore, cumulative development would not result in a significant cumulative vibration impact.

Project construction activities would have the potential to generate localized ground-borne vibration and noise at buildings adjacent to the construction site. The nearest residential uses are located south of the Project site across US 101, about 300 feet from the Project site. Based on the information presented in Table 3.6-6, vibration levels from construction activities would be 62 VdB or lower at the nearest residences. The sound level accompanying vibration is generally 25 to 40 dBA lower than the vibration velocity level in VdB. Therefore, the ground-borne noise levels from construction activities would no more than 37 dBA at the nearest residences. These ground-borne vibration and noise are well below the FTA-recommended thresholds of 80 VdB and 43 dBA for residences and buildings where people normally sleep. Therefore, exposure of residential areas to excessive ground-borne vibration and noise during construction would be less than significant. As such, the vibration impact of the Project, in conjunction with ground-borne vibration and noise from other cumulative development, would result in a ***less-than-significant*** cumulative impact.

Table 3.6-7. Cumulative Traffic Noise Increase at Representative Locations in the Project Vicinity

Roadway	Segment	Distance to Center of the Road (feet)[a]	Existing CNEL (dBA)	2030 Long-term Baseline CNEL (dBA)	2030 Long-term with Project CNEL (dBA)	Cumulative Increase in Noise Level (dB)[c]	Significant Cumulative Impact?	Increase in Noise Level as a Result of Project (dB)	Cumulatively Considerable Contribution?[d]
Marsh Road	US 101—Bay Road	120	66	67	67	1	No	0	No
Marsh Road	Bay Road—Middlefield Road	100	64	66	66	2	No	0	No
Willow Road	Bayfront Expressway—US 101[b]	120	60	62	62	2	No	0	No
Willow Road	US 101—Middlefield Road	110	61	62	62	1	No	0	No

Notes:

a. The average distance for each segment is measured from the center of the road to the back yard of the first row residences.

b. Noise barriers are presented to shield the first row residences along the segments.

c. Noise increase between the existing condition and the cumulative with Project condition.

d. Significant impact is determined by the traffic noise increase of 3 dB, which is generally considered to be the threshold of a perceptible change.

3.7 Cultural Resources

This section describes the affected environment and regulatory setting for Cultural Resources, including brief descriptions of the prehistoric and historic setting of the Commonwealth Corporate Center Project (Project) area and the results of the archaeological resources investigation conducted for the Project. Applicable federal, state, and local regulations are identified, followed by impact analysis and mitigation measures, as applicable, to reduce potentially adverse impacts on cultural resources.

This section is based on a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System, a search of the Native American Heritage Commission (NAHC) sacred lands database, and geological information. No comments pertaining to cultural resources were received in response to the Notice of Preparation (NOP) (Appendix 1).

Existing Conditions

Regulatory Setting

Federal

National Historic Preservation Act. Federal regulations for cultural resources are primarily governed by Section 106 of the National Historic Preservation Act (NHPA) of 1966, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for determining NRHP eligibility are found in 36 Code of Federal Regulations (CFR) Part 60. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 CFR Part 800. The NRHP criteria (contained in 36 CFR 60.4) are used to evaluate resources when complying with NHPA Section 106. Those criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

a. Are associated with events that have made a significant contribution to the broad patterns of our history;

b. Are associated with the lives of persons significant in our past;

c. Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or

d. Have yielded or may be likely to yield, information important to history or prehistory.

Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and records searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

Paleontological Resources Preservation Act. The federal Paleontological Resources Preservation Act of 2002 was enacted to codify the generally accepted practice of limiting the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers. These researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

State

California Public Resources Code. Under the California Environmental Quality Act (CEQA), public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment."

Historical resource is a term with a defined statutory meaning (see Public Resources Code Section 21084.1 and State CEQA Guidelines Section 15064.5 (a) and (b)). The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for the purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code Section 5024.1; California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially affected by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts on historical resources (Public Resources Code Section 21084.1; State CEQA Guidelines Section 15064.5 (a)(3)). In general, an historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

a. Is historically or archeologically significant; or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and

b. Meets any of the following criteria:

    1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    2. Is associated with the lives of persons important in our past;

    3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    4. Has yielded, or may be likely to yield, information important in prehistory or history.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. Although CEQA does not define a unique paleontological resource or site, Public Resources Code Section 21083.2 (g) states that unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person" (Public Resources Code Section 21083.2 (g)).

With only slight modification, this definition is equally applicable to recognizing a *unique paleontological resource* or site. Additional guidance is provided in CEQA Section 15064.5 (a)(3)(D), which indicates "generally, a resource shall be considered historically significant if it has yielded, or may be likely to yield, information important in prehistory or history."

Under Section 21083.2 of the Public Resources Code, options on how to treat such resources include activities that preserve the resources in place in an undisturbed state. Other acceptable methods of mitigation under Public Resources Code Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Section 7050.5 (b) of the California Health and Safety Code specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

State CEQA Guidelines Section 15064.5(e) requires that excavation activities be stopped whenever human remains are uncovered and that the County Coroner be called in to assess the remains. If the County Coroner determines that the remains are those of Native Americans, the NAHC must be contacted within 24 hours. At that time, the lead agency is required to consult with the appropriate Native Americans as identified by the NAHC and direct the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

Local

City of Menlo Park General Plan. The following goal and policies from the Open Space Element of the City of Menlo Park's (City's) General Plan are relevant to the Project.

Goal OSC3: Protect and Enhance Historic Resources. Protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.

Policy OSC3.1: Prehistoric or Historic Cultural Resources Investigation and Preservation. Preserve historical and cultural resources to the maximum extent practical.

Policy OSC32: Prehistoric or Historic Resources Protection. Require significant historic or prehistoric artifacts to be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation, and to ensure compliance with local, state, and federal regulations.

Policy OSC3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either on site or through appropriate documentation as a condition of removal. Require that when a development project had sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.

Policy OSC3.4: Prehistoric or Historic Cultural Resources Found During Construction. Requires that is cultural resources, including archaeological or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented,

Policy OCS3.5: Consultation with Native American Tribes. Consult with those Native American tribes with ancestral ties to the Menlo Park city limits regarding General Plan Amendments and land use policy changes.

Environmental Setting

Prehistoric Setting

The Project site is located along the southwest edge of the San Francisco Bay Area (Bay Area). The San Francisco Bay–Delta Cultural Sequence, often referred to as the Central California Taxonomic System, was defined largely on the basis of stylistic variation in artifacts from burials found in the lower Sacramento Valley.[1] Over time, this sequence has been refined as research has yielded new clues to the early development of the Bay Area. The following summary is extracted from Byrd and Meyer (2011),[2] which used several studies, including Milliken et al. (2007),[3] Rosenthal and Meyer (2004),[4] and Moratto (1984).[5]

Terminal Pleistocene (13,500–11,600 cal BP). The Terminal Pleistocene is largely contemporaneous with the Clovis and Folsom periods of the Great Plains and the Southwest and is generally considered to

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1 Lillard, J., R. Heizer, and F. Fenenga. 1939. An Introduction to the Archaeology of Central California. Department of Anthropology Bulletin 2. Sacramento Junior College, Sacramento.

2 Byrd, B. F. and J. Meyer. 2011. Initial Cultural Resources Investigation, San Francisquito Creek Flood Damage Reduction and Ecosystem Restoration Project, Santa Clara and San Mateo Counties, California. Redacted Version. Prepared for Kristin O'Kane, Santa Clara Water District, San Jose.

3 Milliken, R., R. T. Fitzgerald, M. G. Hylkema, R. Groza, T. Origer, D. G. Bieling, A. Leventhal, R. S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. A. Fredrickson. 2007. Chapter 8: Punctuated Change in the San Francisco Bay Area, Pages 99-123 in Terry L. Jones and Kathryn A. Klar, (eds.), California Prehistory: Colonization, Culture, and Complexity, Altamira Press, New York.

4 Rosenthal, J. S. and J. Meyer. 2004. Landscape Evolution and the Archaeological Record: A Geoarchaeological Study of the Southern Santa Clara Valley and Surrounding Region. Center for Archaeological Research at Davis Publication 14, University of California, Davis.

5 Moratto, M. 1984. California Archaeology. Academic Press, New York.

be represented by wide-ranging, mobile hunters and gatherers who regularly exploited large game.[6] Throughout California, the Terminal Pleistocene is most often represented by isolated fluted points.[7,8]

Early Holocene (11,600–7700 cal BP). Early Holocene prehistoric material in the Bay Area is sparse; only four sites date to this period: two sites at Los Vaqueros Reservoir (Contra Costa County [CCO]-696 and -637) in the East Bay, the Blood Alley site (Santa Clara County [SCL]-178) in the Coyote Narrows of the Santa Clara Valley, and SCR-177 at Scott's Valley in the Santa Cruz Mountains.[9,10,11] Their deposits, which indicate diverse resource exploitation, demonstrate that the general region was occupied throughout this time segment, but strong insight into the nature of early occupation trends is still lacking.

Middle Holocene (7700–4000 cal BP). In the Bay Area, Middle Holocene assemblages can include various types of groundstone, points, chopping, scraping, and pounding implements, and shell beads and ornaments.[12,13] Exploitation of the Bay's estuary, mud flats, and freshwater tidal marshes were common, and the presence of a diverse range of habitation sites, including the basal layers of some Bay margin shell mounds, suggests higher population levels, more complex adaptive strategies, and longer seasonal occupation than during the early Holocene. Notable sites in the vicinity of the Project site include SCL-484, -674, and -832; SMA-269 and -273; and SFR-28, all of which contained several isolated human burials.

Late Holocene (4000–170 cal BP). The Late Holocene is generally divided into five "slices" based on specific types of shell beads. It is well documented in the Bay Area; over 200 sites reflect widespread occupation by complex hunter-gatherers.[14] Important mounds along the Peninsula margins include the

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6 Haynes, G. M. 2002. The Early Settlement of North America: The Clovis Era. Cambridge University Press, Cambridge.

7 Erlandson, J., T. C. Rick, T. L. Jones, and J. F. Porcasi. 2007. One if by Land, Two if by Sea: Who Were the First Californians? In California Prehistory: Colonization, Culture, and Complexity, edited by T. L. Jones and K. Klar, pp. 53–62. Altamira Press, Walnut Creek.

8 Rondeau, M. F., J. Cassidy, and T. L. Jones. 2007. Colonization Technologies: Fluted Projectile Points and the San Clemente Island Woodworking/Microblade Complex. In California Prehistory: Colonization, Culture, and Complexity, edited by T. L. Jones and K. Klar, pp. 63–70.Altamira Press, New York.

9 Cartier, R. 1993. The Scotts Valley Site: CA-SCR-177. Santa Cruz Archaeological Society, Santa Cruz.

10 Hildebrandt, W. R. 1983. Archaeological Research of the Southern Santa Clara Valley Project: Based on a Data Recovery Program from Sites CA-SCl-54, CA-SCl-163, CA-SCl-178, CA-SCl-237, and CA-SCl-241 Located in the Route 101 Corridor, Santa Clara County, California. Daniel, Mann, Johnson, and Mendenhall and San Jose State University, Los Angeles and San Jose. Submitted to California Department of Transportation, District 4, San Francisco. Report S-6369. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, CA.

11 Meyer, J. and J. S. Rosenthal. 1997. Archaeological and Geoarchaeological Investigations at Eight Prehistoric Sites in the Los Vaqueros Reservoir Area, Contra Costa County. In Los Vaqueros Project Final Report. Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to the Contra Costa Water District, Concord. Report on file, Northwest Information Center, Sonoma State University, Rohnert Park, CA.

12 Fitzgerald, R. T., Jr. 1993. Archaic Milling Cultures of the Southern San Francisco Bay Region. Edited by G. S. Breschini and T. Haversat. Coyote Press Archives of California Prehistory Number 35. Coyote Press.

13 Meyer, J. and J. S. Rosenthal. 1998. An Archaeological Investigation of Artifacts and Human Remains from CA-CCO-637, Los Vaqueros Project Area, Contra Costa County, California. Anthropological Studies Center, Sonoma State Academic Foundation, Inc., Rohnert Park, California. Submitted to Contra Costa Water District, Concord, CA.

14 Milliken, R., R. T. Fitzgerald, M. G. Hylkema, R. Groza, T. Origer, D. G. Bieling, A. Leventhal, R. S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. A. Fredrickson. 2007. Chapter 8: Punctuated Change in the San Francisco Bay Area, Pages 99-123 in Terry L. Jones and Kathryn A. Klar, (eds.), California Prehistory: Colonization, Culture, and Complexity, Altamira Press, New York.

University Village site (SMA-77), the San Bruno Mountain mound (SMA-40), and the Ynigo Mound (SCL-12/H).[15,16,17] The artifact assemblages include various types of beads and pendants, bone tools, "flower pot" mortars, and the bow and arrow. Funerary rituals were strongly patterned, and included flexed interments and "killed" grave offerings, along with occasional cremations. Extensive trade relations also appear to have flourished with neighboring groups.

Ethnographic Setting

Menlo Park is situated within territory once occupied by Costanoan (also commonly referred to as Ohlone) language groups. Eight Ohlone languages were spoken in the area from the southern edge of the Carquinez Strait to portions of the Big Sur and Salinas Rivers south of Monterey Bay and approximately 50 miles inland from the coast. Mountain View lies on the approximate ethnolinguistic boundary between the Tamyen and Ramaytush languages. Tamyen, or Santa Clara Costanoan, was spoken around the south end of San Francisco Bay and in the lower Santa Clara Valley and seems to have had about 1,200 speakers. Ramaytush, or San Francisco Costanoan, was spoken by about 1,400 people in San Mateo and San Francisco counties.[18]

Ohlone territories were composed of one or more land-holding groups that anthropologists refer to as *tribelets*. The tribelet consisted of a principal village occupied year-round, with a series of smaller hamlets and resource gathering and processing locations occupied intermittently or seasonally.[19] The Puichon tribelet lived on the west shore of San Francisco Bay between lower San Francisquito Creek and lower Stevens Creek, now the areas of Menlo Park, Palo Alto, and Mountain View.[20]

Seven Spanish missions were founded in Ohlone territory between 1776 and 1797. While living within the mission system, the Ohlone commingled with other groups, including the Yokuts, Miwok, and Patwin. Members of the Puichon tribelet went to Mission San Francisco between 1781 and 1794 and to Mission Santa Clara from 1781 to as late as 1805. Mission life was devastating to the Ohlone population.[21] When the first mission was established in Ohlone territory in 1776, the Ohlone population was estimated be 10,000. By 1832, the Ohlones numbered less than 2,000 as a result of introduced disease, harsh living conditions, and reduced birth rates.[22,23,24]

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15 Byrd, B. F. and J. Berg. 2009. Phase II Excavations in the Caltrans Right-of-Way at CA-SCL-12/H, Santa Clara County, California. 04-SCL-101/237 PM 46.10-46.3/Prepared for Caltrans District 4.

16 Clark, M. R. 1989. Evaluative Archaeological Investigations at the San Bruno Mountain Mound Site, CA-SMA-40, South San Francisco, California. Report on file, Northwest Information Center, Sonoma State University, Rohnert Park, CA.

17 Gerow, B. A. with R. W. Force. 1968. An Analysis of the University Village Complex: with a Reappraisal of Central California Archaeology. Stanford University Press, Stanford, CA.

18 Levy, R. 1978. Costanoan. Pages 398–413 in W. C. Sturtevant (ed.), Handbook of North American Indians, 8, California. Washington, DC: Smithsonian Institution.

19 Kroeber, A. L. 1955. Nature of the Land-Holding Group. Ethnohistory 2:303-314.

20 Milliken, R. 1995. A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769–1810. (Ballena Press Anthropological Papers No. 43.) Novato, CA: Ballena Press.

21 Milliken, R. 1995. A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769–1810. (Ballena Press Anthropological Papers No. 43.) Novato, CA: Ballena Press.

22 Cook, S. F. 1943a. The Conflict between the California Indians and White Civilization, I: The Indian Versus the Spanish Mission. Ibero-Americana 21. Berkeley, California.

23 Cook, S. F. 1943b. The Conflict between the California Indians and White Civilization, II: The Physical and Demographic Reaction of the Non-Mission Indians in Colonial and Provincial California. Ibero-Americana 22. Berkeley, California.

24 Levy, R. 1978. Costanoan. Page 486 in W. C. Sturtevant (ed.), Handbook of North American Indians, 8, California. Washington, DC: Smithsonian Institution.

Ohlone recognition and assertion began to move to the forefront during the early twentieth century, enforced by legal suits brought against the United States government by Indians of California (1928–1964) for reparation due them for the loss of traditional lands. The Ohlone participated in the formation of political advocacy groups, which brought focus upon the community and reevaluation of rights due its members.[25] In recent years, the Ohlone have become increasingly organized as a political unit and have developed an active interest in preserving their ancestral heritage. Many Ohlones are active in maintaining their traditions and advocating for Native American issues.

Historic Setting

Spanish rule came to the Menlo Park area in 1769 when the exploration party led by Don Gaspar de Portola camped near "El Palo Alto" after their discovery of the Bay. The colonization of the San Francisco Peninsula began after the expedition of Juan Bautista de Anza passed through Menlo Park on its way to establishing Mission Dolores and the Presidio of San Francisco in 1776.[26]

The mission padres, explorers, military personnel, travelers, and settlers occupied areas of what is today Menlo Park, developing and populating the land. As a reward for their contribution to the settling movement, some pioneers were granted huge portions of land by the Spanish, and after 1822, by the Mexican government. The largest land grant on the San Francisco Peninsula was the Rancho de las Pulgas, an area of over 35,000 acres, awarded to presidio Comandante Don Jose Dario Arguello in 1795 by Governor Diego de Borica, and endorsed on behalf of his son Luis Arguello in 1820 by Pablo Sola, the last Spanish governor of California. This land extended north and south from San Mateo Creek to San Francisquito Creek, and east and west from the Bay to today's Cañada Road in Woodside. The present boundaries of Menlo Park would have been within this rancho, which became part of the new State of California. The Arguello family obtained legal title to their lands in 1853 and later the land was subdivided.

In August 1854, Menlo Park received its official name when two Irishmen, Dennis J. Oliver and D. C. McGlynn, whose wives were sisters, purchased 1,700 acres (some sources say it was 640 acres) bordering present day El Camino Real, and built two houses with a common entrance. Across the drive they erected a huge wooden gate with tall arches on which the name of their estate "Menlo Park" was printed in foot-high letters. When the railroad came through in 1863, the Menlo Park station was unnamed, so a railroad official looked over at the gates and decided that "Menlo Park" would be officially adopted. This station is now California State Landmark No. 955, the oldest California station in continuous operation.[27] The origin of the name of Menlo Park, California (ca. 1854) pre-dates any work done by Thomas Edison (ca. 1876) in Menlo Park, New Jersey.

San Mateo County became independent of San Francisco County in 1856. A county road had been laid from San Francisco to Belmont and soon was extended to San Jose. This opened the San Francisco Peninsula to the residents of San Francisco who wished to establish summer residences in the country. Among the first to buy large tracts of land and build mansions were the Atherton, Hopkins, Flood, Mills, Donohoe, and Felton families. These estates were largely self-sufficient, working farms and some had their own services, such as barber shops, general stores, blacksmith shops, livery stables, saloons, and hotels.

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[25] Bean, L. J. 1994. The Ohlone Past and Present: Native Americans of the San Francisco Bay Region. Ballena Press, Menlo Park, page xxiv.

[26] PaloAltoHistory.com. *Palo Alto: Rooted in History*. Available <www.paloaltohistory.com> Accessed: June 12, 2013.

[27] Durham, David L. *California's Geographic Names: A Gazetteer of Historic and Modern Names of the State*. 1998.

On March 23, 1874, Menlo Park became the second incorporated city in San Mateo County, although only for a short time. The purpose was to provide a quick way to raise money for road repairs. This incorporation, which included Fair Oaks (later Atherton) and Ravenswood (later East Palo Alto), lasted only until 1876.

Menlo Park remained relatively rural until World War I, when it was suddenly populated by 43,000 soldiers in training at Camp Fremont, on land that extended from Valparaiso Avenue to San Francisquito Creek, and El Camino Real to the Alameda de las Pulgas.

Menlo Park reincorporated in 1923 with much the same boundaries as the earlier town. Incorporation planning involving Menlo Park and Atherton culminated in a dramatic race to the County Courthouse to file differing plans. Atherton representatives arrived only minutes before those from Menlo Park, who had wished to include Atherton in their plans. Final incorporation of Menlo Park took place in November 1927. The town of Menlo Park grew up around this station, becoming a popular home for San Francisco businessmen.[28]

Near the Bay, Menlo Park developed light industrial plants, like the Diageo Global Supply spirits distillery, bottling, and distribution plant (the Commonwealth Site). As bayside land along the San Francisco Peninsula grew through silt accumulation and the infill of wetlands, land that was less desirable for residential and retail commercial space and more affordable and level for industrial development became available. The further development of freight rail, waterfront for some industries, and US 101 provided transportation networks essential for the economical trade of raw materials and manufactured products. The Bohannon Industrial Park, which includes the Commonwealth Site and Jefferson Site, is located in northeast Menlo Park between State Route (SR) 84 to the north, the Dumbarton Rail Corridor to the east, US 101 to the south, and Marsh Road to the west. This area forms a district that has been in transition from industrial/light industrial to high-tech and other business offices from the late twentieth century to the present.

Paleontological Setting

The fossil-yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks. As discussed in Section 3.8, *Geology and Soils*, the overlying material at the Project site, is artificial fill.

Artificial fill could include sediment from older rocks obtained elsewhere. Therefore, it is possible there could be fossils at the Project site, but because the fossils would have been transported from their original locations, they would lack stratigraphic context and be of limited scientific value. Pollen, plants, and shells have been recovered from Bay Mud, but vertebrate fossils have not been reported. Remains of land mammals (extinct mammoth, bison, and horse) have been reported from localities in younger alluvium along the Bay margin in the Bay Area.[29] As discussed below under *Methods for Analysis*, vertebrate fossils are considered sensitive paleontological resources.

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[28] Hoover, Mildred Brooke; Douglas E Kyle (2002). *Historic Spots in California* (4th edition ed.). Stanford, CA: Stanford University Press. p. 405.

[29] University of California Museum of Paleontology. n.d. UCMP Specimen Search. Available: <http://ucmpdb.berkeley.edu/>. Accessed: June 2013.

Project Site

Commonwealth Site

The Commonwealth Site was a former spirits distillery, bottling, and distribution plant of Heublein, Inc. built in 1956. The plant consisted of a bottling plant with a main entrance and offices, a boiler room, a distilling building, and a tank farm structure. Sometime after 1990 until its closure, the international spirits company Diageo Global Supply, or Diageo North America, owned and operated the plant. Diageo is one of the largest manufacturers of spirits in the world.[30]

To date, the shutdown plant still is comprised of these four plant facilities, but all have undergone expansions and other significant alterations between 1970 and 1990. All of the alterations were made by Heublein, Inc. prior to the sale of the company.

- In 1970, a proposed addition of 51,900 square feet (sf) on the southeast side of the bottling plant was approved and built.[31]
- In 1973, a guardhouse was installed at the entrance of the property at the end of Commonwealth Drive.[32]
- In 1975, the Hueblein plant manager requested that the City of Menlo Park abandon a 50 foot stretch of Commonwealth Drive in order to improve plant security. A maintenance addition was added to the northwest of the boiler plant building, and a tank expansion was made to the northwest side of the tank farm.
- In 1976, the property was expanded to encompass the two neighboring parcels on Commonwealth Drive to the northwest (the property was later contracted again).
- In 1978, Hueblein, Inc. expanded parking into the nearer of the two merged parcels and a 220 foot long building connected the main plant and the neighboring building.
- In 1981, the maintenance addition was further expanded to the northwest, and a 500,000-gallon fire protection tank and pumphouse was constructed along the new addition's northwestern wall.
- In 1990, a final expansion was made to the plant. The project expanded the tank farm with six new 16,000-gallon tanks and new containment walls and required a Use Permit for the use of hazardous chemicals.

Plant operations were discontinued on July 29, 2011, and final closure activities completed on October 31, 2011. The plant has been unoccupied since that time.

Jefferson Site

One building, which is currently in operation, is located on Jefferson Site. The one-story, 20,462 sf building is used as a warehouse and offices for storage and light industrial purposes. There are currently

[30] Diageo, PLC. "The Diageo Family Tree Diagram." Available <http://www.diageo.com/en-ie/ourbusiness/Pages/History.aspx> Accessed: June 10, 2013.
[31] Menlo Park Planning Department Staff Report # 005359 with site plan, March 2, 1970.
[32] Menlo Park Planning Department Staff Report # 005360 with site plan, December 17, 1973.

47 parking spaces and minimal landscaping. An aerial photograph in 1965 shows a vacant site; therefore, the present building cannot be older than 48 years.[33]

Environmental Impacts

This section describes the impact analysis relating to cultural resources for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

Methods for Analysis

Records Search. Background research was conducted to identify any known cultural resources within 0.5 mile of the project area. The research included a records search at the NWIC, Sonoma State University, Rohnert Park, in March 2013. Sources consulted during the records search included cultural resources studies and resource records; the Historic Properties Data File (April 29, 2013); the NRHP; the CRHR; *California Inventory of Historic Resources*; *California Historical Landmarks*; and California Points of Historical Interest (May 1992 and updates).

No previously recorded cultural resources were identified by the NWIC in or adjacent to the Project site. Three prehistoric sites have been recorded within 0.5 mile of the Project site.

- P-41-000270/CA-SMA-275 consists of a highly disturbed shell midden primarily located underneath Bay Road.
- P-41-000282/CA-SMA-242 consists of a medium density shell midden, highly disturbed by plowing/grading. Fire-cracked rock, carbon, baked clay, lithics, a bowl mortar, and a possible human bone fragment have also been recorded at this site. A 2008 site record update, however, stated that despite a thorough inspection of the ground surface, there was no evidence of the previously recorded site. Surface deposits within the recorded site were likely destroyed within the railroad right-of-way.[34]

[33] PES Environmental, Inc., drawing number 126087001101_ESA_1-2, page 2.

[34] Whittaker, A. 2008. Continuation Sheet for P-41-00282/CA-SMA-242. Record on file at the Northwest Information Center, Sonoma State University, Rohnert Park, CA.

- P-41-000438/CA-SMA-341 consists of a single human burial that was discovered during construction activities in 1998. The remains were reinterred at the same location and capped with concrete footings.

Eleven cultural resources studies have been conducted within 0.5 mile of the Project site. Only one of these studies covered an area adjacent to the Project site.

- S-24987, Busby, C. 2001. *HOV Lanes - Santa Clara to San Mateo Counties*. No resources within 0.5 mile of the Project site were identified during this study.

The remaining ten studies consisted of studies for residential and commercial development. No resources within or adjacent to the Project site were identified in any of these studies.

Native American Consultation. ICF contacted the NAHC on June 6, 2013 and requested a search of their Sacred Land Files. The NAHC responded on June 11, 2013, stating that a records search of their Sacred Land Files failed to indicate the presence of Native American cultural resources in the immediate Project area.

The NAHC also provided a list of 10 Native American contacts that might have information pertinent to the Project or have concerns regarding the proposed actions. A letter explaining the Project, along with a map depicting the Project area, was sent to all ten contacts listed by the NAHC on June 28, 2013. The letter also solicited responses from each of the contacts, should they have any questions, comments, or concerns regarding the Project.

Letters were sent to the following contacts.

- Jakki Kehl
- Katherine Erolinda Perez
- Valentin Lopez, Chairperson, Amah Mutsun Tribal Band
- Edward Ketchum, Amah Mutsun Tribal Band
- Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band
- Jean-Marie Feyling, Amah Mutsun Tribal Band
- Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan
- Rosemary Cambra, Chairperson, Muwekma Ohlone Indian Tribe of the SF Bay Area
- Andrew Galvan, The Ohlone Indian Tribe
- Ramona Garibay, Representative, Trina Marine Ruano Family

No comments were received with regards to this Project.

Architectural and Historical Research. Building Permits for the Commonwealth Site and aerial photographic evidence for the Commonwealth Site and Jefferson Site were gathered and analyzed by a qualified architectural historian, as defined by the Secretary of Interior's Professional Standards. The 1965 aerial photograph of the Jefferson Site shows a vacant lot. Therefore, the building on the property was built no earlier than 48 years ago, fewer than the 50 year threshold for consideration by the NRHP and CRHR. The architectural historian's professional opinion is that the building at the Jefferson Site does not appear to have the exceptional significance necessary to warrant consideration by the NRHP or CRHR as a historic resource constructed within the last 50 years. However, some of the structures at the

Commonwealth Site were constructed in 1956. Therefore, City of Menlo Park permits were used to analyze the potential for this site to encompass a historic resource.

Paleontological Sensitivity. The Conformable Impact Mitigation Guidelines Committee of the Society of Vertebrate Paleontology (SVP) has published Standard Guidelines in response to a recognized need to establish procedures for the investigation, collection, preservation, and cataloguing of fossil-bearing sites. The Standard Guidelines are widely accepted among paleontologists, followed by most investigators, and identify the two key phases of paleontological resource protection as (1) assessment and (2) implementation. Assessment involves identifying the potential for a project site or area to contain significant nonrenewable paleontological resources that could be damaged or destroyed by project excavation or construction. Implementation involves formulating and applying measures to reduce such adverse effects. The SVP defines the level of potential as one of three sensitivity categories for sedimentary rocks: High, Moderate, and Low.

- **High Sensitivity.** Assigned to geologic formations known to contain paleontological localities with rare, well preserved, and/or critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleobiology and evolutionary history (phylogeny) of animal and plant groups. Generally speaking, highly sensitive formations are known to produce vertebrate fossil remains or are considered to have the potential to produce such remains.
- **Moderate Sensitivity.** Assigned to geologic formations known to contain paleontological localities with moderately preserved, common elsewhere, or stratigraphically long-ranging fossil material. The moderate sensitivity category also is applied to geologic formations that are judged to have a strong, but unproven potential for producing important fossil remains (e.g., Pre-Holocene sedimentary rock units representing low to moderate energy, of marine to non-marine depositional settings).
- **Low Sensitivity.** Assigned to geologic formations that, based on their relative youthful age and/or high energy depositional history, are judged unlikely to produce important fossil remains. Typically, low sensitivity formations may produce invertebrate fossil remains in low abundance.

Based on these criteria, the artificial fill would have low sensitivity for paleontological resources. The thick deposits of silty clay underlying the Commonwealth Site and presumed to underlie the Jefferson Site, the Bay Mud, would have moderate sensitivity. The Pleistocene alluvial deposits that underlie the Bay Mud are considered high sensitivity.

Impacts and Mitigation Measures

Impact CUL-1: Impacts on Historic Resources. The Project would not cause a substantial adverse change in the significance of a historical resource. (LTS)

The Project would not cause a substantial adverse change in the significance of a historic resource at the Commonwealth Site because the 1956 distillery, bottling, and distribution plant built by Heublein, Inc. is not eligible for the CRHR and is not a historic resource. The plant's construction date of 57 years ago was considered as the potential period of significance when considering the buildings on the property and their potential to convey aspects of historic integrity of the plant complex on the Commonwealth Site. Aspects of historic integrity are defined by the *Secretary of Interior in the National Register Bulletin: How*

to Apply the National Register Criteria for Evaluation, National Park Service and include design, materials, workmanship, feeling, and association.

As stated above, the Commonwealth Site had seven significant alterations affecting all four primary structures and the plant complex as a whole between 1970 and 1990. These significant alterations to the original complex undermine the property's historic integrity and render it incapable of conveying any potential historical associations with significant community events, individuals, or designers. The severity of loss of historic integrity was also observed by a qualified architectural historian during a field visit to the site on April 19, 2013, and photographically recorded. The loss and alteration of defined aspects of historic integrity since the plant's original construction prevent the property from further consideration as eligible to the NRHP or the CRHR and, therefore, result in the Commonwealth Site not containing a historic resource, as defined in Section 15064.5 of the State CEQA Guidelines.

The Commonwealth Site is not associated with events that made a significant contribution to the broad patterns of California history (CRHR Criterion 1). The property was not associated with the lives of a person of historical importance (CRHR Criterion 2). The embodiment of characteristics distinctive to plants built for the distilling, bottling, and distribution of spirits from the 1956 period has been greatly altered from seven alterations made between 1970 and 1990. The alterations render the property unable to convey characteristic type, period, region, or construction methodology from the period of original construction and the property lacks architectural merit or association with a significant designer (CRHR Criterion 3), and does not have the potential to yield information of historical importance (CRHR Criterion 4).

At the Jefferson Site, the building was constructed less than 50 years ago and may only be considered for listing on the CRHR if it is demonstrated that sufficient time has passed to understand its historical importance. In addition, a building that is less than 50 years old could only be determined significant if it embodied a particularly substantial contribution to the broad patterns of California's history, was associated with the lives of important historical figures, or showed exceptional architectural or artistic design qualities. There is no scholarly or other information that establishes the historical significance of the Jefferson Site structure, and the office and warehouse building is a typical, rather than exceptional, tilt-up concrete slab construction building.

As such, Project implementation would not impact a historic resource at either the Commonwealth Site or the Jefferson Site because neither property includes historic resources. Therefore, the impact would be ***less than significant.***

Impact CUL-2: Impacts on Archaeological Resources. The Project has the potential to encounter and damage or destroy previously unknown subsurface archaeological resources during construction. (PS)

Although no archaeological resources were identified in or adjacent to the Project site, three prehistoric sites have been recorded within 0.5 mile of the Project site. As discussed in *Methods for Analysis*, these sites are P-41-000270/CA-SMA-275 (a highly disturbed shell midden), P-41-000282/CA-SMA-242 (a medium density shell midden, highly disturbed by plowing/grading), and P-41-000438/CA-SMA-341 (a single human burial that has been reinterred in a location outside of the Project site). Therefore, the potential may exist for previously undiscovered archaeological resources to be encountered during construction of various elements of the Project. This impact is considered ***potentially significant***.

MITIGATION MEASURE. Impacts on Archaeological Resources would be reduced to a ***less-than-significant*** level by implementing Mitigation Measure CUL-2.1.

CUL-2.1: Perform Construction Monitoring, Evaluate Uncovered Archaeological Features, and Mitigate Potential Disturbance for Identified Significant Resources at the Project Site. Prior to demolition, excavation, grading, or other construction-related activities on the Project site, the applicant shall hire a qualified professional archaeologist (i.e., one who meets the Secretary of the Interior's professional qualifications for archaeology or one under the supervision of such a professional) to monitor, to the extent determined necessary by the archaeologist, Project-related earth-disturbing activities (e.g. grading, excavation, trenching). In the event that any prehistoric or historic-period subsurface archaeological features or deposits, including locally darkened soil (midden), that could conceal cultural deposits, animal bone, obsidian, and/or mortar are discovered during demolition/ construction-related earth-moving activities, all ground-disturbing activity within 100 feet of the discovery shall be halted immediately, and the Planning and Building Divisions shall be notified within 24 hours. City staff shall consult with the Project archeologist to assess the significance of the find. Impacts on any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by the City and that are consistent with the Secretary of the Interior's Standards for Archaeological Documentation. If Native American archaeological, ethnographic, or spiritual resources are discovered, all identification and treatment of the resources shall be conducted by a qualified archaeologist and Native American representatives who are approved by the local Native American community as scholars of the cultural traditions. In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted. When historic archaeological sites or historic architectural features are involved, all identification and treatment is to be carried out by historical archaeologists or architectural historians who meet the Secretary of the Interior's professional qualifications for archaeology and/or architectural history.

Impact CUL-3: Impacts on Paleontological Resources. The Project could destroy a unique paleontological resource or site or unique geologic feature. (PS)

The Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. This impact would be potentially significant, but would be reduced to less than significant with mitigation, as explained below. Impacts on paleontological resources would depend on the depth, extent, and type of soil-disturbing activities that may occur as a result of construction, as well as the paleontological sensitivity of the materials underlying the site.

Site preparation would involve earthwork, such as excavation, grading, trenching, and installation of foundation piles, all of which would encounter artificial fill and could encounter native deposits. Activities that disturb artificial fill would not result in a significant impact on paleontological resources because, as discussed above, fill is of low paleontological sensitivity. Activities that intercept clay soils or the underlying Pleistocene alluvial deposits could expose undisturbed deposits that may contain fossils. These activities could damage or destroy fossils. Because the clay soils and alluvial deposits have moderate to high paleontological sensitivity, this is considered a ***potentially significant*** impact.

MITIGATION MEASURE. Mitigation Measure CUL-3.1 would ensure that construction personnel would recognize fossil materials and follow proper notification procedures in the event that any are uncovered during construction. Implementation of CUL-3.1 would reduce potentially significant impacts on paleontological resources to a ***less-than-significant***.

CUL-3.1: *Conduct Protocol and Procedures for Encountering Paleontological Resources*. Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology (SVP), who is experienced in teaching non-specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance.

If a fossil is determined to be significant and avoidance is not feasible, the paleontologist shall develop and implement an excavation and salvage plan in accordance with SVP standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The City shall be responsible for ensuring that monitor's recommendations regarding treatment and reporting are implemented.

Impact CUL-4: Impacts on Human Remains. The Project has the potential to encounter or discover human remains during excavation or construction. (PS)

Although the NWIC background records search did not identify any human remains in or adjacent to the Project site, at least one human burial has been identified within 0.5 mile of the Project site. Therefore, the potential may exist for previously undiscovered human remains to be encountered during Project construction. This impact is considered ***potentially significant***

MITIGATION MEASURE. Mitigation Measure CUL-4.1 would reduce the impact to a ***less-than-significant*** level.

CUL-4.1: *Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site.* If human remains are discovered during any construction activities, all ground-disturbing activity within 50 feet of the remains shall be halted immediately, and the County Coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. Additionally, the Building Division shall be notified. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The Project Sponsor shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The City of Menlo Park Community Development Department Planning Division shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of state law, as set forth in State CEQA Guidelines Section 15064.5(e) and Public Resources Code Section 5097.98. The applicant shall implement approved mitigation, to be verified by the Planning Division, before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.

Cumulative Impacts

The geographic context for the analysis of cumulative impacts associated with cultural resources considers a broad regional system. The cumulative context for this cultural resources analysis is the Bay Area, where common patterns of prehistoric and historic development have occurred. This analysis accounts for anticipated cumulative growth within the nine counties comprising the Bay Area. The cumulative projects considered in this Draft EIR consist of two categories, Tier 1 and Tier 2, as shown in Table 3.0-1 and Table 3.0-2 in Section 3.0. In addition, buildout of the General Plans of the nine Bay Area counties and associated cities is considered in the cumulative context.

Impact C-CUL-1: Cumulative Impacts on Historical Resources. Cumulative development in the Bay Area could have significant impacts on historical resources. However, construction of the Project would not contribute to a cumulative impact. (LTS)

Tier 1 and Tier 2

Urban development that has occurred over the past several decades in the Bay Area has resulted in the demolition and alteration of historical resources, and it is reasonable to assume that present and future development activities will continue to result in impacts on historical resources. Because all historical resources are unique and nonrenewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. Federal, state, and local laws protect historical resources in most instances. Even so, it is not always feasible to protect historical resources, particularly when preservation in place would prevent implementation of projects. For this reason, the cumulative effects of development in the region on historical resources are considered significant.

The spirits distillery, bottling, and distributing plant at the Commonwealth Site would be demolished with implementation of the Project. There is no scholarly or other information that establishes the historical significance of the structures or other built features at the Commonwealth Site. At the Jefferson Site, the building was constructed less than 50 years ago. While the building would be demolished with implementation of the Project, there is no scholarly or other information that establishes the historical significance of the building. Therefore, the Project would not contribute to any potential cumulative impact on historical resources, and the cumulative impact would be ***less than significant.***

Impact C-CUL-2: Cumulative Impacts on Archaeological, Paleontological Resources, and Human Remains. Construction activities on the Project site and other cumulative development could result in impacts on archaeological resources. (PS)

Tier 1 and Tier 2

Given that known prehistoric resources have been identified within0.5 mile of the Project site, there is the possibility that previously undiscovered archaeological resources, including human remains, could be encountered during construction. The Project, in combination with other foreseeable development in the identified geographic context, also has the potential to encounter and damage or destroy previously unknown paleontological resources during construction. All significant archaeological resources, paleontological resources, and human remains are unique and nonrenewable resources. For this reason, the cumulative effects of all development on these resources are considered ***potentially significant***.

As analyzed above, the Project would potentially contribute to the cumulative loss of archeological, paleontological resources, and human remains. Therefore, the Project's contribution could be

considerable, resulting in a potentially significant cumulative impact. Mitigation Measures CUL-2.1, CUL-3.1, and CUL-4.1, prescribe discovery procedures for any previously unknown archaeological, paleontological resources, or human remains encountered during Project construction. The discovery procedures are consistent with professional standards and, as they pertain to discovered human remains, are compliant with state law. Compliance with these mitigation measures would reduce the Project's contribution to the cumulative impact to less than cumulatively considerable and reduce the potentially significant cumulative impacts associated with the loss of archaeological and paleontological resources and the disturbance of human remains to a ***less-than-significant*** level.

3.8 Geology and Soils

This section describes the geologic and seismic setting of the Commonwealth Corporate Center Project (Project) site (the Commonwealth Site and the Jefferson Site), including regional and local geology, soils, and groundwater; the regulatory framework relevant to the Project; and the potential environmental effects of the Project related to geology and soils. The impacts examined include risks related to geologic hazards, such as earthquakes, landslides, liquefaction, expansive soils, and impacts on the environment related to soil erosion and sedimentation. This section identifies both Project-level and cumulative environmental impacts and explains how compliance with the applicable regulations would reduce or avoid the identified impacts.

A preliminary geotechnical investigation was prepared for the Commonwealth Site. The information and conclusions from this document are incorporated into this section. No preliminary geotechnical analysis was completed for the Jefferson Site because it can be assumed that subsurface geologic and soils conditions are similar to those beneath the Commonwealth Site since the two sites are adjacent. Additional information was obtained from government agency documents and websites.

No comments related to geology and soils were received in response to the Notice of Preparation (NOP) (Appendix 1).

Existing Conditions

Regulatory Setting

Federal

Earthquake Hazard Reduction Act of 1977. Federal laws codified in the U.S. Code Title 42, Chapter 86 were enacted to reduce the risks to life and property from earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. Implementation of these requirements are regulated, monitored, and enforced at the state and local level. Key state and local regulations and standards are summarized below.

State

California Building Code. California Code of Regulations (CCR), Title 24, Part 2, the California Building Code (CBC), provides minimum standards for building design in the state. The 2013 CBC, effective January 1, 2014, is the current code and is based on the current International Building Code (IBC).

Each jurisdiction in California may adopt its own building code based on the CBC. Local codes are permitted to be more stringent than the CBC but, at a minimum, are required to meet all state standards and enforce the regulations of the CBC. The City of Menlo Park (City) has adopted the 2010 CBC and, starting January 1, 2014, will adopt the 2013 CBC.

Chapter 16 of the CBC deals with structural design requirements governing seismically resistant construction (Section 1604), including factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design (Sections 1613.5 through 1613.7). Chapter 18 includes the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); allowable load-bearing values

of soils (Section 1806); and the design of footings, foundations, and slope clearances (Sections 1808 and 1809); retaining walls (Section 1807); and pier, pile, driven, and cast-in-place foundation support systems (Section 1810). Chapter 33 includes requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304). Appendix J of the CBC includes grading requirements for the design of excavations and fills (Sections J106 and J107) and for erosion control (Sections J109 and J110). Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in the California Division of Occupational Safety and Health (Cal-OSHA) regulations (CCR, Title 8).

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act became effective in 1991 to identify and map seismic hazard zones for the purpose of assisting cities and counties in preparing the safety elements of their general plans and to encourage land use management policies and regulations that reduce seismic hazards. The intent of this act is to protect the public from the effects of strong groundshaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. In addition, the California Geologic Survey's (CGS) Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*,[1] provides guidance for the evaluation of earthquake-related hazards for projects in designated zones of required investigations, and for recommending mitigation measures as required by Public Resources Code Section 2695(a). Liquefaction hazards mapping has been prepared for the west side of San Francisco Bay (Bay), including the Menlo Park area.

NPDES Construction General Permit. Under the authority of the federal Clean Water Act Section 402 (National Pollutant Discharge Elimination Program [NPDES]), the State Water Resources Control Board (State Water Board) permits all regulated construction activities under Order No. 2009-0009-DWQ (adopted September 2, 2009). This order requires that, prior to beginning any construction activities, the permit applicant must obtain coverage under the Construction General Permit by preparing and submitting a Notice of Intent (NOI) to State Water Board and preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Construction General Permit requirements for all construction activities disturbing one or more acre of land surface. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavating, that result in soil disturbances of at least 1 acre of total land area. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges.

Implementation of the permit requirements are necessary (and required) to control erosion during construction activities. Compliance with the state permit is enforced and monitored by the City under Municipal Code Section 7.42 (see below).

[1] California Geological Survey. 2008. Guidelines for Evaluating and Mitigating Seismic Hazards in California. California Department of Conservation. (Special Publication 117A.) Available: <http://www.conservation.ca.gov/cgs/shzp/webdocs/sp117.pdf>. Accessed: May 2013.

Local

City of Menlo Park General Plan. The following policies and implementing program within the Safety Element of the General Plan are relevant to the Project.

> *Policy S1.13:* Geotechnical Studies. Continue to require site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability as shown on the State and/or local geological hazard maps or identified through other means.
>
> *Policy S1.14:* Potential Land Instability. Prohibit development in areas of potential land instability identified on State and/or local geologic hazard maps, or identified through other means, unless geologic investigation demonstrates hazards can be mitigated to an acceptable level as defined by the State of California.
>
> *Implementing Program S1.D:* Require early investigation of Potential Hazard conditions. Require that potential geologic, seismic, soils, and/or hydrologic problems confronting public or private development be thoroughly investigated at the earliest stages of the design process, and that these topics be comprehensively evaluated in the environmental review process by persons of competent technical expertise.

Earthquake Emergency Response. The City is a participant in the Association of Bay Area Governments (ABAG) multi-jurisdictional planning process for natural disaster emergencies. The City has adopted an Emergency Operation Plan that assesses the potential losses associated with earthquakes (among other disasters) and identifies responsibilities for city departments and coordination with San Mateo County and regional emergency response providers.[2] The City has also prepared a Disaster Preparedness Manual that is available to the public that describes actions that residents and businesses can take in the event of an earthquake.

Municipal Code. The following chapters of the Municipal Code pertain to the Project.

> *Building Code.* Chapter 12.06 of the City's Municipal Code implements the 2010 CBC and local amendments thereto.
>
> *Grading and Drainage Control Guidelines.* The City Engineering Division requires a grading and drainage plan whenever more than 500 square feet of the surface of a lot is to be affected by a building project. The basis for the grading and drainage plan requirement is City development policy, Stormwater Ordinance 859 (Chapter 7.42) and the California Regional Water Quality Control Board Municipal Regional Stormwater Permit issued on October 14, 2009 (Order R2-2009-0074, NPDES Permit No. CAS 612008). The focus of these guidelines is to control eroded sediment from construction sites entering waterways.

The City also requires the grading and drainage plan to include "Construction Erosion and Sedimentation Control" notes and plans, which must address timing of grading activities during the dry months, if feasible, and minimization of land disturbance, among other items.

Environmental Setting

Regional Setting

Geology

The Project site is situated along the San Francisco Peninsula, which separates the Bay from the Pacific Ocean. The San Francisco Peninsula is a ridge of rocks and sediments in the Santa Cruz Mountains

[2] City of Menlo Park. 2011. Emergency Operation Plan, Version 2.

portion of the Coast Ranges geomorphic province, which forms a rugged barrier between the Pacific Coast and inland California.[3] (Geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform.) The Coast Ranges province, which extends approximately 600 miles north from the Santa Ynez River in Santa Barbara County to the Oregon border, owes much of its physiographic character to the San Andreas fault system (in the San Francisco Bay Area [Bay Area]). This fault system is a 44-mile-wide zone of fracturing and folding rock where two adjoining tectonic plates that form the Earth's surface (the Pacific plate on the west and the North American plate on the east) are moving past each other in opposite directions. One result of this tectonic plate movement is the regional rock deformation and the general northwest trend of valleys and ridges throughout the Coast Ranges. The sedimentary rocks that form most of the plate boundary area were deposited during successive geologic intervals as layers of marine and terrestrial sediments between 70 million (Cretaceous Period) and 200 million years ago (Jurassic Period).

Quaternary alluvial sediment derived from the Santa Cruz Mountains overlies older Cretaceous and Jurassic sedimentary rocks. The youngest of this alluvial material consists of Holocene-age (11,000 years or younger) unconsolidated clay interbedded with sand and fine gravel. This unit is generally less than 15 feet thick and forms in poorly drained interfluvial basins, usually at margins of tidal marshlands at the edge of San Francisco Bay, where it interfingers with Bay Mud. Overlying this material is artificial fill, which consists of a combination of gravel, sand, and silt, and rock fragments.

Faults

The San Francisco Bay Area, one of the world's most seismically active regions, is near several active faults. Faults are geologic zones of weakness. Earthquakes are caused by the violent and abrupt release of strain built up along faults. Fault rupture almost always follows preexisting faults. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking. Surface rupture occurs when movement on a fault deep in the earth breaks through to the ground surface.

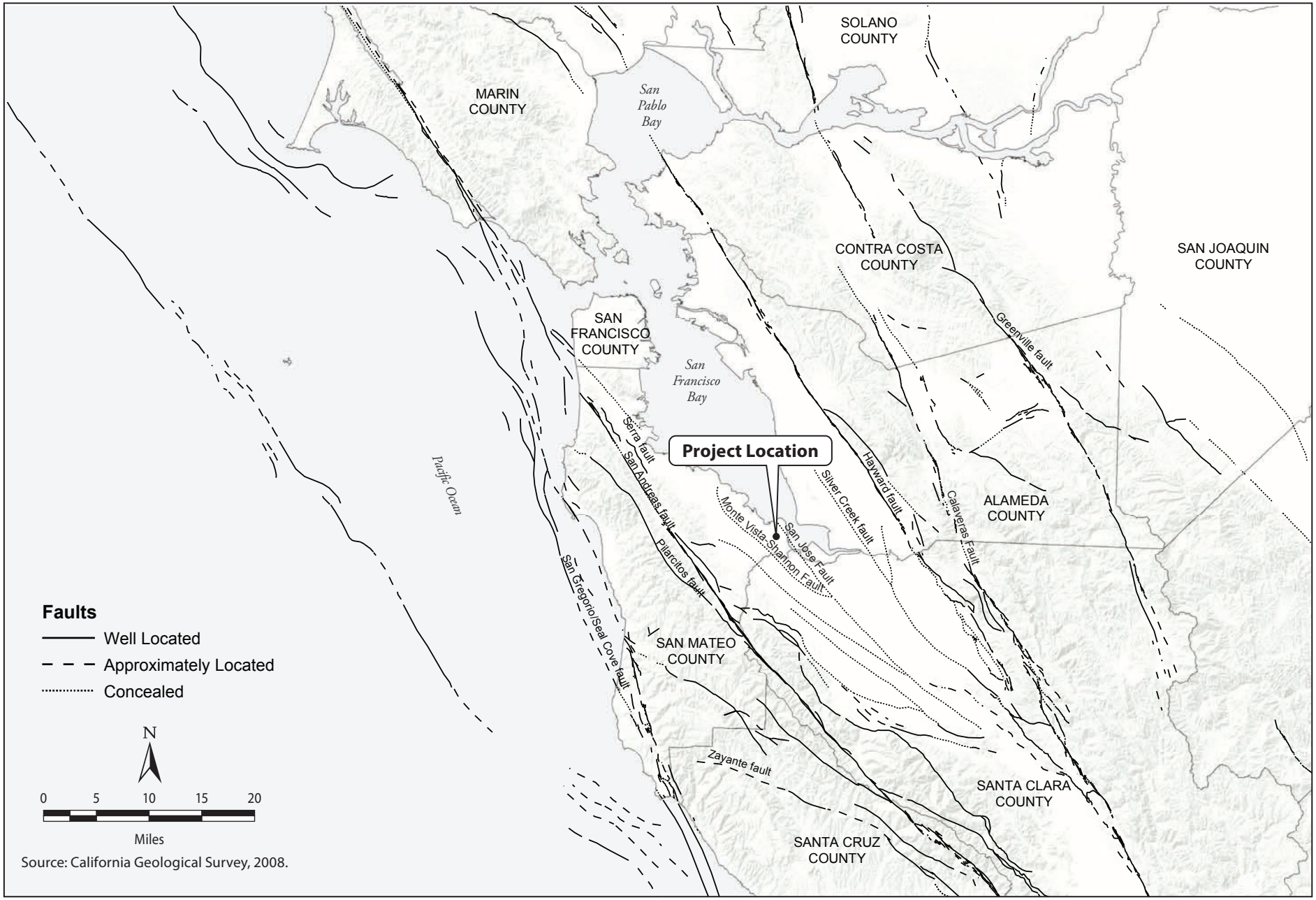
Figure 3.8-1 shows the locations of regional faults in proximity to the Project site. The closest active and potentially active faults are the Monte Vista–Shannon fault (5.0 miles southwest), the San Andreas fault (6.6 miles southwest), and the Hayward fault (12.9 miles northeast). Other nearby active Bay Area faults include the San Gregorio fault, about 16.0 miles southwest, and the Calaveras fault, about 18.0 miles northeast of the Project site. Potentially active, concealed faults of the Quaternary Palo Alto and Stanford faults are a few miles southwest of the Project site. The trace of the San Jose fault is northeast of the site, in the vicinity of East Palo Alto.[4] These Quaternary faults do not show evidence of recent surface displacements (i.e., during the last 10,000 years) that would cause the State of California to categorize them as active.

Earthquake Magnitude

Earthquakes are classified based on the amount of energy released, using logarithmic scales known as the Richter scale and the Moment Magnitude scale (MM). Each whole number of Richter magnitude represents a tenfold increase in the wave amplitude (earthquake size) generated by an earthquake, as

[3] California Geological Survey. 2002. California Geomorphic Provinces. California Department of Conservation. (California Geological Survey Note 36.) Available: <http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf>. Accessed: May 2013.

[4] California Geological Survey. 2010. 2010 Fault Activity Map of California. California Department of Conservation. Available: <http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html>. Accessed: May 2013.



Source: California Geological Survey, 2008.

Graphics ... 00078.13 (12-17-2013)

Figure 3.8-1
Regional Faults

well as a 3.16-fold increase in energy released. Thus, a magnitude 6.3 earthquake is ten times larger than a magnitude 5.3 earthquake and releases 31.6 times more energy. In contrast, a magnitude 7.3 event is 100 times larger than magnitude 5.3, and releases 1,000 times more energy. Table 3.8-1 shows the nearby active faults, their maximum credible earthquake expressed in MM, and their distance from the Project site.

Table 3.8-1. Maximum Credible Earthquake for Principal Active Faults in Project Vicinity

Fault	MCE Magnitude[a]	Distance from Project Site
Monte Vista–Shannon	6.2[b]	6.7
San Andreas	7.0–7.9[b]	6.5
Hayward	7.2[b,c]	12.3
Calaveras	6.8–7.5[b,c]	17.9
San Gregorio	7.5–7.7[b,d]	15.5

Note:

a. MCE magnitude is the maximum credible earthquake measured using the Moment Magnitude scale.

Sources:

b. Mualchin, L. 1996. A Technical Report to Accompany the Caltrans California Seismic Hazard Map 1996 (Based on Maximum Credible Earthquakes). Available: <http://www.dot.ca.gov/hq/escearthquake_engineering/Seismology/MapReport.PDF>. Accessed: May 2013.

c. Anderson, L. W., M. H. Anders, and D. A. Ostenaa. 1982. Late Quaternary Faulting and Seismic Hazard Potential, Eastern Diablo Range, California. Pages 197–206 in E. W. Hart, S. E. Hirschfeld, and S. S. Schulz (eds.), Proceedings, Conference on Earthquake Hazards in the Eastern San Francisco Bay Area. (Special Publication 62.) Sacramento, CA: California Division of Mines and Geology.

d. Weber, G.E. and W.R. Cotton. 1981. Geologic Investigation of Recurrence Intervals and Recency of Faulting along the San Gregorio Fault Zone, San Mateo County, California. (U.S. Geological Survey Open File Report 81-263.) Prepared for U.S. Geological Survey. Available: <http://pubs.usgs.gov/of/1981/0263/report.pdf>. Accessed: May 2013.

The U.S. Geological Survey's 2007 Working Group on California Earthquake Probabilities[5] estimated that there is a 63 percent probability that one or more MM 6.7 or greater earthquakes will occur in the Bay Area in the next 30 years. The probability of a MM 6.7 or greater earthquake occurring along individual faults was estimated to be 31 percent on the Hayward fault and 21 percent along the San Andreas fault.[6]

Earthquake Intensity

The Modified Mercalli Intensity Scale is a scale used for describing the intensity of an earthquake. The scale relates an earthquake to its effects on humans, objects of nature, and human-made structures on a scale of I through XII, with I denoting a weak earthquake and XII an earthquake that causes almost complete destruction. Table 3.8-2 (Modified Mercalli Intensity Scale) provides abbreviated definitions of the scale ratings. This scale is not employed by engineers when designing seismic-resistant structures.

[5] 2007 Working Group on California Earthquake Probabilities. 2008. The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2). USGS Open File Report 2007-1437. CGS Special Report 20 Available: <http://pubs.usgs.gov/of/2007/1437/of2007-1437_text.pdf>. Accessed: May 2013.

[6] 2007 Working Group on California Earthquake Probabilities. 2008. The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2). USGS Open File Report 2007-1437. CGS Special Report 20 Available: <http://pubs.usgs.gov/of/2007/1437/of2007-1437_text.pdf>. Accessed: May 2013.

The safety standards to which structures must be designed are set forth in the CBC and take into account numerous factors and criteria. However, this scale is useful in describing earthquake effects for the general public and can serve to interpret earthquake magnitude qualitatively.

Table 3.8-2. Modified Mercalli Intensity Scale

Scale Rating	Description
I	Not felt.
II	Felt by persons at rest, on upper floors, or favorably placed.
III	Felt indoors; hanging objects swing; vibration like passing of light trucks; duration estimated; may not be recognized as an earthquake.
IV	Hanging objects swing; vibration like passing of heavy truck or sensation of a jolt like a heavy ball striking the walls; standing automobiles rock; windows, dishes, doors rattle; wooden walls and frame may creak.
V	Felt outdoors; direction estimated; sleepers wakened; liquids disturbed, some spilled; small unstable objects displaced or upset; doors swing; shutters, pictures move; pendulum clocks stop, start, change rate.
VI	Felt by all; many frightened and run outdoors; persons walk unsteadily; windows, dishes, glassware broken; knickknacks, books, etc., off shelves; pictures off walls; furniture moved or overturned; weak plaster and Masonry D cracked.
VII	Difficult to stand; noticed by drivers of automobiles; hanging objects quiver; furniture broken; weak chimneys broken at roof line; damage to masonry D, including cracks, fall of plaster, loose bricks, stones, tiles, and embraced parapets; small slides and caving in along sand or gravel banks; large bells ring.
VIII	Steering of automobiles affected; damage to Masonry C, partial collapse; some damage to Masonry B; none to Masonry A; fall of stucco and some masonry walls; twisting, fall or chimneys, factory stacks, monuments, towers, elevated tanks; frame houses moved on foundations if not bolted down; loose panel walls thrown out; decayed piling broken off. Branches broken from trees; changes in flow or temperature of sprigs and wells; cracks in wet ground and on steep slopes.
IX	General panic; Masonry D destroyed Masonry C heavily damaged, sometimes with complete collapse; Masonry B seriously damaged; general damage to foundations; frame structures, if not bolted, shifted off foundations; frames racked; serious damage to reservoirs; underground pipes broken; conspicuous cracks in ground and liquefaction.
X	Most masonry and frame structures destroyed with their foundations; some well-built wooden structures and bridges destroyed; serious damage to dams, dikes, embankments; large landslides; water thrown out of banks of canals, rivers, lakes, etc.; sand and mud shifted horizontally on beaches and flat land; rails bent slightly.
XI	Rails bent greatly; underground pipelines completely out of service.
XII	Damage nearly total; large rock masses displaced; lines of sight and level distorted; objects thrown in the air.

Source: Spangle, William E. 1987. Pre-Earthquake Planning for Post-Earthquake Rebuilding.

Notes: Masonry A = Good workmanship and mortar, reinforced designed to resist lateral force.
Masonry B = Good workmanship and mortar, reinforced.
Masonry C = Good workmanship and mortar, unreinforced.
Masonry D = Poor workmanship and mortar and weak materials, like adobe.

Groundshaking

The intensity of the seismic shaking (groundshaking), or strong ground motion, during an earthquake depends on the distance and direction between a particular area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding that area. Earthquakes occurring on faults closest to the Project site probably would generate the strongest ground motions.

An earthquake along the entire San Andreas fault is considered capable of generating a MM 7.9 earthquake (similar to the 1906 San Francisco earthquake). An earthquake of this magnitude would generate strong to very strong seismic shaking (Modified Mercalli Intensity VII and VIII) at the site.[7] Groundshaking of this intensity could result in damage to buildings and can trigger ground failures such as liquefaction, potentially resulting in foundation damage, disruption of utility service, and roadway damage.

Hydrogeology

The Project site is near the boundary between major units of two alluvial deposits, as defined by the California Department of Water Resources: San Francisquito Cone and Niles Cone. The San Francisquito deposits are derived from the Santa Cruz Mountains to the southwest, and the Niles Cone deposits are derived from the Diablo Range along the northeastern boundary of the Bay.[8]

The unconsolidated materials in both units consist of four hydrogeologic zones: shallow aquifer, aquitard, deep aquifer, and sediments below the deep aquifer. The shallow aquifer zone ranges in depth from 5 to approximately 100 feet below ground surface. The zone consists of silt and clay with low permeability interbedded with high-permeability coarse-grained channel deposits.[9]

Project Site

Site Topography

The Commonwealth Site is relatively flat and lies at an elevation of approximately 6.7 to 11.9 feet above mean sea level (msl), sloping in a general northward direction. There are several feet of fill within the building footprints, elevating the interior floor above the surrounding exterior grade.[10] The Jefferson Site is relatively flat and lies at an elevation of approximately 6.6 to 7.4 feet above msl. The onsite surface parking lot and the existing building are at equal grade. However, a gentle slope rises from Jefferson Drive to the front of the building. There are no adjacent hillsides.

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[7] Association of Bay Area Governments. 2003. Earthquake Hazard Maps. Available: <http://www.abag.ca.gov/bayarea/eqmaps/s89m.html>. Accessed: June 2013. Last modified: April 18, 2003.

[8] San Francisco Bay Regional Water Quality Control Board. 2003. South Bay Basins Groundwater Protection Evaluation. Available: <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/groundwater/sobayground.shtml>. Accessed: June 2013.

[9] San Francisco Bay Regional Water Quality Control Board. 2003. South Bay Basins Groundwater Protection Evaluation. Available: <http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/groundwater/sobayground.shtml>. Accessed: June 2013.

[10] Cornerstone Earth Group. 2012. *Preliminary Geotechnical Investigation: Commonwealth Office Complex*. March 142.

Soils

The Project site is near the historic shoreline of the Bay. Soils at the Project site consist of artificial fill, organic silty clay, interbedded clay, and coarse-grained channel deposits that are discontinuous across the site.

Field exploration collected borings to a depth of approximately 50 feet. Alluvial clays and silty clays were generally encountered to a depth of approximately 20 feet. Medium-dense to very dense sands were encountered between 20 and 30 feet below grade. Stiff to very stiff clay was encountered between 30 and 50 feet below grade. It anticipated that there are several feet of fill within the building footprint. However, it is likely that undocumented fill and undocumented underground structures exist at the Project site.

Soils at the Project site also have been mapped by the Natural Resources Conservation Service (NRCS) as primarily Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes. This map unit is generally associated with former tidal flats and marshes. The Urban land category is a description for human-made soils and land, usually already developed and covered by paving and structures, consisting of heterogeneous fills of unknown origin. Neither of these soils is a source of topsoil. The properties and characteristics of these soils are highly variable because of differences in the fill materials present. Below the surface pavements are alluvial clays and silty clays to a depth of approximately 20 feet. The clays are underlain by medium dense to very dense sands to a depth of approximately 30 feet, which are underlain in turn by stiff to very stiff clay deposits to the terminal depth of the cone penetration testing (approximately 50 feet). Several feet of fill are also expected within the building footprint, elevating the interior floor above the surrounding exterior grade. While no preliminary geotechnical analysis was completed for the Jefferson Site, the two adjacent sites are assumed to have similar soil conditions. It is anticipated that pockets of undocumented fill exist throughout the Project site.[11]

Fault Rupture

No known surface expression of fault traces cross the Project site, and the site is neither in an Alquist–Priolo Earthquake Fault Zone nor adjacent to any known active fault.[12] Therefore, fault rupture hazard is not a significant geologic hazard at the Project site.

Groundshaking

Because there are several faults within approximately 15 miles of the Project site, the site would be expected to be subject to strong groundshaking.

Liquefaction

Liquefaction is a phenomenon in which uniformly sized, loosely deposited, saturated, granular soils (usually fine sand) with low clay content lose strength during strong groundshaking, which causes the soil to behave as a fluid for a short time. Liquefaction generally occurs at depths shallower than 50 feet below ground surface. Soils may lose their ability to support structures, and this loss of bearing strength

[11] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

[12] Bryant, W. A. and E. W. Hart. 2007. Fault-Rupture Hazard Zones in California—Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps. (Special Publication 42. Interim Revision) Sacramento, CA: California Geological Survey. Available: <ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/sp42.pdf>. Accessed: May 2013.

may cause structures founded on the liquefied materials to tilt or possibly topple over. Light structures such as pipelines, sewers, and empty fuel tanks that are buried in the ground can float to the surface when they are surrounded by liquefied soil. The susceptibility of a site to liquefaction is a function of the uniformity, depth, density, and water content of the granular sediments beneath the site and the magnitude of earthquakes likely to affect the site.

The potential for liquefaction at the Project site is high, based on the soils and depth to groundwater.[13] In addition, the Project site is mapped by the state and the County as being within a seismic hazard zone for liquefaction.[14,15]

Lateral Spreading

Lateral spreading (or lurching) occurs as a form of horizontal displacement of relatively flat-lying material toward an open face, such as an excavation, channel, or body of water. Generally, in soils, this movement is due to failure along a weak plane and may often be associated with liquefaction.

Although liquefaction potential at the Project site is high, there are no significant steep open faces within 200 feet of the site where lateral spreading could occur. Therefore, the potential for lateral spreading to affect the site appears to be low.[16]

Ground Rupture

Ground rupture can occur when the pore water pressure within liquefiable soil layers are great enough to break through the overlying non-liquefiable layer. Because the potential for liquefaction at the Project site is high, ground rupture is possible. However, field testing indicates that the depth of the non-liquefiable soil layer is sufficient to prevent ground rupture at the Project site.[17]

Differential Compaction and Settlement

When near-surface materials vary in composition either vertically or laterally, strong groundshaking can cause non-uniform compaction, resulting in movement of the materials and overlying structures. This can also occur gradually over time. Surficial materials underlying the Project site generally consist of undocumented fill materials and younger sediments. Field testing and site-specific analysis indicate that

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[13] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

[14] California Geological Survey. 2006b. Seismic Hazard Zone Report for the Palo Alto 7.5-Minute Quadrangle, San Mateo and Santa Clara Counties, California. California Department of Conservation. (Seismic Hazard Zone Report 111.) Sacramento, California. Available: <http://gmw.consrv.ca.gov/shmp/download/quad/PALO_ALTO/reports/paloa_eval.pdf>. Accessed: May 2013.

[15] San Mateo County. 2012. San Mateo County Hazards Mitigation Maps. Liquefaction. Available: <http://www.co.sanmateo.ca.us/portal/site/planning/menuitem.2ca7e1985b6c8f5565d293e5d17332a0/?vgnextoid=f2356327a3a51210VgnVCM1000001d37230aRCRD&cpsextcurrchannel=1> Accessed: October 31, 2013.

[16] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

[17] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

liquefaction could result in settlement of 0.3 to 2.0 inches, with a differential settlement of approximately 0.75 inch between adjacent footings separated by 30 feet.[18]

Differential settlement can also result from subsidence due to removal of groundwater. Santa Clara Valley was subject to subsidence until the 1960s. However, due to groundwater recharge efforts, subsidence has been halted.[19] Much of Santa Clara Valley, including the Project site, experienced subsidence between 1932 and 1969 as a result of overextraction of groundwater. Since the 1960s, subsidence has been halted through Santa Clara Valley Water District's efforts; less groundwater is extracted, and surface reservoirs created to promote groundwater recharge have raised the water table.[20] The current limited fluctuations in groundwater levels have a low probability to cause structural damage.

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried, and expand and soften when wetted. Soil plasticity is an indicator of the shrink-swell potential of soil. Field testing indicated that soils at the Commonwealth Site have moderate to high expansion potential under wetting and drying cycles.[21] It can reasonably be assumed that soils at the adjacent Jefferson Site also have moderate to high expansion potential under wetting and drying cycle.

Compressible Surface Soils and Fills

Compressible soils can settle or subside as a result of groundshaking or as a result of the loads placed on top of them. It is suspected that fill exists inside the building at the Commonwealth Site; it is unknown whether this fill has been compacted. Therefore, there is the potential for compressible soils to be present at the Project site.

Landslide Hazards

The topography at the Project site and in the surrounding area is level to nearly level, having 0 to 2 percent slopes. The California Geological Survey[22] classifies this area as having low landslide incidence and susceptibility.

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[18] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

[19] Ingebritsen, S.E. and Jones, D.R. 1999. Santa Clara Valley, California: A Case of Arrested Subsidence. In Galloway, D., D.R. Jones, S.E. Ingebritsen (Eds.), Land Subsidence in the United States. U.S. Geological Survey. (U.S. Geological Survey Circular 1182.) Reston, VA. Available: <http://pubs.usgs.gov/circ/circ1182/>. Accessed: May 2013.

[20] Ingebritsen, S.E. and Jones, D.R. 1999. Santa Clara Valley, California: A Case of Arrested Subsidence. In Galloway, D., D.R. Jones, S.E. Ingebritsen (Eds.), Land Subsidence in the United States. U.S. Geological Survey. (U.S. Geological Survey Circular 1182.) Reston, VA. Available: <http://pubs.usgs.gov/circ/circ1182/>. Accessed: May 2013.

[21] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

[22] California Geological Survey. 2006a. State of California Seismic Hazard Zones, Mountain View Quadrangle. California Department of Conservation. (Official Map, released October 18, 2006.) Available: <http://gmw.consrv.ca.gov/shmp/download/pdf/ozn_mview.pdf>. Accessed: May 2013.

Groundwater

Groundwater at the Project site was estimated from pore pressure dissipation test data at a depth of approximately 10 to 11 feet below current grade, or about -1 or -2 feet msl.[23] The state has mapped historic high groundwater at depths less than 10 feet.[24] Seasonal fluctuations occur in the shallow zone.

Environmental Impacts

This section describes the impact analysis relating to geology and soils for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (2) Strong seismic ground shaking; (3) Seismic-related ground failure, including liquefaction; and (4)Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

For the purpose of this Draft EIR, a significant impact would result from soil and/or seismic conditions so unfavorable that they could not be overcome by reasonable design, construction, and maintenance practices.

Methods for Analysis

A preliminary geotechnical analysis was completed for the Commonwealth Site and was used for the analysis of Project site impacts. The preliminary geotechnical assessment provides a summary and compilation of available geotechnical information that was used as part of the analysis of geologic,

[23] Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

[24] California Geological Survey. 2006b. Seismic Hazard Zone Report for the Palo Alto 7.5-Minute Quadrangle, San Mateo and Santa Clara Counties, California. California Department of Conservation. (Seismic Hazard Zone Report 111.) Sacramento, California. Available: <http://gmw.consrv.ca.gov/shmp/download/quad/PALO_ALTO/reports/paloa_eval.pdf>. Accessed: May 2013.

seismic, and geotechnical issues for this Draft EIR. This preliminary geotechnical assessment describes and evaluates geologic and geotechnical conditions at the Project site to support preliminary planning and conceptual-level design during initial phases of Project planning. Design-level geotechnical studies would be completed during development of construction plans, in accordance with the 2010 California Building Code (CBC) and City building permit requirements. While no preliminary geotechnical analysis was completed for the Jefferson Site, it can be assumed that subsurface geologic and soils conditions are similar to those beneath the Commonwealth Site because the site is adjacent to the Commonwealth Site. In addition, since no structures are planned for the Jefferson Site, no need for geotechnical studies is anticipated.

Impacts Not Evaluated In Detail

Fault Rupture. As shown in Figure 3.8-1 and Table 3.8-1, no faults cross the Project site, nor is the site within an Alquist–Priolo Earthquake Fault Zone. Because there would be no impact related to fault rupture, this impact is not further evaluated.

Landslides. The Project site is nearly level and is not adjacent to any hillsides where seismically induced landslides or other downslope movement of rock or soil material that could pose a hazard. In addition, the Project would not cause or exacerbate landslide hazard. Because the Project would not increase exposure of people to landslide hazards, this impact is not further evaluated.

Lateral Spreading. Because there are no steep open faces or bodies of water adjacent to the Project site that could be conducive to lateral spreading, there would be no risk of lateral spreading, and this impact is not further evaluated.

Loss of Topsoil. As discussed above, soils at the Project site are primarily of a soils type that is not a source of topsoil. Because the Project would not result in the loss of topsoil, this impact is not further evaluated.

Impacts on Septic Systems. The Project would not include any septic tanks or leach field systems. Wastewater generated at the Project site would be disposed through the existing sanitary sewer system. Because the Project does not require soils capable of supporting septic systems, this impact is not further evaluated.

Impacts and Mitigation Measures

Impact GEO-1: Strong Seismic Groundshaking and Seismic-Related Ground Failure. The Project would have a less-than-significant potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) Strong seismic ground shaking, and (2) Seismic-related ground failure, including liquefaction. (LTS)

Development of the Project site would involve the construction and occupancy of new buildings in a location where strong seismic groundshaking can be expected to occur over the life of the Project. Based on previous investigations at the site, mapped soil conditions, and the existence of high groundwater, the potential for liquefiable sediments is high. The County Hazards Mitigation Maps and the CGS Seismic Hazard Zone maps both identify the Project site as being potentially subject to liquefaction.

Liquefaction-related phenomena can include loss of bearing strength, vertical settlement from densification (subsidence), buoyancy effects, and flow failures, all of which could cause damage to the proposed structures on the Project site. Damage from liquefaction and lateral spreading is generally

most severe when liquefaction occurs within 15 to 20 feet below the ground surface. Foundations for structures and pipelines would be the components most vulnerable to damage from liquefaction-related phenomena. Seismically induced settlement can occur in areas underlain by compressible or poorly consolidated sediments. Some artificial fills are susceptible to mobilization and densification, resulting in earthquake-induced subsidence. Although there are seismic hazards, the preliminary geotechnical investigation for the Site concluded that development of the Project is feasible provided the potential hazards are reduced through the implementation of standard design and construction methods.

Specifically, all structures, roads, and utility lines must meet or exceed design criteria of the adopted CBC for Seismic Zone D. Design and construction of the structures and facilities at the Project Site would be required by the relevant sections of the CBC.

In addition, because the Project site is in a liquefaction Seismic Hazard Zone, the Project Sponsor would be required to comply with the guidelines set by CGS Special Publication 117, which outline the protocol for analysis and treatment of liquefaction-related hazards, including estimates of vertical settlement and lateral spreading. Prediction of liquefaction-related settlement is necessarily approximate, and related hazard assessment and development of recommendations for treatment of such hazards must be performed conservatively, as recommended by CGS Special Publication 117A. A similarly conservative approach is recommended by CGS Special Publication 117A when estimating the amount of localized differential settlement likely to occur as part of the overall predicted settlement: localized differential settlements up to two-thirds of the total settlements anticipated must be assumed until more precise predictions of differential settlements can be made.

The 2010 CBC requires that geotechnical investigations provide design criteria that would minimize impacts associated with strong groundshaking during an earthquake. The 2010 CBC also requires that all foundations and other improvements (e.g., roads, driveways, utilities) be designed by a licensed professional engineer based on site-specific soil investigations performed by a California Certified Engineering Geologist or Geotechnical Engineer to ensure the suitability (especially considering the existence of potentially liquefiable soils at the site) of the subsurface materials for adequately supporting the proposed structures. This would include designing foundations so they are able to tolerate or resist the anticipated total and differential settlement that can be caused by liquefaction. The City and the Project Sponsor would be responsible for ensuring that all recommendations from the investigations are incorporated in the Project, pursuant to state law.

As evidenced by the level of development throughout the Bay Area, successful building construction is possible in a seismically active zone and can be readily accomplished even where seismic hazards are known to exist. The risks to public safety from seismic hazards can be mitigated to the extent required by law with implementation of the proper design and construction methods, which would be within the responsibility of the City and the Project Sponsor to monitor and enforce through its building permit process. In addition, the City, along with other Bay Area jurisdictions, participates in a coordinated planning and emergency response program and has its own Emergency Operation Plan to respond to natural disasters.

Consequently, the Project would not have a significant adverse impact with regard to exposure of people or structures to damage resulting from seismic groundshaking or liquefaction-related hazards. Therefore, impacts would be ***less than significant***.

Impact GEO-2: Soil Erosion. The Project would result in less-than-significant soil erosion impacts. (LTS)

The Project site is nearly level and would not involve development on hillsides that would involve cut-and-fill. Thus, there would be no topographic changes that could alter erosion potential. However, development of the Project site would involve grading to construct building foundations and trenching for utility installations, parking surface, and landscaping. Some minor modifications to allow additional roadway access points would also be implemented. These construction activities could temporarily expose soils to erosive effects from stormwater runoff.

If fill is imported and stockpiled at the Project site, the stockpiles could be eroded by wind or water unless properly protected. Because the Project site exceeds 1 acre in size, the City would require the Project Sponsor to implement a SWPPP, in accordance with Chapter 7.42 of the Municipal Code, to reduce potential erosion and subsequent sedimentation of storm water runoff. This SWPPP would include BMPs to control erosion associated with grading, trenching, and other ground surface-disturbing activities. The Project Sponsor would be required to submit a grading plan to the City before permits would be issued. In addition, the Project Sponsor would be required to prepare and submit a grading and demolition (G&D) plan, along with an Erosion and Sedimentation Control Plan prior to obtaining a grading permit from the City. The Project Sponsor would also be required to implement the specifications in Chapter A33 of the CBC, which regulates grading activities, including drainage and erosion control. Compliance with City requirements and the CBC, which are within the authority of the City to enforce and monitor, would ensure that erosion impacts resulting from Project construction would be less than significant.

After construction, the Project site would be developed with buildings, parking areas, roadways, and landscaping and hardscaping. Stormwater runoff would be managed and collected by a new stormwater drainage and management system which would connect to the City's storm drain system, as described in Chapter 2, *Project Description*. The amount of impervious surface would be reduced from existing conditions from 85 to 72 percent of the Project site, leading to less stormwater runoff than under existing conditions. The impact resulting from erosion under project operation would be ***less than significant***.

Impact GEO-3: Soil Hazards. The Project would not be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in subsidence, liquefaction, or collapse. (LTS)

While subsidence was a concern in Santa Clara Valley in the early part of the twentieth century, it was effectively halted in the 1960s.[25] The risk of subsidence and associated differential settlement is low. However, the preliminary geotechnical investigation anticipates that differential settlement resulting from seismically induced liquefaction may occur. If Project structures are improperly designed and constructed, differential settlement could undermine structural foundation, potentially exposing people onsite, including inhabitants and construction workers, to increased safety risk.

Construction activities, such as excavation, could introduce instability and cause slopes to collapse. Soil collapse is also associated with subterranean voids, such as tunnels or mine shafts, or with excessive loading. Soil collapse could result if utilities, pipes, or tanks currently extant at the Project site are

[25] Ingebritsen, S.E. and Jones, D.R. 1999. Santa Clara Valley, California: A Case of Arrested Subsidence. In Galloway, D., D.R. Jones, S.E. Ingebritsen (Eds.), Land Subsidence in the United States. U.S. Geological Survey. (U.S. Geological Survey Circular 1182.) Reston, VA. Available: <http://pubs.usgs.gov/circ/circ1182/>. Accessed: May 2013.

abandoned in place and not appropriately backfilled, capped, and retrenched. Further, the artificial, undocumented fill and alluvial deposits that underlie the Project site are regarded as potentially weak soils that may be compressible or exhibit other characteristics that would make them unstable (e.g., differential compaction).

The presence of shallow groundwater could affect grading and underground construction by causing wet pavement subgrade, difficulty achieving compactions, and difficult utility installation. Dewatering and shoring of utility trenches may be required for deeper gravity utilities. However, standard engineering practices could be used to reduce potential hazards associated with soils at the Project site, and the preliminary geotechnical investigation concluded that development of the Commonwealth Site is feasible from a geotechnical perspective. The study also concluded that, on a preliminary basis, the planned structures could be supported on conventional shallow spread footings, bearing on natural, undisturbed soil or engineered fill.

As part of the construction permitting process, the City requires completed reports of soil conditions, conducted by registered soil professionals, to identify potentially unsuitable soil conditions. The reports must (a) identify potentially unsuitable soil conditions, and (b) contain appropriate recommendations for foundation type and design criteria that conform to the analysis and implementation criteria described in the City Building Code, Chapters 16, 18, and A33, to eliminate inappropriate soil conditions.

Adherence to the soil and foundation support parameters of the City Building Code, as required by City and state law, ensures the maximum practicable protection available from soil failures under static or dynamic conditions for structures and their associated trenches and foundations. The Project Sponsor would be required to incorporate these recommendations into Project design. In view of these circumstances, hazards related to unstable geologic or soil units at the Project site are considered ***less than significant***.

Impact GEO-4: Expansive Soil. The Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a less-than-significant risk to life or property. (LTS)

The preliminary geotechnical investigation for the Commonwealth Site indicates that soils are expected to have a moderate to high shrink-swell potential. Structural damage, warping, and cracking of roads, driveways, parking areas, and sidewalks, and rupture of utility lines may occur if the potential for expansive soils and the nature of the imported fill are not considered during design and construction of improvements. However, standard engineering practices could be used to reduce potential hazards associated with soils at the Project site, and the preliminary geotechnical investigation concluded that development of the Commonwealth Site is feasible from a geotechnical perspective.

As part of the construction permitting process, the City would require completed reports of soil conditions to identify potentially unsuitable soil conditions. The evaluations must be conducted by registered soil professionals. The reports must (a) identify potentially unsuitable soil conditions and (b) contain appropriate recommendations for foundation type and design criteria that conform to the analysis and implementation criteria described in the City Building Code, Chapters 16, 18, and A33, to eliminate inappropriate soil conditions.

Adherence to the soil and foundation support parameters of the City Building Code, as required by City and state law, ensures the maximum practicable protection available from soil failures under static or dynamic conditions for structures and their associated trenches and foundations. The Project Sponsor would be required to incorporate these recommendations into Project design. In view of these

circumstances, hazards related to expansive soil units at the Project site are considered ***less than significant***.

Cumulative Impacts

The geographic context for the analysis of impacts resulting from geologic hazards is generally limited to the project site, rather than being associated with other projects in the area. Because each project site has unique geologic considerations that would be subject to uniform site development and construction standards, the potential for cumulative geologic impacts to occur is limited. Therefore, the geographic context for issues related to soil composition (i.e., liquefaction, subsidence, lateral spreading, and landslides) includes only those projects in the immediate vicinity of the Project, which would include Menlo Gateway (Tier 1) and the North Fair Oaks Community Plan and some areas under the Menlo Park Housing Element (Tier 2 projects).

Impact C-GEO-1: Cumulative Seismic Hazards. The Project, in combination with other foreseeable development in the vicinity, would not substantially increase the risk of exposure or people or structures to seismic hazards. (LTS)

Tier 1 and Tier 2

Future population growth in the Bay Area, along with the Project and cumulative development, will increase the number of people and structures exposed to seismic hazards. Given the risk from seismic activity associated with all development in seismically active areas, this impact would be significant if it were not mitigated by building code requirements. Construction in California is strictly regulated by the CBC, as adopted and enforced by each jurisdiction, including the City, to reduce risks from seismic events to the maximum extent possible. Because the City uses and enforces the requirements of the CBC as part of its Building Code, new buildings and facilities in the City are required to be sited and designed in accordance with the most current geotechnical and seismic guidelines and recommendations. Development of cumulative projects would implement all necessary design features recommended by site-specific geotechnical studies (required for all development applications) to reduce the risk from seismic activity, unstable slopes, and soil limitations. Therefore, there would be no significant cumulative impact. The Project would implement the design features recommended by the Project geotechnical studies. With adherence to the City Building Code and related plans, regulations, and design and engineering guidelines and practices, the cumulative impact of the Project would be ***less than significant***.

Impact C-GEO-2: Cumulative Soil Erosion. The Project, in combination with other foreseeable development in the vicinity, would not substantially increase soil erosion potential. (LTS)

Tier 1 and Tier 2

The geographic context for analysis of impacts on development associated with the geotechnical aspects of erosion (i.e., permanent loss in soil or topographic changes that can cause or exacerbate erosion) is generally site-specific, and impacts would not be compounded by additional development. From a watershed perspective, however, erosion can affect water quality by contributing sediment; thus, the geographic context for erosion impacts for the Project would include the Atherton Channel watershed (see Section 3.9, *Hydrology and Water Quality*). However, the Atherton Channel watershed is considered already 99 percent built out, with an estimated 69 percent impervious cover. Consequently, potential growth would likely occur as redevelopment and not extensive new development on vacant land or

open space. Nonetheless, development of the cumulative projects could expose soil surfaces and alter soil conditions. To minimize the potential for cumulative impacts that could cause erosion, all cumulative projects in the City are required to conform to the provisions of applicable City ordinances and State regulations pertaining to erosion and sedimentation control. This includes the City's Municipal Code Chapter 7.42 requirements, which implement the federal and state National Pollutant Discharge Elimination System (NPDES) program. Therefore, there is no significant cumulative impact due to soil erosion.

During the construction phase, soil could be exposed to erosion by wind or water because it would involve substantial amounts of soil disturbance, but it would not involve permanent topographic changes that could cause increased erosion. Because the City and the Project Sponsor are responsible for ensuring the Project would be in compliance with applicable NPDES permit requirements, and would implement and maintain the BMPs required by the Project SWPPD, the cumulative impact would be ***less than significant***.

Impact C-GEO-3: Cumulative Soil Hazards. The Project, in combination with other foreseeable development in the vicinity, would not substantially increase soil hazards. (LTS)

Tier 1 and Tier 2

The geographic context for analysis of impacts on development from unstable soil conditions, including expansive soils or other conditions that could cause structural problems, is limited to the site and would not be compounded by additional development. Further, development is required to undergo analysis of geological and soil conditions applicable to the specific individual project, and restrictions on development would be applied in the event that geological or soil conditions pose a risk to safety as a result of site-specific geologic or soils instability, subsidence, collapse, and/or expansive soil. Because the City uses and enforces the requirements of the CBC as part of its Building Code, new buildings and facilities in the City are required to be sited and designed in accordance with the most current geotechnical guidelines and recommendations. There would be no significant cumulative impact with respect to soil hazards. The Project would include all necessary design features recommended by the site-specific geotechnical studies to reduce the risk from seismic activity, unstable slopes, and soil limitations. With adherence to the Building Code and related plans, regulations, and design and engineering guidelines and practices, the cumulative impact of the Project with respect to soil hazards would be ***less than significant***.

3.9 Hydrology and Water Quality

This section describes the affected environment and regulatory setting for hydrology and water quality. It also describes the impacts on hydrology and water quality that would result from implementation of the Commonwealth Corporate Center Project (Project), and mitigation measures that would reduce these impacts.

Additional information on the Project's potential impacts on stormwater hydrology is provided in Appendix 3.9. The Project's potential impacts on water supply are discussed in Section 3.13, *Utilities and Service Systems*.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. An applicable issue that was identified pertains to concerns about rainwater retention in Project parking areas and increases in impervious surface area.

Existing Conditions

Regulatory Setting

Federal

Clean Water Act. The federal Clean Water Act (CWA) was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis.

The U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program (discussed below), to the State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Board (Regional Water Board). The State Water Board establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The Regional Water Boards develop and implement water quality control plans (basin plans) that identify the beneficial uses of surface and ground waters, water quality characteristics, and water quality problems.

Section 303(d) and Total Maximum Daily Loads. The CWA contains two strategies for managing water quality. One is a technology-based approach that includes requirements to maintain a minimum level of pollutant management using the best available technology. The other is a water quality-based approach that relies on evaluating the condition of surface waters and setting limitations on the amount of pollution that the water can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the CWA bridges these two strategies. Section 303(d) requires that the states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the EPA administrator deems they are appropriate), the states are to develop total maximum daily loads (TMDLs). TMDLs are established at the level necessary to implement the applicable water quality standards. The CWA does not expressly require the implementation of TMDLs. However, federal regulations require that an implementation plan be

developed along with the TMDL and Section 303(d), 303(e), and their implementing regulations require that approved TMDLs be incorporated into basin plans. EPA has established regulations (40 CFR 122) requiring that NPDES permits be revised to be consistent with any approved TMDL. A Mercury TMDL has been established for the San Francisco Bay (Bay) and approved by the State Water Board (Resolution 2007-0045). TMDLs for the other constituents contributing to impairment are scheduled to be completed by 2019.

In addition to the impaired water body list required by CWA Section 303(d), CWA Section 305(b) requires states to develop a report assessing statewide surface water quality. Both CWA requirements are being addressed through the development of a 303(d)/305(b) Integrated Report, which will address both an update to the 303(d) list and a 305(b) assessment of statewide water quality. The State Water Board developed a statewide 2010 California Integrated Report based on the Integrated Reports from each of the nine Regional Water Boards. The 2010 California Integrated Report was approved by the State Water Board on August 4, 2010, and approved by EPA on November 12, 2010. A 2012 California Integrated Report with 303(d) listings is currently in development.

Section 402—National Pollutant Discharge Elimination System. The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). EPA has granted the state of California (the State Water Board and Regional Water Boards) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to Waters of the United States.

NPDES General Permit for Construction Activities. Most construction activities that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Permit for Construction Activities (Construction General Permit). The State Water Board has issued a statewide Construction General Permit (Order No. 2009-0009-DWQ, NPDES No. CAR000002), adopted September 2, 2009. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of total land area.

The Construction General Permit requires the applicant to file a notice of intent (NOI) to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities, along with a demonstration of compliance with relevant local ordinances and regulations, and an overview of the best management practices (BMPs) that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

NPDES General Municipal Stormwater Permit. CWA Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4) (MS4 Permit). Phase I MS4 regulations cover municipalities with populations greater than 100,000, certain industrial processes, or construction activities disturbing an area of 5 acres or more. Phase II (Small MS4) regulations require that stormwater management plans be developed by municipalities with populations smaller than 100,000 and construction activities disturbing 1 or more acres of land area.

MS4 Permits require that cities and counties develop and implement programs and measures to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible, including management practices, control techniques, system design and engineering methods, and other measures as appropriate. As part of permit compliance, these permit holders have created stormwater management plans for their respective locations. These plans outline the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. These requirements may include multiple measures to control pollutants in stormwater discharge. During implementation of specific projects under the program, project applicants will be required to follow the guidance contained in the stormwater management plans as defined by the permit holder in that location.

Regulated projects, as defined in the Construction General Permit (Provision C.3.b.), are required to implement certain construction and post-construction stormwater quality BMPs. Regulated projects include redevelopment projects that create or replace 10,000 square feet (sf) or more of impervious surfaces. Regulated projects must provide permanent/post-construction treatment controls for stormwater according to specific calculations. If the redevelopment results in an alteration of more than 50 percent of the existing impervious surfaces, permanent BMPs must be implemented to treat runoff from the entire project site. Postconstruction BMPs can be implemented through low impact development (LID) design, which incorporates site design, including using vegetated swales and retention basins and minimizing impermeable surfaces to manage stormwater and maintain a site's predevelopment runoff rates and volumes. The State Water Board is advancing LID in California as a means of complying with municipal stormwater permits.

National Flood Insurance Program. The Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineer (USACE) studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMs), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain. FEMA allows non-residential development in the floodplain; however, construction activities are restricted within the flood hazard areas depending upon the potential for flooding within each area.

State

Porter-Cologne Water Quality Control Act. The Porter-Cologne Act is established and implemented by the State Water Board and nine Regional Water Boards. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, or "waters of the state." Waters of the state are defined more broadly than "waters of the United States;" they are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. This includes waters in both natural and artificial channels. It also includes all surface waters that are not waters of the United States or non-jurisdictional wetlands, which are essentially distinguished by whether they are navigable. If waters are not navigable, then they are considered to be isolated, and therefore only fall under the jurisdiction of the Porter-Cologne Act and not the CWA. The Regional Water Boards are responsible for implementing CWA Sections 401, 402, and 303(d) as previously mentioned and described in more detail below.

The Porter-Cologne Act authorizes State Water Board to draft state policies regarding water quality. The act requires projects that are discharging, or proposing to discharge, wastes that could affect the quality of the state's water to file a Waste Discharge Report (WDR) with the appropriate Regional Water Board. The Porter-Cologne Act also requires that the State Water Board or a Regional Water Board adopt basin

plans for the protection of water quality. Basin plans are updated and reviewed every 3 years and provide the technical basis for determining WDRs, taking enforcement actions, and evaluating clean water grant proposals. A basin plan must include the following sections.[1]

- A statement of beneficial water uses that the Regional Water Board will protect.
- Water quality objectives needed to protect the designated beneficial water uses.
- Strategies and time schedules for achieving the water quality objectives.
- In basin plans, Regional Water Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. Consequently, the water quality objectives developed for particular water segments are based on the designated use and vary depending on such use. The *San Francisco Bay Basin (Region 2) Water Quality Control Plan* (Basin Plan) specifies region-wide and water body-specific beneficial uses and has set numeric and narrative water quality objectives for several substances and parameters in numerous surface waters in its region. Specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses.[2]
- In addition, the State Water Board identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If it is determined that waters are impaired for one or more constituents, and the standards cannot be met through point-source or non-point source controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of TMDLs. TMDLs may establish daily load limits of the pollutant, or in some cases require other regulatory measures, with the ultimate goal of reducing the amount of the pollutant entering the water body to meet water quality objectives. The latest 303(d) impairments are listed in the2010 California Integrated Report.[3]

The Project lies within the jurisdiction of the San Francisco Bay Regional Water Board. The San Francisco Bay Regional Water Board is responsible for the protection of beneficial uses of water resources in the San Francisco Bay Area (Bay Area), which includes Alameda, Contra Costa, San Francisco, Santa Clara (north of Morgan Hill), San Mateo, Marin, Sonoma, Napa, and Solano Counties. The Basin Plan was last updated in 2011.[4] Beneficial uses, water quality objectives, and Section 303(d)-listed impairments are described for the Project area below in the *Surface Water Quality* section.

California Water Code. All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code. Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state, other than into a community sewer system, shall file a WDR) containing information that may be required by the appropriate Regional Water Board. The projects are then required to obtain approval of WDRs from the appropriate Regional Water Board. Land and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of privately or publicly treated domestic wastewater and process and wash-down wastewater. WDRs for discharges to surface waters also serve as NPDES permits.

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1 San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Originally published January 18, 2007. Last updated in 2011.

2 San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Originally published January 18, 2007. Last updated in 2011.

3 State Water Resources Control Board. 2011. California 2010 303(d) list. Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml. Accessed: April 15, 2013.

4 San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Originally published January 18, 2007. Last updated in 2011.

Coastal and Ocean Working Group of the California Climate Action Team. The Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT) developed a guidance document, State of California Sea-Level Rise Guidance Document, for state agencies in incorporating sea level rise into planning and decision making for projects in California. The document was developed in response to Governor Schwarzenegger's Executive Order S-13-08, issued on November 14, 2008, which requires all state agencies planning construction projects in areas vulnerable to sea level rise to consider a range of sea level rise scenarios for the years 2050 and 2100. That executive order also requested the National Research Council (NRC) to issue a report on sea level rise to advise California on planning efforts. The final report from the NRC, Sea-Level Rise for the Coasts of California, Oregon, and Washington 1, was released in June 2012. The Sea Level Rise Task Force issued its final guidance in March 2013 with the scientific findings of the 2012 NRC report. In the CO-CAT SLR guidance document, three sea level rise projections based on time periods were selected for north of Cape Mendocino using year 2000 as the baseline.

- 2 to 12 inches (-0.13 to 0.75 feet) by 2030.
- 5 to 24 inches (-0.1 to 1.57 feet) by 2050.
- 17 to 66 inches (0.3 to 4.69 feet) in 2100.
- The guidance also recommends consideration of a wide range of other factors, such as local trends, adaptive capacity, and risk tolerance when selecting estimates of sea level rise.

Local

San Francisco Bay Municipal Regional Permit. The San Francisco Bay Regional Water Board most recently issues the MS4 Phase I San Francisco Bay Region Municipal Regional Stormwater NPDES Permit No. CAS029718 (Order No. R2-2009-0074-DWQ) (San Francisco Bay MS4 Permit) on October 14, 2009. Provision C.3 of the San Francisco Bay MS4 Permit is for New Development and Redevelopment projects authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects.

Project would be required to comply with the Municipal Regional Permit San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) Provision C.3 Stormwater Technical Guidance because it involves a total new impervious area (where it is currently pervious) of approximately 15,800 square feet, which is greater than 10,000 square feet.[5] However, the Project would ultimately reduce the overall area of impervious surface area by 20 percent compared to existing impervious surface area. The Project would reduce total runoff rates and would implement biotreatment measures and, therefore would be in compliance with Provision C.3. The provision also states, however, that "all projects regardless of size should consider incorporating appropriate source control and site design measures that minimize stormwater pollutant discharges to the maximum extent practicable [MEP]." Regardless of a project's need to comply with Provision C.3, municipalities apply the MEP standard, including standard stormwater conditions of approval for projects that receive development permits.

San Francisco Bay Conservation and Development Commission. The San Francisco Bay Conservation and Development Commission (BCDC) has regulatory responsibility over development in the Bay and along the Bay's nine-county shoreline. BCDC is guided in its decisions by its law, the

[5] Kier & Wright Civil Engineers & Surveyors. 2013. Stormwater Report for 151 Commonwealth Drive and 164 Jefferson Drive, Menlo Park, California. Project No. A11089-2. April 12. Santa Clara, California.

McAteer-Petris Act, the BCDC San Francisco Bay Plan, and other plans for specific areas around the Bay. It is necessary to obtain a BCDC permit prior to undertaking most work in the Bay, including portions of most creeks, rivers, sloughs, and other tributaries that flow into the Bay.

In a BCDC report[6] on sea level rise, two sea level rise projections were selected as the basis for inundation vulnerability assessment.

- A 16-inch (1.3 feet) rise by mid-century (2050).
- A 55-inch (4.58 feet) rise by the end of the century (2100)

San Mateo Countywide Water Pollution Prevention Program. SMCWPPP is a partnership of the City/County Association of Governments (C/CAG), which consists of the County of San Mateo and each incorporated city and town in the county. The municipalities that are part of C/CAG share a common MS4 permit. Each municipality in San Mateo County is responsible for implementing a stormwater program in compliance with MS4 permit requirements to prevent discharges of polluted stormwater runoff from its streets into the local storm drain system and nearby surface waters. The permit prescribes how each local municipality will regulate new and redevelopment projects, conduct its municipal maintenance activities, eliminate non-stormwater discharges, inspect businesses to control stormwater pollutants, and encourage the public's help in preventing pollution.

In order to meet local municipal requirements and requirements of the San Francisco Bay MS4 Permit described above, the County of San Mateo has developed a Provision C.3 Stormwater Technical Guidance Handbook[7] to help developers, builders, and project sponsors include post-construction stormwater controls in their projects. The municipalities have to require postconstruction stormwater controls as part of their obligations under Provision C.3 of the MS4 permit. The Countywide Program has also prepared a Sustainable Green Streets and Parking Lots Design Guidebook to specifically assist municipalities and project applicants with designing street and parking lot projects that treat stormwater runoff in landscape-based treatment measures.

City of Menlo Park Municipal Code. The City of Menlo Park Municipal Code contains the following requirements related to protection of water resources.

Title 7: Health and Sanitation, Chapter 7.38. Title 7, Chapter 7.38 discusses general water conservation principals and adopts water conservation as a City-wide goal. Further, it provides that the City should conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection. Chapter 7.38 includes regulations and restrictions on water use and mandates that the wasteful use of water should be eliminated.

Title 7: Health and Sanitation, Chapter 7.42. Title 7, Chapter 7.42 officially adopts the San Mateo Countywide Pollution Prevention Program Stormwater Management Plan and its provisions as City policy. The purpose and intent of Chapter 7.42 is to ensure the future health, safety, and general welfare of City citizens by eliminating non-stormwater discharges to the municipal separate storm sewer; controlling the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than stormwater; and reducing pollutants in stormwater discharges to the maximum

[6] San Francisco Bay Conservation and Development Commission (BCDC). 2011. Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline. Approved on October 6.

[7] County of San Mateo. 2013. San Mateo Countywide Water Pollution Prevention Program. C.3 Stormwater Technical Guidance. For use by developers, builders and project applicants to design and build low impact development projects. Version 3.2. January 4.

extent practicable. The intent of Chapter 7.42 is also to protect and enhance the water quality of the watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the CWA.

To meet the requirements of the Stormwater Ordinance 859 (Chapter 7.42), the City requires a Grading and Drainage (G&D) Plan whenever more than 500 sf of the surface of a lot is to be affected by a building project. The goal of the G&D Plan is to manage possible sources of water pollution (source control), make sure site drainage does not affect neighboring properties (site design) and to remove contaminants from the stormwater before it drains into the City Street or Storm Drain System (treatment measures).

Title 12: Buildings and Construction, Chapter 12.44. Title 12, Chapter 12.44 defines water-efficient landscaping standards that must be employed by new developments. Further, it provides that all property owners of regulated projects shall complete and submit the landscape project application, comply with the landscape and irrigation maintenance schedule, and maintain landscape irrigation facilities to prevent water waste and runoff. In addition, the ordinance requires a landscape audit report be submitted after installation of landscaping to certify compliance with the ordinance.

City of Menlo Park General Plan. The following goal within the Open Space/Conservation Element of the City's General Plan is relevant to this Project.

> **Goal OSC5:** Ensure Healthy Air Quality and Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.

The following policies within the Safety Element of the General Plan are relevant to this Project.

> *Policy S1.26:* Erosion and Sediment Control. Continue to require the use of best management practices for erosion and sediment control measures with proposed development in compliance with applicable regional regulations.
>
> *Policy S1.27:* Regional Water Board Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the Regional Water Board general NPDES requirement, the San Mateo County Water Pollution Prevention Program and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

Environmental Setting

Surface Water

Hydrology. The Project site is located within the South San Francisco Bay Basin watershed, approximately 0.3 mile inland from the South Bay Salt Ponds and 1.5 miles inland from the Lower San Francisco Bay. The Project site covers a total area of approximately 13.3 acres (578,472 sf), and site topography is generally flat. There are no natural surface water features within the Project site. Major surface waters in the Project vicinity include the Atherton Channel (also known as Atherton Creek) to the west, Flood Slough to the northwest, San Francisquito Creek to the southeast, and the Lower San Francisco Bay. The Atherton Channel is an alternating earth- and concrete-lined channel that carries flow from the upper reaches of Atherton Creek to Flood Slough. Flood Slough is one of several sloughs that run through the salt ponds and salt marshes north of the Bayfront Expressway, and it drains into the Bay. Levees are located throughout the salt ponds.

The Project site is located in the northern drainage area of the City. All surface drainage flows (i.e., the storm system and natural surface runoff flows) ultimately discharge to the Lower San Francisco Bay. Stormwater from the Project site is collected via the street network at Jefferson Drive and conveyed via an existing 36-inch storm drain leading to the Bay. A small portion of the Jefferson Site discharges directly to Jefferson Drive over two existing driveway aprons. The average stormwater runoff rate was calculated and is presented in the stormwater report for the Project (Appendix 3.9). The existing total lot runoff rate for a 10-year storm event (Q_{10}) from these sites, based on an impervious area of 540,577 sf and a pervious area of 37,895 sf, is 19.43 cubic feet per second (cfs).[8]

Water Supply. The majority of water supplies serving the City are obtained through the San Francisco Public Utilities Commission (SFPUC) from the Hetch Hetchy reservoir. However, a small number of connections are served by local groundwater supplies. The O'Connor Tract Co-operative Water Company is a small municipal water supplier that services parts of the City and East Palo Alto. This company operates two groundwater wells that are 250 to 500 feet deep and are located over 2 miles up-gradient from the Project site.

Water Quality

The Basin Plan specifies the following beneficial uses that apply to the Lower San Francisco Bay.[9]

- Industrial service water supply (IND).
- Commercial and sport fishing (COMM).
- Shell fish harvesting (SHELL).
- Estuarine habitat (EST).
- Fish migration (MIGR).
- Preservation of rare and endangered species (RARE).
- Fish spawning (SPWN).
- Wildlife habitat (WILD).
- Water contact recreation (REC1).
- Noncontact water contact recreation (REC2).

Water quality objectives for the Lower San Francisco Bay are shown in Table 3.9-1. The water quality objectives are general objectives established for the region.

[8] Kier & Wright Civil Engineers & Surveyors. 2013. Stormwater Report for 151 Commonwealth Drive and 164 Jefferson Drive, Menlo Park, California. Project No. A11089-2. April 12. Santa Clara, California.

[9] San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Originally published January 18, 2007. Last updated in 2011.

Table 3.9-1. Water Quality Objectives for Surface Waters in the Project Area

Constituent	Water Quality Objective
Bacteria	Various concentrations based on designated beneficial use.
Bioaccumulation	Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life.
Biostimulatory substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.
Dissolved oxygen	For nontidal waters, cold water habitat: 7.0 mg/l minimum. The median dissolved oxygen concentration for any 3 consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Floating material	Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
Oil and grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
Population and community ecology	Waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
pH	Must be maintained between 6.5 and 8.5, and shall not cause changes greater than 0.5 units in normal ambient pH levels.
Radioactivity	Radionuclides shall not be present in concentrations that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
Salinity	Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat.
Sediment	Suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.
Settleable material	Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Suspended material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Sulfide	All water shall be free from dissolved sulfide concentrations above natural background levels.
Tastes and odors	Waters shall not contain taste or odor producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
Temperature	Enclosed bays and estuaries: objectives are specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California.

Table 3.9-1. Water Quality Objectives for Surface Waters in the Project Area

Constituent	Water Quality Objective
	Surface waters: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.
Unionized ammonia	Central San Francisco Bay: The discharge of wastes shall not cause receiving waters to contain concentrations of un-ionized ammonia in excess of 0.16 mg/l as nitrogen
Chemical constituents	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use. Objectives for specific chemical constituents are listed in the San Francisco Bay Regional Water Board Basin Plan.

Source: San Francisco Bay Regional Water Quality Control Board 2010
mg/L = milligrams per liter
NTU = nephelometric turbidity unit

Water Quality. The Section 303(d) listed impairments for the Lower San Francisco Bay are shown in Table 3.9-2. The 303(d) listed impairments are based on the 2010 Integrated Report.[10]

Table 3.9-2. Water Quality Impairments in the Lower San Francisco Bay

Listed Impairments Per 2006 303(d) List	Potential Sources	EPA TMDL Completion
Chlordane	Nonpoint source	Est. 2013
DDT (Dichlorodiphenyltrichlorothane)	Nonpoint source	Est. 2013
Dieldrin	Nonpoint source	Est. 2013
Dioxin compounds (including 2,3,7,8-TCDD)	Atmospheric deposition	Est. 2019
Furan Compounds	Atmospheric deposition	Est. 2019
Invasive Species	Ballast water	Est. 2019
Mercury	Atmospheric deposition, industrial point sources, municipal point sources, natural source, nonpoint source, resource extraction	2008
PCBs and Dioxin-Like PCBs (polychlorinated biphenyls)	Unknown nonpoint source	2008
Trash	Illegal dumping, Urban Runoff/Storm Sewers	Est. 2021

Source: State Water Resources Control Board. 2011. California 2010 303(d) list. Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml. Accessed: April 15, 2013.

Constituents or pollutants in stormwater runoff (e.g., oil and grease, particulates, pesticides, herbicides, animal waste, etc.) vary with surrounding land uses, impervious surface area, and topography, as well as with the intensity and frequency of rainfall or irrigation. Stormwater runoff generated at the onset of the wet season, or the "first-flush," typically contains the highest pollutant concentrations. The Project site is located within in a developed area of the City, and a majority of the ground surface is covered by pavement (roads and parking lots) and structures (office and commercial buildings). Street surfaces are the primary source of pollutants in stormwater runoff in urban areas.

Common sources of stormwater pollution in urban areas include construction sites, parking lots, large landscaped areas, and household and industrial sites. Grading and earthmoving activities associated with new construction can accelerate soil erosion. Grease, oil, hydrocarbons, and metals deposited by vehicles and heavy equipment can accumulate on streets and paved parking lots and are carried into storm drains by runoff. PCBs are also listed as 303(d) impairments in the Lower San Francisco Bay. PCBs can be found in automobile engines and other sources common in urban areas. Pesticides, herbicides, fungicides, and fertilizers used for landscape maintenance are washed into storm drains when irrigation exceeds the rate of soil infiltration and plant uptake, or when these chemicals are applied in excess. As

[10] State Water Resources Control Board. 2011. California 2010 303(d) list. Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml. Accessed: April 15, 2013.

shown in Table 3.9-2, the pesticides of chlordane, DDT (no longer permitted for use), and dieldrin are listed as 303(d) impairments in the Lower San Francisco Bay. Paints, solvents, soap products, and other toxic materials may be inadvertently or deliberately deposited in storm drains in residential and industrial areas. Trash is also listed as a 303(d) impairment in Table 3.9-2. Trash can threaten aquatic life and recreational beneficial uses designated by the Basin Plan. Trash and litter can collect in storm drain inlets and ultimately be discharged into nearby waterways.

Although no site-specific water quality data are available, it is reasonable to assume that stormwater runoff from the Commonwealth and Jefferson Sites is typical of urban areas with similar land uses. Therefore, it is likely that stormwater runoff at the Project site may contain chemicals associated with landscaping (e.g., fertilizers, herbicides and pesticides); oil, grease, and metal brake dust from automobiles; trash and debris; sediment from soil erosion and aerial deposition; and potentially other pollutants.

Groundwater

Hydrogeology. The Project sites are located within the Santa Clara Valley groundwater basin and the San Mateo subbasin. The San Mateo subbasin is bounded by the Santa Cruz Mountains to the west, the Bay to the east, San Francisquito Creek to the south, and the Westside Groundwater Basin to the north. The subbasin's underlying water bearing formations include Quaternary and Plio-Pleistocene alluvial deposits composed of gravel, sand, silt, and clay. A relatively shallow water table aquifer overlies confined and semi-confined aquifers near the margins of the Bay, with most wells drawing from the deeper deposits. The direction of groundwater flow is generally to the north.

Recharge of the San Mateo subbasin occurs through infiltration into stream beds and through infiltration of precipitation on the valley floor. Little is known about the actual storage capacity of the subbasin or existing groundwater levels, but it is estimated that groundwater levels have rebounded somewhat since the early twentieth century when groundwater was used as the primary source for drinking and irrigation. Groundwater levels at the Project site were estimated from pore pressure dissipation test data at a depth of about 10 to 11 feet below current grades, corresponding to elevations 1 to 2 feet below mean sea level (msl).[11] The site is relatively flat, with elevations varying from 6 to 11 feet above msl.

Groundwater Quality. In general, groundwater quality in the Santa Clara Valley is good; water from public supply wells meets state and federal drinking water standards without treatment.[12] However, there are some known concerns. Near the Bay margin, historic groundwater overdraft has created areas of saltwater intrusion where groundwater salinity is elevated by contact with seawater infiltrating into subsurface aquifers.[13] The high level of salt in the native soils is also indicative of high concentrations of salts in groundwater. The high level of salt in the native soils has deteriorated the metal components of the irrigation system over time, resulting in leaks that cause loss of water. The groundwater tends to be

[11] Cornerstone Earth Group. 2012. Preliminary geotechnical investigation for Commonwealth Office Complex. Project number 102-11-11. Walnut Creek, CA. March 14.

[12] California Department of Water Resources. 2003. California's Groundwater—Bulletin 118, Update 2003, San Francisco Bay Hydrologic Region. Available: <http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater__bulletin_118_-_update_2003_/bulletin118_2-sf.pdf>. Accessed: April 19, 2013.

[13] California Department of Water Resources. 2003. California's Groundwater—Bulletin 118, Update 2003, San Francisco Bay Hydrologic Region. Available: < http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater__bulletin_118_-_update_2003_/bulletin118_2-sf.pdf>. Accessed: April 19, 2013.

quite hard (high mineral content) and have high concentrations of iron and manganese.[14] In addition, improperly abandoned wells or leaking underground storage tanks (LUSTs) also have the potential to contaminate groundwater supplies. As described in Section 3.10, *Hazards and Hazardous Materials*, several of the hazardous materials sites within the vicinity of the Project site comprise LUSTs with gasoline or waste oil contamination.

Designated beneficial uses identified for the Santa Clara Valley groundwater basin are as follows.[15]

- Municipal and domestic supply (MUN).
- Industrial process supply (PROC).
- Industrial service supply (IND).
- Agricultural supply (AGR).

Groundwater objectives consist primarily of narrative objectives combined with a limited number of numerical objectives. The primary groundwater objective is the maintenance of existing high quality groundwater. At a minimum, groundwater shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of the objectives described below unless naturally occurring background concentrations are greater. Under existing law, the San Francisco Bay Regional Water Board regulates waste discharges to land that could affect water quality, including both groundwater and surface water quality. Waste discharges that reach groundwater are regulated to protect both groundwater and any surface water in continuity with groundwater. Waste discharges that affect groundwater that is in continuity with surface water cannot cause violations of any applicable surface water standards.[16] Table 3.9-3 describes groundwater quality objectives in the Project area for groundwater with a domestic or municipal supply (MUN) beneficial use.

Groundwater contamination can be the result of historical industrial activities or originate from underground storage tank releases of hazardous materials. There are numerous Regional Water Board or Department of Toxic Substance Control (DTSC) hazardous waste cleanup sites within Menlo Park. However, it does not appear that any of the potential infill sites are underlain by contaminated groundwater, as discussed in more detail in Section 3.10, *Hazards and Hazardous Materials*.

Flooding

The northernmost portion of the City is within the 100-year floodplain subject to tidal flooding from the Bay as designated by FEMA.[17] Areas within the 100-year flood hazard area are subject to 100-year flood, which means that in any given year, the risk of flooding in the designated area is 1 percent. Areas within

[14] California Department of Water Resources. 2003. California's Groundwater—Bulletin 118, Update 2003, San Francisco Bay Hydrologic Region. Available: < http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater__bulletin_118_-_update_2003_/bulletin118_2-sf.pdf>. Accessed: April 19, 2013.

[15] San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Originally published January 18, 2007. Last updated in 2011.

[16] San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Originally published January 18, 2007. Last updated in 2011.

[17] City of Menlo Park. 2013. Housing Element Update, General Plan Consistency Update, and Zoning Ordinance Amendments Environmental Assessment—Section 4.8, Hydrology and Water Quality. Prepared by The Planning Center/DC&E. Berkeley, CA. April 4. Available: < http://www.menlopark.org/departments/pln/he/ea/Chapters/4-8_HydroWQ.pdf>. Accessed: April 24, 2013.

the 500-year flood hazard area are subject to 500-year flood, which means that in any given year, the risk of flooding is 0.2 percent.

Table 3.9-3. Water Quality Objectives for Groundwater in the Project Area

Constituent	Groundwater Quality Objective
Bacteria	Median of the most probable number of coliform organisms over any seven-day period shall be less than 1.1 most probable number per 100 milliliters (MPN/100 mL)
Organic and Inorganic Chemical Constituents	All groundwater shall be maintained free of organic and inorganic chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, shall not contain concentrations of constituents in excess of the maximum (MCLs) or secondary maximum contaminant levels (SMCLs) specified in the following provisions of Title 22.
Radioactivity	At a minimum, shall not contain concentrations of radionuclides in excess of the MCLs specified in Table 4 (Radioactivity) of Section 64443 of Title 22
Taste and Odor	Shall not contain taste or odor-producing substances in concentrations that cause a nuisance or adversely affect beneficial uses. At a minimum, shall not contain concentrations in excess of the SMCLs specified in Tables 64449-A (Secondary MCLs-Consumer Acceptance Limits) and 64449-B (Secondary MCLs-Ranges) of Section 64449 of Title 22.
Source: San Francisco Bay Regional Water Board 2010	

The Project site is not within a 100-year FEMA-designated special flood hazard area for a 100-year flood. However, some areas surrounding the Project site, such as portions of US 101, Jefferson Drive, and areas in proximity to the salt ponds, are designed as 100-year flood hazard areas. The majority of the Project site (the portion that is currently the Commonwealth Site) is in an area designated as one of minimal flood risk. The northwestern part of the Project site (the portion that is currently the Jefferson Site) is in an area of moderate flood risk. The Project site is within FEMA-designated Zone X,[18] which is an area of moderate or minimal flood hazard subject to flood levels greater than the 100-year level, and/or up to or above the 500-year level. Zone X is also used to designate base floodplains of lesser hazards, such as areas protected by levees from a 100-year flood or areas prone to shallow flooding.[19]

[18] U.S. Department of Homeland Security. 2013. Flood Insurance Rate Map (FIRM) for San Mateo County and Incorporated Areas—Panel 306 of 510. Federal Emergency Management Agency. Available: <https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1>. Accessed: April 15, 2013.

[19] Federal Emergency Management Agency. 2013. Definitions of FEMA Flood Zone Designations. Available: <https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%2520Flood%2520Zone%2520Designations>. Accessed: April 24, 2013.

The Project site is located in an area subject to future sea level rise inundation. According to the National Oceanic and Atmospheric Administration (NOAA) online Sea Level Rise and Coastal Flooding Impact Viewer,[20] and maps available from the BCDC,[21] the northern portion of the Jefferson Site would potentially be subject to inundation with an expected mid-century sea level rise (1.3 and 1.57 feet by 2050). Sea level rise in combination with high tide events produce the most near-term damage from flooding. BCDC and other local agencies are in the process of developing and implementing mitigation and adaptation strategies to reduce the potential for these flood risks.

The Commonwealth Site and the Jefferson Site are not subject to flooding from tsunami, seiche, or dam failure inundation.[22] According to the State of California Tsunami Inundation Map for Emergency Planning (Redwood Point Quadrangle/Palo Alto Quadrangle) the Project site is not located within a tsunami inundation area.[23] However, the South Bay Salt Ponds and portions of Flood and Ravenswood sloughs, located approximately 0.3 mile to the west of the Project site, are located within designated tsunami inundation areas. Because there are no large bodies of water, such as reservoirs or lakes, within the City, and only a very small portion of the City is located within the tsunami inundation zone, there is no risk of seiches affecting the Project site. According to the ABAG online dam failure inundation maps, although portions of the City are within the Searsville and Searsville/Felt dam inundation zones, the Project site is not located within a dam inundation zone. Because the Project site, and the majority of the City, is relatively flat, and the City is outside of the impacted zones for earthquake-induced landslides or rainfall-inducted landslides, no mudflows or debris slides are expected to occur within the Project site. This is further discussed in Section 3.8, *Geology and Soils*.

Environmental Impacts

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite.

[20] NOAA. 2013. Sea Level Rise and Coastal Flooding Impact Viewer. Accessed: October 28, 2013. Available: http://csc.noaa.gov/digitalcoast/tools/slrviewer.

[21] San Francisco Bay Conservation and Development Commission. 2007. San Francisco Bay Scenarios for Sea Level Rise Index Map. Available: http://www.bcdc.ca.gov/planning/climate_change/index_map.shtml. Accessed: April 16, 2013.

[22] San Mateo County. 1986. San Mateo County General Plan—Natural Hazards map. San Mateo County Planning and Building Department. Available: http://www.co.sanmateo.ca.us/planning/genplan/. Accessed: April 16, 2013.

[23] The California Emergency Management Agency (CalEMA), the University of Southern California (USC), and the California Geological Survey (CGS). 2009. Tsunamic Inundation Map For Emergency Planning. State of California, County of San Mateo. Redwood Point Quadrangle/Palo Alto Quadrangle. June 15.

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Contribute to inundation by seiche, tsunami, or mudflow.

Methods for Analysis

All Project elements were analyzed by comparing baseline conditions, as described in the *Environmental Setting*, to conditions during construction and/or operations of the Project. Analysis focused on issues related to surface hydrology, flood hazards, groundwater supply, and surface and groundwater quality. The key construction-related impacts were identified and evaluated qualitatively based on the physical characteristics of the Project site and the magnitude, intensity, location, and duration of activities.

- **Surface Water Hydrology.** The surface water hydrology impact analysis considered changes in water bodies, impervious surfaces, and drainage patterns. Information on the change in impervious surface, runoff quantities, and drainage patterns was provided by the City. The analysis of changes of onsite water bodies involved a comparison of existing onsite hydrological conditions and new/modified conditions proposed as part of the Project, which were provided in the stormwater report for the Project (Appendix 3.9), by the City, and other sources.
- **Flood Hazards.** The impact analysis for flood risk was conducted using FEMA mapping to determine the existing flood zone and information from the City regarding changes in the drainage system and layout that may affect flood risk.
- **Groundwater Supply.** Impacts on groundwater supply were analyzed using information from the California Department of Water Resources (DWR) Groundwater Bulletin 118 v4.1 and a comparison of existing sources of recharge versus Project modified recharge capabilities. Recharge is determined by the ability for water to infiltrate into the soil. Although the extent of the groundwater aquifer is unknown within the Project site due to lack of data from DWR, this analysis assumes that groundwater exists within the entire Project site.
- **Surface and Groundwater Quality.** Impacts of the Project on surface water and groundwater quality were analyzed using existing information on potential existing sources of pollution generated by industrial and commercial operation activities, such as vehicle use, building maintenance, pesticide use, trash, and storage of hazardous materials. These impacts were then compared to potential Project-related sources of pollution during Project construction, such as sediments and other construction materials, and during Project operation, such as vehicle use, building maintenance, pesticide use, trash, and storage of hazardous materials.

Impacts Not Evaluated in Detail

Housing and Structures within a 100-Year Flood Hazard Area. Implementation of the Project would entail demolishing the existing structures at the Commonwealth and Jefferson Sites and constructing two four-story buildings for office, biotech, and/or research and development (R&D) uses. The Project does not include a housing component and, as such, implementation of the Project would not place housing within a 100-year flood hazard area. Similarly, the Project site is not within the 100-year flood hazard area and, therefore, no structures would be placed within a 100-year flood hazard area that would impede or redirect flood flows. There would be ***no impact***, and this issue is not evaluated further.

Tsunami, Seiche, or Dam Failure Impacts. As previously described, the Commonwealth and Jefferson Sites are not subject to flooding from tsunami, seiche, or dam failure inundation[24] and implementation of the Project would not contribute to inundation by seiche, tsunami, or mudflow. There would be ***no impact***, and this issue is not evaluated further.

Impacts and Mitigation Measures

Impact WQ-1: Violation of Water Quality Standards or Waste Discharge Requirements. The Project would not violate any water quality standards or waste discharge requirements. (LTS)

Construction

Implementation of the Project would include construction activities, such as site clearing and grubbing, demolition and removal of existing structures and pavement, cut and fill activities, grading and excavation, paving, building construction, tree removal, and landscaping. These land-disturbing activities and placement of stockpiles within proximity to storm drain inlets may also result a temporary increase in sediment loads to the Lower San Francisco Bay. Sediment transport to local drainage facilities such as drainage inlets, culverts, and storm drains could also result in reduced storm flow capacity, resulting in localized ponding or flooding during storm events. Sediment can affect surface water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Other pollutants, such as nutrients, trace metals, and hydrocarbons, can adsorb to sediment and be transported with sediment to downstream locations and degrade water quality. Land disturbance would occur across the Project site (578,472 sf).[25] The Project would remove a total of approximately 16,025 cubic yards (cy) of concrete, asphalt concrete, and construction and demolition (C&D) debris (wood, metal roofing, steel work, etc.), 75 percent of which is assumed would be recycled. In addition, a total of approximately 12,700 cy of soil would be removed; of which 6,000 cy would be reused as fill for the Project, resulting in approximately 6,700 cy of soil exported.[26,27]

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[24] San Mateo County. 1986. San Mateo County General Plan—Natural Hazards map. San Mateo County Planning and Building Department. Available: http://www.co.sanmateo.ca.us/planning/genplan/. Accessed: April 16, 2013.

[25] Sobrato Organization. 2010. NPDES Checklist for Project Applicants. Checklist prepared by City of Menlo Park and San Mateo Countywide Water Pollution Prevention Program.

[26] City of Menlo Park. 2013. Housing Element Update, General Plan Consistency Update, and Zoning Ordinance Amendments Environmental Assessment—Section 4.8, Hydrology and Water Quality. Prepared by The Planning Center/DC&E. Berkeley, CA. April 4. Available: <http://www.menlopark.org/departments/pln/he/ea/Chapters/4-8_HydroWQ.pdf>. Accessed: April 24, 2013.

[27] Sobrato Organization and City of Menlo Park. 2013. Data Needs List for the Commonwealth Corporate Campus EIR. Information request prepared by ICF International. March 7.

The delivery, handling, and storage of construction materials and wastes (e.g., concrete debris), as well as the use of heavy construction equipment, could also result in stormwater contamination, and thereby impact water quality. Construction activities may involve the use of chemicals and operation of heavy equipment that could result in accidental spills of hazardous materials (e.g., fuel and oil) during construction activities that could enter the groundwater aquifer or nearby surface water bodies via runoff or storm drains. Constituents in fuel, oil, and grease can be acutely toxic to aquatic organisms and/or bioaccumulate in the environment. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. The construction staging area is located adjacent to Jefferson Drive, where several storm drains leading to the Lower San Francisco Bay are located. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation, and the potential contamination of drinking supplies.

All Project construction activities would be subject to existing regulatory requirements. All construction activities would comply with the General Construction Permit from the San Francisco Bay Regional Water Board, which contains standards to ensure that water quality is not degraded. Permitees also have to comply with the appropriate water quality objectives for the region. As part of this permit, standard erosion control measures and BMPs would be identified in a SWPPP and would be implemented during construction to reduce sedimentation of waterways and loss of topsoil. As a performance standard, BMPs to be selected would represent the best available technology (BAT) that is economically achievable and the best conventional pollutant control technology (BCT) to reduce pollutants. Commonly practiced BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other nonpoint-source runoff.

Measures would include installing erosion control such as silt fences, staked straw wattles, and geofabric to prevent silt runoff to storm drains or waterways. Topsoil and backfill would be stockpiled, protected, and replaced at the conclusion of construction activities. Disturbed soil would be revegetated as soon as possible with the appropriate selection and schedule for turf, plants, and other landscaping vegetation. No disturbed surfaces would be left without erosion control measures in place during the wet season, which generally occurs between October 1 and April 30. Project construction is expected to take approximately 15 months and, therefore, some activities would occur during the wet season. Efforts would be made by the Sobrato Organization (Project Sponsor) to conduct the majority of land-disturbance work outside of the typical wet season period and to minimize the potential for large rain events to mobilize loose sediment during construction. In addition, coverage under the General Construction Permit typically covers dewatering activities, but no dewatering would be required for the Project.

The SWPPP would include the following erosion- and sediment-control BMPs.

- Keep disturbed areas (areas of grading and related activities) to the minimum necessary for demolition or construction of the project.
- Keep runoff away from disturbed areas during grading and related activities.
- Stabilize disturbed areas as quickly as possible, either by vegetative, mechanical and/or physical methods.
- Trap sediment before it leaves the site with such techniques as check dams, sediment ponds, or straw wattles including perimeter protection.
- Use dirt and sediment tracking BMPs, including stabilized construction entrances and wheel washes.

- Implement routine street sweeping.
- Cover exposed soils and material stockpiles to prevent wind erosion.
- Use interceptor ditches, drainage swales, or detention basins to prevent storm runoff from transporting sediment into drainage ways and to prevent sediment-laden runoff from leaving any disturbed areas.
- Use landscaping and grading methods that lower the potential for down-stream sedimentation (e.g., modified drainage patterns, longer flow paths, encouraging infiltration into the ground, and slower storm-water conveyance velocities).
- During the installation of the erosion and sediment transport control structures, the erosion control professional must be on the site to supervise the implementation of the designs, and the maintenance of the facilities throughout the grading and construction period.
- Perform routine monitoring of erosion control facilities during construction and during/after rain events.

Further, as part of the SWPPP, the Project Sponsor would implement the following construction BMPs, as necessary, to protect stormwater quality.

- Store, handle, and dispose of construction materials and wastes.
- Control and prevent discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, washwater, and non-stormwater discharges to storm drains and watercourses.
- Avoid cleaning, fueling, or maintaining vehicles onsite, except in a designated area where washwater is contained and treated.
- Perform clearing and earth moving activities only during dry weather.
- Limit and time applications of pesticides and fertilizers to prevent polluted runoff. Delineate with field markers clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and drainage courses.
- Train and provide instruction to all employees and subcontractors regarding construction BMPs.

Since the land disturbance for the Project would be more than 1 acre, coverage under the Construction General Permit would be required. Land disturbance for the Project would cover approximately 13 acres. In addition to compliance with the Construction General Permit, the City's Municipal Code (Title 7, Chapter 7.42) and the permit review process, the Project Sponsor would be required to prepare and implement a G&D Plan. BMPs implemented as part of the G&D Plan would reduce the amount of stormwater runoff and prevent the entry of Project-related sediment and pollutants into the City's storm drain system and other surface waters. BMPs to protect stormwater quality that would be implemented as part of the G&D Plan include the following.

- Site drainage shall be designed so that stormwater flows through vegetated or grassed swales or other pervious landscaped areas prior to entering the public right of way.
- Site drainage shall be designed to utilize on-site infiltration.
- Drainage systems shall be designed to prevent erosion and vector control problems (e.g., mosquito spawning grounds).

- Site drainage shall include onsite retention systems (or detention systems where retention is impracticable) designed so that the post-project runoff rate will not exceed preproject levels.
- Stormwater runoff generated by the project shall not drain onto adjacent properties. However, any existing storm drainage from adjacent properties shall not be blocked by the Project.
- To reduce the amount of directly connected impervious area, roof downspouts should connect to splash blocks (minimum 2 feet long) that allow water to be deflected away from the building to onsite landscaping or other pervious areas (including vegetated/grassy swales) that provide detention/retention.
- Adjacent properties and undisturbed areas shall be protected from construction impacts. Sediment-laden water shall not leave the site. Storage, handling, and disposal of construction materials shall be accomplished using methods that prevent them and other site wastes from coming into contact with stormwater.
- The groundwater table is relatively shallow at the Project site, and pollutants associated with construction activities (e.g., fuel, petroleum products) could migrate or percolate into the groundwater and contribute to degradation of the local groundwater aquifer. Implementation of construction BMPs, such as spill prevention and good housekeeping BMPs (e.g., proper storage, handling, and disposal of construction-related materials) would be included in the SWPPP and would minimize the potential for impacts on groundwater quality during construction.

Construction activities could result in short-term surface and groundwater quality impacts, such as input of sediment loads that exceed water quality objectives or chemical spills into water bodies if proper minimization measures are not implemented. However, because the Project would be in compliance with the General Construction Permit, local stormwater ordinances, and other related requirements, potential water quality impacts from construction activities would be ***less than significant***.

Operation and Maintenance

Under the Project, two buildings for office, biotech, and/or (R&D) purposes would be constructed, as would an associated surface parking lot, landscaping, and stormwater treatment (biotreatment) areas. External building and parking area maintenance activities would likely entail periodic painting of buildings and parking space demarcation lines and trash collection. Hazardous materials used for Project operation and maintenance (O&M) activities would be stored with secondary containment, and proper disposal techniques would be applied for associated wastes.

Up to eight stormwater treatment (or biotreatment) areas would be located throughout the Project site in order to limit stormwater runoff and provide for biotreatment of contaminants. These biotreatment areas would be open, level areas vegetated to allow runoff to be distributed evenly across the area. They would be designed to treat runoff by filtering raw runoff through the soil media in the treatment area. These biotreatment areas would trap particulate pollutants (suspended solids and trace metals) and promote infiltration. Project biotreatment areas would be designed to treat runoff so that pollutants (e.g., sediment, landscape fertilizers and/or pesticides, oil from parking areas) can be filtered out and, therefore, the Project would not contribute a substantial number of additional pollutants to runoff. There would be a 20 percent reduction in impervious surfaces relative to existing conditions once Project construction is complete. The new development would have a larger landscaped area, which would result in a net decrease in the amount of runoff leaving the Project site, and thus a reduced volume of potential contaminated runoff. Further, the Project site would be drained by a combination of

existing and new onsite storm drain systems. This combined system would collect runoff from the parking, roof, and hardscape areas and convey it to a pump(s). The pump(s) would be sized to discharge the flow to biotreatment areas. The balance of runoff not directed to the biotreatment areas would discharge directly to Jefferson Drive via a piped stormdrain system.

Project O&M activities would primarily entail landscape and biotreatment area maintenance, as well as periodic parking and external building maintenance. Biotreatment area maintenance would be performed routinely to prevent sediment buildup and clogging in order to ensure optimal pollutant removal efficiency. Maintenance activities would include the following and would be done periodically.

- Remove obstructions, debris and trash and dispose of properly.
- Inspect to ensure proper drainage between storms and within 5 days following rainfall.
- Inspect inlets for channels, soil exposure, or other evidence of erosion.
- Remove obstructions and sediment.
- Maintain vegetation via pruning and weeding, and treat with preventative and low-toxic methods.
- Check that mulch is maintained at an appropriate depth and replenish as necessary.
- Use soil that meets specifications included in the San Mateo County C.3 Stormwater Technical Guidance Manual. Specifically, soils must percolate at a rate of 5 to 10 inches per hour. Provide a laboratory analysis, from an approved testing laboratory, to the City to confirm that the soils provided meet the above requirement.
- Verify that pump(s) are operational.

A biotreatment area inspection and maintenance checklist will be used to conduct inspections, identify needed maintenance, and record maintenance that is conducted. Operation of the biotreatment areas would be expected to improve the quality of stormwater from the Project site. Maintenance of these areas would help eliminate or minimize impacts on stormwater quality.

Groundwater quality can also be impacted during Project operation. Implementation of the SMCWPPP would prevent substantial degradation of groundwater quality through adherence to source-control and nonstructural BMPs. The Project would not violate any water quality standards or waste discharge requirements as a result of Project O&M activities.

Impacts of Project O&M activities on stormwater quality would be eliminated or minimized as the Project would be required to comply with the Municipal Regional Permit SMCWPPP Provision C.3 Stormwater Technical Guidance. The Municipal Regional Permit SMCWPPP Provision C.3 Stormwater Technical Guidance was designed to help developers include post-construction stormwater controls to help reduce long term impacts on stormwater quality and receiving waters. The SMCWPPP requires the use of structural and non-structural stormwater BMPs. Structural BMPs would remove targeted substances from runoff, while non-structural BMPs, such as integrated pesticide management practices, would assist with source reduction. The San Francisco Bay Regional Water Board has incorporated requirements in the Municipal Stormwater NPDES Permit to be protective of water quality and approved the SMCWPPP as being in compliance with the Municipal Stormwater NPDES Permit.

In summary, the Project would be in compliance with the San Francisco Bay Region MS4 Permit, SMCWPPP, and local stormwater ordinances, through implementation of BMPs and biotreatment

measures, among other activities, as part of the project. Therefore, potential water quality impacts resulting from Project O&M, would be ***less than significant***.

Impact WQ-2: Effects on Groundwater Supplies and Recharge. The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a net deficit in aquifer volume or a lowering of the local groundwater table level would result. (LTS)

The Project would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge because it would not increase groundwater demand or decrease groundwater recharge areas. As described in the *Environmental Setting*, the majority of the water supplied to the Project site is from surface water sources, and this would not change during or following Project implementation. Construction of the Project would not require dewatering activities, so there would be no potential for reducing the volume of water in the local aquifer table.

In addition, natural groundwater recharge of the San Mateo subbasin occurs primarily by infiltration of water from streams. Additional recharge occurs by percolation of precipitation that falls directly on the ground surface. Because implementation of the Project would result in an increase of approximately 2.5 acres (110,300 sf) in pervious surface area, there would be an increase in groundwater recharge potential at the Project site. In addition to other landscaping features, the biotreatment areas would allow water infiltrations. Therefore, the Project's impact on groundwater supplies and recharge would be ***less than significant***.

Impact WQ-3: Changes to the Existing Drainage Patterns. The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding onsite or offsite. (LTS)

Project construction activities would alter existing drainage patterns and could result in local (onsite) and temporary erosion and siltation. However, although drainage patterns on the Project site would be altered, drainage would ultimately be improved because Project implementation would result in increased pervious area that would further minimize runoff volumes and the potential for ponding and other drainage issues onsite. In addition, as previously described, the Project would minimize the potential for erosion and sedimentation.

The Project would be in compliance with existing NPDES permits and the City's Municipal Code for construction and stormwater management (Chapter 7.42), including preparation and implementation of a G&D Plan and a SWPPP (as described under Impact WQ-1). Operation of the Project would also require soil stabilization (e.g., vegetation, other protective cover, and stabilized slopes and fills) in accordance with the SMCWPPP, SWPPP, and City Municipal Code (Chapter 7.42), which would reduce erosion and sediment transport. Further, because there would be less impervious surface area under the Project relative to existing conditions, Project site drainage characteristic would be such that there would be a reduced potential for erosion and siltation. Additionally, the Project would not alter the course of an existing stream or river because these features do not exist onsite. Therefore, implementation of the project would have a less-than-significant impact with regard to resulting in substantial erosion or siltation through alterations of existing drainage.

The Project site is not within a FEMA-designated special flood hazard area for a 100-year flood. Following Project implementation, there would be an increase in pervious surface area relative to existing conditions, which would ultimately reduce the potential for moderate flood risks associated

with low flood elevations and ponding in areas throughout the Project site. As described in the stormwater report for the Project site (Appendix 3.9), following Project development, there would be a 20 percent reduction in impervious surfaces relative to existing conditions (from 93.4 percent to 74.4 percent). Pervious surfaces will increase from 37,895 sf to 148,194 sf following project development. The stormwater report prepared for the Project (Appendix 3.9) estimated pre-and post-construction 10-year storm runoff rates (Q10). The stormwater report states that the existing Project site Q10 is 19.43 cfs. As a result of the increase in pervious area and other improvements, the Project site Q10 would decrease by 2.58 cfs to 16.85 cfs post Project development.[28] The overall effect of these changes would be an approximate 13.3 percent reduction in the total volume of stormwater runoff rate at the Project site. Drainage plans typically focus on preventing street flooding during a 10-year storm, which is representative of smaller, frequent storms compared to the 100-year storm event.

In addition, surface runoff from the Project site would be collected into a combination of new and existing storm drain inlets and pipes, and a portion required for stormwater treatment would be directed to pumps and ultimately be pumped to the biotreatment areas located throughout the site.

As described in the *Environmental Setting*, according to BCDC maps, the northwestern portion of the Project site (i.e., adjacent to Jefferson Drive) would potentially be subject to inundation with an expected mid-century sea level rise (2050). However, no buildings are proposed in this portion of the Project site; the area where the buildings would be constructed is not subject to flooding due to sea level rise. Because the Project would ultimately reduce the potential for flooding at the Project site through increased pervious area, biotreatment, and storm drainage, it would not contribute to flood risks associated with sea level rise. In addition, there are no aspects of the Project that would physically or directly alter water surface elevations in the Bay or where sea level rise-induced flooding is projected to occur. According to the Project stormwater report, development of the Site would not cause or increase offsite flooding.[29] There would be no changes in the magnitude or extent of sea level rise induced by the Project that would increase flood risk elsewhere.

Because the Project would ultimately reduce surface runoff rates and would incorporate biotreatment areas, it would be in compliance with the San Francisco Bay Region MS4 Permit Provision C.3 requirements. In addition, the Project would not increase flood risks associated with sea level rise. The Project would not alter the course of an existing stream or river because these features do not exist onsite. Therefore, the Project would not result in flooding onsite or offsite as a result altering existing drainage patterns or substantially increase the rate or amount of runoff. The impact would be ***less than significant***.

Impact WQ-4: Changes to Stormwater Runoff. The Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (LTS)

As discussed for Impact WQ-3, implementation of the Project would result in a 13.3 percent reduction in the total stormwater runoff rate for a 10-year storm event (as compared to the existing conditions). The redeveloped site would be drained by a combination of existing and new onsite storm drain systems, as described under Impact WQ-1; the new development would have a larger landscaped area relative to existing conditions, and biotreatment measures would be incorporated. These features would result in a

[28] Kier & Wright Civil Engineers & Surveyors. 2013. Stormwater Report for 151 Commonwealth Drive and 164 Jefferson Drive, Menlo Park, California. Project No. A11089-2. April 12. Santa Clara, California.

[29] Kier & Wright Civil Engineers & Surveyors. 2013. Stormwater Report for 151 Commonwealth Drive and 164 Jefferson Drive, Menlo Park, California. Project No. A11089-2. April 12. Santa Clara, California.

net decrease in the amount of runoff, and associated pollution leaving the Project site. Thus, runoff water from the Project site would not exceed the capacity of existing or planned stormwater drainage systems. The Project also would not provide substantial additional sources of polluted runoff, as discussed in Impact WQ-1. Therefore, this would be a ***less-than-significant*** impact.

Impact WQ-5: Degradation of Water Quality. The Project would not otherwise substantially degrade water quality. (LTS)

Impact WQ-1 discusses impacts involving violations of water quality objectives and standards. This impact addresses "other" water quality impacts, such as those that can result from wetland dredge and fill. However, there will be no wetland dredge or fill as part of the Project. The Project would involve other minor alterations to water quality, but they would all be related to compliance with water quality standards. Therefore, similar to Impact WQ-1, this impact would be ***less-than-significant***.

Impact WQ-6: Impacts from Flooding. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (LTS)

Several levees are located along the San Francisco Bay shoreline to protect facilities, such as high-tech businesses and schools. The Project facilities would not cause an increase in impervious area or obstructions large enough to impede flows that would greatly increase the flood risks associated with levee failure.

There are no dams located in the Project vicinity; therefore, there is no risk of dam failure.

The increase in impervious area will not be large enough to affect flood capacities within the floodplains. Therefore, potential flooding impacts associated with levee failure would be ***less than significant***.

Cumulative Impacts

The cumulative projects considered in this impact analysis consist of two categories, as shown in Table 3.0-1 and Table 3.0-2. The first category of projects, identified as Tier 1, consist of reasonably foreseeable development projects identified by the City and largely within City limits. The second category, identified as Tier 2, encompasses a larger geographic area and would be San Mateo County. This cumulative analysis examines the effects of the Project in combination with other current projects, probable future projects, and projected future growth within the applicable geographic context in the next 20 years.

Impact C-WQ-1: Cumulative Degradation of Water Quality. The Project would not contribute to a cumulative degradation of water quality. (LTS)

Tier 1

Development of the Project and other development within the City would potentially degrade stormwater quality by contributing pollutants during construction and operation. As previously discussed, stormwater quality varies according to surrounding land uses, impervious surface area, and topography, as well as with the intensity and frequency of rainfall or irrigation. Runoff can contain grease, oil, and metals accumulated in streets and driveways, as well as sediment and other particulates, animal waste, pesticides, herbicides, fertilizer, and trash.

Cumulative development could affect water quality if the land use change, the intensity of land use changes, and/or drainage is altered such that the introduction of pollutants to surface water or groundwater is facilitated. Land use changes would potentially alter the type and concentration of pollutants in stormwater runoff, and increased intensity of land use would potentially increase pollutant concentrations. The most common sources of stormwater pollutants in urban areas are from construction sites, streets, parking lots, large landscaped areas, and household and industrial materials dumped into storm drains.

When the effects of the Project on water quality are considered in combination with the potential effects of projects listed in Table 3.0-1, there would be the potential for cumulative impacts to surface, stormwater and groundwater quality. The incremental water quality impact contribution from implementation of the Project would be minor for the reasons discussed under Impacts WQ-1, WQ-5, and WQ-6. The combined effects on water quality from the Project and other projects in the City could result in a cumulatively significant impact. However, new projects within the City are subject to the requirements of the SMCWPPP, the associated Municipal NPDES Permit, the Construction General Permit, and the City's municipal codes as they relate to water quality; these regulatory requirements have been designed to be protective of water quality. Additionally, development projects would be subject to an environmental review process, which would identify potential site- and/or project-specific water quality impacts, and mitigate for any potential significant impacts. Therefore, there would be a ***less-than-significant*** cumulative impact on water quality as a result of Project implementation.

Tier 2

The Tier 2 projects encompass a larger geographic area, i.e., San Mateo County, and consist of projects that are in the early stages of planning/programming or whose development could be considered somewhat speculative (Table 3.0-2). The Project's incremental water quality impact contribution would be minor, as described in the Tier 1cumulative impact analysis above. Similarly, for the reasons described in the Tier 1 analysis, there would be a ***less-than-significant*** cumulative impact on water quality in San Mateo County as a result of Project implementation.

Impact C-WQ-2: Cumulative Impacts on Groundwater Supply. The Project would not contribute to a cumulative interference with groundwater supply or recharge. (LTS)

Tier 1

The City is located in the San Mateo groundwater subbasin, which is recharged through infiltration into stream beds and through infiltration of precipitation on the Santa Clara Valley floor. Most of the cumulative projects (Table 3.0-1) are redevelopment or infill projects in urbanized areas where recharge does not occur. Cumulative development would not be expected to substantially increase the amount of impervious surfaces, so groundwater recharge potential from percolating rainfall would not be adversely affected, and indirect lowering of the local groundwater table is not likely to occur. As explained in Impact WQ-2, implementation of the Project would result in an increase in pervious surface area and, therefore, the Project would potentially contribute to groundwater recharge. Further, there would be a reduction of impervious surfaces with Project implementation. As a result, groundwater recharge would not be adversely affected. The Project's contribution to cumulative groundwater recharge impacts would not be cumulatively considerable, and there would be a ***less-than-significant*** cumulative impact.

The Project's contribution to cumulative impacts on water supply is discussed in Section 3.13, *Utilities and Service Systems*.

Tier 2

For the reasons discussed in the above Tier 1 cumulative impact analysis on groundwater recharge, the Project's incremental impact contribution to cumulative groundwater impacts from projects listed in Table 3.0-2 would be minor, and there would be a ***less-than-significant*** cumulative impact on groundwater recharge.

For the reasons discussed for Tier 1 cumulative impact analysis and as a result of other efforts of local agencies to reduce the risks of flooding from sea level rise, the Project would not contribute to a cumulative exposure of people and structures to risks of flooding, and there would be a ***less-than-significant*** cumulative impact.

Impact C-WQ-3: Cumulative Contribution to Storm Drainage Capacity. The Project would not contribute to a cumulative exceedance of the City's storm drainage capacity. (LTS)

Tier 1

Cumulative development in the City could increase the volume and rate of stormwater runoff. Such increases could cause localized flooding if the storm drainage capacity is exceeded or if flows exceed channel capacities and are conveyed to overbank areas where flood storage may not be available. For the most part, the cumulative projects in the City would occur in developed areas with impervious surfaces, and these projects would not be expected to substantially increase the amount of impervious surfaces. All cumulative projects within the City would be required to include design features to reduce flows to preproject conditions. If improvements to storm drainage capacity are needed, the project applicants would be required to coordinate with the City to ensure the appropriate conditions of approval for storm drainage improvements are identified. As described under Impact WQ-4, following Project development, there would be a reduction in impervious surfaces relative to existing conditions and an increase in pervious surfaces. The overall effect of these changes would be a reduction in the total system stormwater runoff rate at the Project site. Therefore, the Project would not likely contribute to the cumulative exceedance of the City's storm drainage capacity, and there would be a ***less-than-significant*** cumulative impact.

Tier 2

For the reasons discussed for Tier 1 cumulative impact analysis on exceeding storm drainage capacity, the Project would not likely contribute incrementally to the cumulative exceedance of storm drain capacity along with the projects listed in Table 3.0-2, and there would be a ***less-than-significant*** cumulative impact on storm drainage.

Impact C-WQ-4: Cumulative Flooding Impacts. The Project would not contribute to cumulative exposure of people and structures to a significant risk of loss, injury, or death due to flooding. (LTS)

Tier 1

Cumulative development in the City could increase the exposure of people and structures to flood risks. Projects that increase impervious area or result in development within low-lying areas (i.e., infill and/or near the Bay front), would be most at risk. However, the County of San Mateo, BCDC, and other local agencies are currently implementing requirements that will minimize increased impervious area and will promote methods for reducing flood risks with new development. These efforts will also help

minimize the potential impacts of flooding from sea level rise and events associated with a combination of high tides and sea level rise. Therefore, the Project would not contribute to a cumulative exposure of people and structures to risks of flooding, and there would be a ***less-than-significant*** cumulative impact.

Tier 2

For the reasons discussed in the above Tier 1 cumulative impact analysis, the Project would not contribute to a cumulative exposure of people and structures to risks of flooding Mitigation strategies include limiting development in flood-prone areas and adaptation strategies include flood-improvement projects, such as the San Francisquito Joint Powers Authority's efforts to reduce flood risks along San Francisquito Creek and a potential tidal barrier along a portion of the coastline of the Bay. In addition, the BCDC and other local agencies are currently working on developing and implementing climate change mitigation and adaptation strategies to prevent potential future impacts of sea level rise and events associated with a combination of high tides and sea level rise.

3.10 Hazards and Hazardous Materials

This section describes the affected environment and regulatory setting for hazards and hazardous materials. It also describes the impacts related to hazards and hazardous materials that would result from implementation of the Project and mitigation measures that would reduce these impacts. Cumulative and growth-inducing impacts are discussed at the end of this section.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified pertain to hazardous waste cleanup at the former distillery.

Existing Conditions

Regulatory Setting

Hazardous materials and hazardous wastes are regulated under federal, state, and local laws. In California, federal environmental laws generally establish minimum applicable standards; more stringent state and local standards may apply as well. For example, California regulates a broader array of wastes defined as *hazardous waste* than those regulated under federal law. Hazardous materials handling and hazardous waste management are subject to laws and regulations at all levels of government, as summarized below. Land uses at the Project site and in the surrounding area are required to comply with these laws and regulations, in part by implementing a series of in-house policies and procedures or by correcting adverse environmental conditions that pose a risk to the public and/or the environment. The following describes the major federal, state, and local procedures and programs relevant to each category.

Federal and State

Hazardous Materials Management and Emergency Planning. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. The federal Emergency Planning and Community Right to Know Act (EPCRA [42 U.S. Code Section 11001, et seq.]) requires facilities that store, use, or produce certain amounts of hazardous chemicals to provide State and local authorities with material safety data sheets, or, alternatively, a list of chemicals. EPCRA also requires reporting of permitted and accidental releases of hazardous substances and requires certain facilities to complete and submit the U.S. Environmental Protection Agency's (EPA's) Toxic Chemical Release Inventory form annually.

California's Hazardous Materials Release Response Plans and Inventory Act, sometimes called the Business Plan Act (California Health and Safety Code Section 25500 et seq.), requires businesses using hazardous materials to prepare a plan that describes their facilities, chemical inventories, emergency response plans, and training programs. Businesses that use, store, or handle 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a compressed gas at standard temperature and pressure require hazardous materials business plans. Plans must be prepared prior to facility operation and are reviewed and, if necessary, updated biennially (or within 30 days of a change). In addition, the Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health and Safety Code Section 25249.5 et seq.) requires that any person with 10 or more employees operating within the state or selling products

in California (1) be prohibited from knowingly discharging listed chemicals into sources of drinking water; and (2) be required to provide a "clear and reasonable" warning before knowingly and intentionally exposing anyone to a listed chemical. This warning can be given by a variety of means, such as by labeling a consumer product, by posting signs at the workplace, or by publishing notices in a newspaper.

The California Fire Code regulates storage and use of hazardous materials at commercial and industrial facilities. The California Building Code regulates how protective measures within a structure will be built and implemented. Certified Unified Program Agencies (CUPAs) are responsible for local regulation and enforcement of hazardous materials laws and regulations. The San Mateo County Environmental Health Division (SMCEHD) serves as the San Mateo County's CUPA. The CUPA has been certified by the California Environmental Protection Agency (Cal-EPA) to implement six state environmental programs within the City of Menlo Park's (City's) jurisdiction: the hazardous materials business plan/emergency response plans and inventories program; the hazardous waste program; the California accidental release prevention program; the Underground Storage Tank (UST) program; the Aboveground Storage Tank (AST) program; and the uniform hazardous materials management plan program.

Hazardous Waste Management. The federal Resource Conservation and Recovery Act (RCRA) regulates handling and tracking of hazardous waste from generation to disposal. Under RCRA, hazardous waste generators must comply with regulations concerning record keeping and reporting, waste storage, proper treatment and disposal, and the use of a manifest system. In California, the Department of Toxic Substances Control (DTSC) has been authorized by Cal-EPA to administer the RCRA program. California's Hazardous Waste Control Act (HWCA [California Health and Safety Code Section 25100 et seq.]) is similar to, but more stringent than, the federal RCRA program. The HWCA provides authority for DTSC to regulate the transportation and disposal of hazardous wastes, and establishes standards for hazardous waste facilities. The SMCEHD, as the CUPA, implements the hazardous waste generator program for the Project area. RCRA and the HWCA also require facilities engaging in treatment, long-term storage, or disposal of hazardous waste to obtain a permit from DTSC.

Soil and Groundwater Contamination. The Porter-Cologne Act (California Water Code Section 13163) authorizes the State Water Resources Control Board (SWRCB) and the local Regional Water Resources Control Board (RWQCB) to coordinate water quality-related investigations of state agencies. SWRCB and the local RWQCB also have jurisdiction to oversee site cleanups (California Health and Safety Code Section 25355). The Project area is within the jurisdiction of RWQCB Region 2, the San Francisco Bay RWQCB.

Hazardous Building Components. Structural building components sometimes contain hazardous materials such as asbestos, polychlorinated biphenyls (PCBs), lead, and mercury. During demolition or renovation of any existing building or structure, these hazardous material building components may be disturbed and thus expose workers, the public, and the environment to these hazards. The testing, removal, and disposal of these materials are subject to various regulations, as described below.

Asbestos. Asbestos is regulated both as a hazardous air pollutant and as a potential worker safety hazard. Bay Area Air Quality Management District (BAAQMD) and California Division of Occupational Safety and Health (Cal/OSHA) regulations restrict asbestos emissions from demolition and renovation activities and specify safe work practices to minimize the potential for release of asbestos fibers. These regulations prohibit emissions of asbestos from asbestos-related manufacturing, demolition, or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to

minimize the potential for release of asbestos fibers; and require notice to federal and local government agencies prior to beginning renovation or demolition that could disturb asbestos. California requires licensing of contractors who conduct asbestos abatement activities.

The California Air Resources Board (ARB) Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations is intended to protect public health and the environment by requiring the use of best available dust control measures. These measures prevent offsite migration of naturally occurring asbestos-containing dust from road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas of ultramafic rock, serpentine, or asbestos. The ATCM applies to grading or excavation activities, which would involve the excavation of bedrock or fill materials potentially containing naturally occurring asbestos.

For construction activities disturbing less than 1 acre of area underlain by these types of bedrock that potentially contain naturally occurring asbestos, specific dust control measures must be implemented in accordance with the ATCM before construction begins. In addition, each measure must be maintained throughout the portion of the construction project during which these types of bedrock are being disturbed. For construction activities disturbing greater than 1 acre of area underlain by these types of bedrock, construction contractors are required to prepare an Asbestos Dust Mitigation Plan (ADMP) specifying measures that will be taken in an attempt to ensure that no visible dust crosses the property boundary during construction. The ADMP must be submitted to and approved by the BAAQMD prior to the beginning of construction, and the site operator must ensure the implementation of all specified dust control measures throughout the construction project. In addition, the BAAQMD may require air monitoring for offsite migration of asbestos dust during construction activities and may change the plan on the basis of the air monitoring results.

PCBs. DTSC has classified PCBs as a hazardous waste when concentrations exceed five parts per million (ppm) in liquids or 50 ppm in non-liquids. Fluorescent light ballasts may contain PCBs, and if so, they are regulated as hazardous waste and must be transported and disposed of as hazardous waste. Ballasts manufactured after January 1, 1978 should not contain PCBs and are required to have a label clearly stating that PCBs are not present. The federal Toxic Substances Control Act (TSCA) establishes procedures and standards for cleanup of PCB releases.

Lead-Based Paint (LBP). Cal/OSHA standards establish a maximum safe exposure level for types of construction work that could result in lead exposure, including demolition of structures where LBPs are present; removal or encapsulation of materials containing lead; and new construction, alteration, repair, or renovation of structures with materials containing lead. Inspection, testing, and removing lead-containing building materials must be performed by state-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations. Typically, building materials with LBP attached are not considered hazardous waste unless the paint is chemically or physically removed from the building debris. The U.S. Department of Housing and Urban Development has developed guidelines for the evaluation and control of LBP hazards. In 1978, the Consumer Products Safety Commission limited lead content in residential paint and paint used in areas where consumers have direct access to painted surfaces.

Mercury. Spent fluorescent light tubes, thermostats, and other electrical equipment contain heavy metals that, if disposed of in landfills, can leach into soil or groundwater. Fluorescent light tubes typically contain concentrations of mercury that may exceed regulatory thresholds for hazardous waste and, therefore, must be managed in accordance with hazardous waste regulations. Elemental mercury can be found in many electrical switches, and when disposed of, such mercury is considered hazardous waste.

Worker Safety. Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. Cal/OSHA is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many businesses to prepare injury and illness prevention plans and chemical hygiene plans. The Cal/OSHA Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle. For example, manufacturers are to appropriately label containers, material safety data sheets are to be available in the workplace, and employers are to properly train workers.

Hazardous Materials Transportation. The U.S. Department of Transportation (DOT) has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The U.S. Postal Service (USPS) has developed additional regulations for the transport of hazardous materials by mail. DOT regulations specify packaging requirements for different types of materials. EPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations. In California, the California Highway Patrol, the California Department of Transportation (Caltrans), and DTSC play a role in enforcing hazardous materials transportation requirements.

Local

City of Menlo Park General Plan. The following goal, policies, and implementation program within the Safety Element of the General Plan are relevant to the Project.

> **Goal S1**: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
>
> *Policy S1.*7: Hazard Reduction. Continue to require new development to reduce the seismic vulnerability of buildings and susceptibility to other hazards through enforcement of the California Building Standards Code and other programs.
>
> *Policy S1.10*: Safety review of development Projects. Continue to require hazard mitigation, crime prevention, fire prevention and adequate access for emergency vehicles in new development.
>
> *Policy S1.18*: Potential Hazardous Materials Conditions Investigation. Continue to require developers to conduct an investigation of soils, groundwater and buildings affected by hazardous-material potentially release from prior land uses in areas historically used or commercial or industrial uses, and to identify and implement mitigation measures to avoid adversely affecting the environment for the health and safety of residents or new uses.
>
> *Implementing Program S1.D*: Require Early Investigation of potential hazard Conditions. Require that potential geologic, seismic, soils, and/or hydrologic problems confronting public or private development be thoroughly investigated at the earliest stages of the design process, and that these topics be comprehensively evaluated in the environmental review process by persons of competent technical expertise.

Hazardous Materials Permitting. The City has a use permit process for the use of hazardous materials. The Planning Division relies on the Menlo Park Fire Protection District (MPFD) to determine whether a use permit is required for a project. MPFD has established threshold levels based on the California Fire Code to define the maximum amount of hazardous materials that would be allowed before a use permit is required.

Airport Land Use Plan. The Airport Land Use Plan (ALUP) for the Palo Alto Airport identifies the categories of land uses and height restrictions that may be permitted within the surrounding airspace. However, the Project site is not within the jurisdiction of the Palo Alto ALUP and not within the Height Restriction Area, the Airport Safety Zone, or Airport Influence Area.

Emergency Operation Plan. The City is a participant in the Association of Bay Area Governments (ABAG) multi-jurisdictional planning process for emergencies. The City has adopted an Emergency Operation Plan that assesses the potential losses associated with inadvertent or intentional releases of hazardous materials that could affect the public and identifies responsibilities for city departments and coordination with San Mateo County and regional emergency response providers.

Environmental Setting

Soil and Groundwater Contamination

An unidentified source of volatile organic compounds (VOCs)[1] was identified in groundwater beneath the Commonwealth Site in the 1990s. A 1998 RWQCB no-further-action letter noted that the source was likely offsite. There was no VOC use at the site, and no trace of VOCs in soil samples. Although this is the case, a VOC-contaminated groundwater plume remains onsite and has not been properly characterized. No other significant offsite sources of environmental concern were identified during preparation of the Phase I Environmental Site Assessments (ESAs) for the Commonwealth Site and Jefferson Site.[2]

Commonwealth Site. According to the Phase I ESA, the Commonwealth Site was undeveloped until the 1950s. In the 1950s, the main building, distillery, and portions of the existing tank farm were constructed. In the 1970s, the main building and the tank farm were expanded, and a third building was constructed. There have been no significant changes to the property since that time. Diageo North America, Heublein, Inc., and United Distillers and Vinters operated the facility from the time the facility was opened in the 1950s until it was closed in 2011. The site has been unused since then.

The Commonwealth Site is currently unoccupied. Equipment that was left in place include a subsurface spill containment tank, a condensate tank, water conditioner tank, water heater, 500,000-gallon fire suppression water tank and associated diesel tank, drain lines, gas lines, and sewer system lines. Prior uses of hazardous materials have resulted in soil contamination, discussed below. The SMCEHD issued a "no further action" determination for the site on Diageo's submittal of the Post-Closure Report but noted that changes in the proposed use of the site may require further site characterization and study.[3] According to the Phase I ESA, (approximately) 150 cubic yards of contaminated soil remain onsite.

Jefferson Site. According to the Phase I ESA, the Jefferson Site was undeveloped until the current building was constructed in 1975. That building has been used as a multi-tenant commercial building since then. There have been no significant changes to the property since the original construction.

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[1] A volatile organic compound (VOC) is an organic chemical that readily evaporates at temperatures normally found at the ground surface and at shallow depths. Examples of VOCs include acetone, benzene, 1,1-dichloroethene (1,1-DCE), methylene chloride, tetrachloroethylene (PCE), toluene, and xylene.

[2] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Companies [sic], Cupertino, CA.

[3] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Companies [sic], Cupertino, CA.

The Jefferson Site is currently occupied. Current use of hazardous materials is limited in scope, consisting of only paint, cleaners, adhesives, welding gases, stains, and other maintenance products. During site inspection performed for the Phase I ESA, no concerns were noted with either use or storage of hazardous materials at the site. Although prior uses of hazardous materials at this site have been recorded in environmental databases, no violations were listed, and no onsite contamination has been identified.[4]

Soils and Hydrogeology

The depth and extent of chemical contaminants in the subsurface are a function of underlying geologic materials and how groundwater moves horizontally and laterally. The following summarizes hydrogeologic conditions at the Project site. Refer to Section 3.8, *Geology and Soils*, and Section 3.9, *Hydrology and Water Quality*, for additional information.

The Project site is underlain by fine-grained alluvium consisting of clays interbedded with silts, sands, and fine-gavels. Groundwater has been encountered 8 to 11 feet below ground surface (bgs). At the Commonwealth Site, groundwater generally flows to the southwest, away from San Francisco Bay. Other sites north of the Project site have identified a groundwater flow to the north, toward San Francisco Bay. A Caltrans groundwater pumping station located southwest of the Project site along US 101 that was used for dewatering beneath a railroad right-of-way could have locally affected groundwater flow. It is unknown whether the pumping station is still operating.[5,6] Changes in groundwater levels occur as a result of seasonal fluctuations due to the weather, underground drainage patterns, and general regional fluctuations.[7]

Hazardous Materials Use

Commonwealth Site. Hazardous materials stored onsite included water-testing chemicals and cleaners, sodium hydroxide, hydrochloric acid, phosphoric acid, and biocides. Environmental documentation for the property records the disposal of the following hazardous materials at the Project site: waste oil, flammable liquids, phosphoric acid, surfactant, solids (lead chromium), citric acid, caustic soda, diesel, polyvinyl glue, absorbent, and ethanol (2006–2007); zinc (2001); and asbestos-containing materials (1990, 1998).

The following list details historical hazardous material releases.[8]

- A 10,000-gallon diesel UST was removed from the facility in 1988. Over 204,000 gallons of contaminated groundwater was extracted from the site, treated, and disposed. Approximately 730 cubic yards (cy) of soil was removed from the site and disposed. An estimated 150 cy of soil containing petroleum hydrocarbon concentrations above the cleanup goal were left in place due to the presence of structures that made removal difficult.
- SMCEHD inspection record in 1999 noted that a hazardous waste oil storage area should be cleaned up.

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4 PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: 164 Jefferson Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Organization, Cupertino, CA.

5 PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Companies [sic], Cupertino, CA.

6 PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: 164 Jefferson Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Organization, Cupertino, CA.

7 Cornerstone Earth Group. 2012. Preliminary Geotechnical Investigation, Commonwealth Office Complex, 151 Commonwealth Drive, Menlo Park, CA. Sunnyvale, CA. March 14. Prepared for The Sobrato Organization, Cupertino, CA.

8 PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Companies [sic], Cupertino, CA.

- Internal records indicate a diesel spill in the parking lot in 2001, cleaned by onsite personnel.
- South Bayside System Authority issued notices of violation of the facility wastewater discharge permit in 2001 for high zinc levels due to a deteriorating water tower, in 2006 for discharge of more than 100 gallons of ethanol, and in 2008 for low pH.
- A report prepared for Diageo North America details two accidental releases of ethanol to a storm drain in 2007, one small release and one release of 2,000 gallons. Diageo staff and a contractor contained the spill by plugging the storm drains and pumping the ethanol from the storm drains. RWQCB issued a Notice of Non-Compliance for these releases.
- An anonymous letter in MPFPD files reported that corrosives, acids, caustics, alcohol, and other materials were released to corroded drains. The West Bay Sanitation District (WBSD) inspected the drains in 2011 and found that the flow entered containment tanks and that three manhole covers on the containment tanks needed repair due to corrosion.

VOC-contaminated groundwater with concentrations above regulatory limits was identified beneath the site in the 1990s. The source of the contamination was not identified but was assumed to be offsite. No VOCs have been in use at the Project site, and no VOCs have been detected in soil samples. Current concentrations in the groundwater are unknown.[9]

Jefferson Site. Trugreen Chemlawn (Chemlawn) was a tenant at the property from the late 1980s to the mid-1990s. Chemlawn used the property for storage, staging, and paint mixing. During their tenancy, there was one overspill from an interior mixing tank onto a concrete slab. Before vacating the site, Chemlawn removed the slab, sampled the soil under the slab, and repoured the slab. The property owner reports that no contaminants were identified in the soil sample. SMCEHD files include a review of these sample results. A Hazardous Material Business Plan prepared for Chemlawn and on file with the MPFPD indicated use and storage of sulfur coat urea, urea fertilizer, horticultural oil, Turflon, Roundup, Diazinon, and other herbicides and fungicides. Hazardous wastes included waste oil and solvent from a parts cleaner.

Olovo was a tenant at the property from 2003 to 2007. Olovo used the property for electronic activities. They generated small amounts of waste solder dross. Regulatory agency files contain no records of violations. VOC-contaminated groundwater with concentrations above regulatory limits was identified beneath the site in the 1990s. The source of the contamination was not identified but was assumed to be offsite. No VOCs have been in use at the Project site, and no VOCs have been detected in soil samples. Current concentrations in the groundwater are unknown.[10]

Cortese List Status

Government Code section 65962.5 requires compilation of a list of Hazardous Waste and Substances Sites to be used as a planning document by state and local agencies and developers to comply with the California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites. This list is commonly known as the "Cortese List." Neither the Commonwealth Site nor the Jefferson Site is on the Cortese List.[11]

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[9] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Companies [sic], Cupertino, CA.

[10] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: 164 Jefferson Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Organization, Cupertino, CA.

[11] California Department of Toxic Substances Control. 2013. EnviroStor. Hazardous Waste and Substances Site List (Cortese List). Available: <http://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&status=ACT%2CBKLG%2CCOM&reporttitle=HAZARDOUS%20WASTE%20AND%20SUBSTANCES%20SITE%20LIST>. Accessed: June 2013.

Naturally Occurring Asbestos

As discussed in Section 3.8, *Geology and Soils*, soils at both the Commonwealth Site and the Jefferson Site have been mapped as Urban Land. These soils are associated with reclaimed tidal flats and marshes, and include fills of unknown origin.[12] Bedrock underlying much of the surrounding area belongs to the Franciscan Complex, which includes serpentinite,[13] a naturally occurring mineral that is known to contain asbestos. Because the source of the fill at the Project site is unknown, it is possible that its origin is in materials from the Franciscan Complex. Therefore, there is the potential for naturally occurring asbestos (NOA) to be present in fill material at the Project site.

Asbestos, Lead-Based Paint (LPB), PCBs

Commonwealth Site. The Phase I ESA conducted for the Commonwealth Side did not assess asbestos-containing materials (ACMs). However, the site closure plan approved by the SMCEHP noted that asbestos-containing floor tiles are present throughout the buildings in the facility. In addition, asbestos-containing insulation is present in the boilers. Based on the buildings' construction dates (pre-1978), LBP may be present.[14]

Electrical transformers and fluorescent lights can be sources of PCBs. During site inspection performed for the Phase I ESA, one Pacific Gas & Electric (PG&E)-owned pad-mounted electrical transformer was observed on the site. It did not display a label indicating its PCB content. Fluorescent lights were observed throughout the facility. PCB-containing ballasts may be present.

Jefferson Site. The Phase I ESA conducted for the Jefferson Side did not assess ACMs. Based on the building's construction date of 1975, ACMs may be present. Based on the building's construction date (pre-1978), LBP may be present. During site inspection performed for the Phase I ESA, one PG&E-owned pad-mounted electrical transformer was observed. It was labeled as PCB-free. Fluorescent lights were observed throughout the facility. PCB-containing ballasts may be present.[15]

Schools within 0.25 Mile of the Project Site

Beechwood School is located at 50 Terminal Avenue, Menlo Park,[16] approximately 0.12 mile from the Commonwealth Site. No other schools are located with 0.25 mile of the Project site.

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[12] U.S. Natural Resources Conservation Service. 2012. Web Soil Survey. Custom Report. Available: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. Accessed: May 2013.

[13] Serpentinite is a rock consisting of one or more serpentine minerals. This rock type is commonly associated with ultramafic rock along faults such as the Hayward Fault. Small amounts of chrysotile asbestos, a fibrous form of serpentine minerals, can be common in serpentinite. The State has designated serpentinite as the "State Rock" of California.

[14] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: Former Diageo North America Facility, 151 Commonwealth Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Companies [sic], Cupertino, CA.

[15] PES Environmental, Inc. 2011. Phase I Environmental Site Assessment: 164 Jefferson Drive, Menlo Park, California. November 29. Novato, CA. Prepared for The Sobrato Organization, Cupertino, CA.

[16] California Family Foundation. 2010. Beechwood School. Available: <http://www.beechwoodschool.org/>. Accessed: June 2013.

Airports within 2 Miles of the Project Site

There are no airports within 2 miles of the Project site. However, the Project site is within approximately 2.25 miles of the Palo Alto Airport. The primary hazards associated with airports are crash hazards due to aircraft approach and departure operations.

Environmental Impacts

This section describes the impact analysis relating to hazards and hazardous materials for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (the "Cortese List," described above) and, as a result, would create a significant hazard to the public or the environment.
- 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, result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- Impair or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Methods for Analysis

To assess the potential for the Project to create a significant hazard to the public or environment from hazardous materials, the following analysis considers the pathways through which exposure to hazards could potentially occur and evaluates the controls that would foreseeably be placed on each of these pathways.

As a result of the health and safety risks associated with the use of hazardous materials, hazardous materials use, storage, and disposal are subject to numerous laws and regulations at various levels of government. These laws and regulations are identified above under *Regulatory Setting*. In most cases, the laws and regulations pertaining to hazardous materials management are sufficient to minimize risks to human health and the environment, except where site-specific conditions warrant additional consideration. The impact analysis identifies areas where impacts related to hazardous materials during Project occupancy may, nonetheless, be potentially significant. In these cases, feasible mitigation measures are identified.

The primary sources of information for establishing baseline conditions are site-specific Phase I ESAs for the Commonwealth Site and the Jefferson Site, prepared by PES Environmental, Inc. in November 2011, and reports available from DTSC's EnviroStor website. Phase I ESAs are used to assess whether potentially hazardous materials are located on a property. Standards for Phase I ESAs have been developed by the American Society for Testing and Materials (ASTM). They are used routinely to determine the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products onto the surface or into the ground or into groundwater or surface water of the property. A Phase I ESA consists of a site reconnaissance, review of regulatory agency databases and/or files, aerial photograph review, interviews, interpretation of the results, and recommendations whether additional investigation is necessary.

Because the Phase I ESAs for the Commonwealth Site and the Jefferson Site included a summary compilation of decades of investigation at the Project site and were prepared in accordance with industry standards, the conclusions presented therein are assumed to represent the best available information for purposes of analyzing potential effects. The ESAs have also been independently reviewed. Thus, there is sufficient information upon which to base the analysis.

The baseline for determining potential effects for the Project is described in Section 3.0, *Environmental Impact Analysis*.

Impacts Not Evaluated In Detail

Wildland Fires. The Project site is surrounded on the east, south, and west by urban development. It is separated from salt evaporation ponds and Bay margin vegetation by roadways, and there are no wildlands near the Project site. As described in Section 3.12, Public Services, the MPFD provides fire protection services to the Project site. There would be no impact related to wildland fire hazards; therefore, this impact is not evaluated further.

Hazards Materials Site. Neither the Commonwealth Site nor the Jefferson Site is on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65062.5. There would be no impact related to siting a project on a hazardous materials site; therefore, this impact is not evaluated further.

Airport Hazards. Neither the Commonwealth Site nor the Jefferson Site is within an ALUP or 2 miles of a public airport. There would be no impact related to siting a project within an ALUP area or within 2 miles of a public airport; therefore, this impact is not evaluated further.

Impacts and Mitigation Measures

Impact HAZ-1: Routine Hazardous Materials Use. The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (LTS)

Project construction would involve routine transport, use, and disposal of hazardous materials such as solvents, paints, oils, grease, and caulking. Such transport, use, and disposal must comply with applicable regulations such as the RCRA, DOT Hazardous Materials Regulations, and the local CUPA regulations. Although small amounts of solvents, paints, oils, grease, and caulking would be transported, used, and disposed during Project construction, these materials are typically used in construction projects and are not considered acutely hazardous. Because compliance with existing regulations is mandatory, the Project is not expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

During Project operation, it is anticipated that the Project would involve use of hazardous materials typical of office uses (solvents, cleaning agents, paints, petroleum fuels, propane, batteries, etc.) that would be used in small, localized amounts. Project operation may also involve use of hazardous materials typical of biotech and other research and development facilities (depending on the eventual building tenants). Use, storage, and disposal of these materials would be regulated according to federal and state regulations and guidelines, including those of DTSC, BAAQMD, Cal/OSHA, and any other agency with jurisdiction over these hazardous materials. Because compliance with existing regulations is mandatory, the Project is not expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Proper handling and disposal of contaminated building materials would reduce unforeseen risks to the environment and prevent potential future adverse health, safety, or environmental effects. As a result, impacts related to transport, use, and disposal of hazardous materials would be ***less than significant***.

Impact HAZ-2: Accidental Release of Hazardous Materials. The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (PS)

Implementation of the Project could expose people and the environment to residual contaminants in soil if measures are not implemented to control unintentional or inadvertent releases. The Commonwealth Site has undergone various remediation efforts and has been part of several environmental studies (as noted in the Phase I ESA) and, as such, soil contamination onsite has been properly characterized. According to the aforementioned environmental studies, the Commonwealth Site is known to contain approximately 150 cubic yards of soil contaminated with petroleum hydrocarbons from a previous diesel release. As a result, construction personnel could be exposed to contaminated soils during earth moving activities such as grading or excavating. Implementation of Mitigation Measure HAZ 2.1 would minimize the impacts related to human exposure to, or release of, contaminated soils into the environment.

Both the Commonwealth Site and the Jefferson Site are sited on fill materials that may contain naturally occurring asbestos. Onsite soil disturbance has the potential to result in impacts due to hazardous materials releases in a variety of ways: soil disturbance during construction could generate dust containing residual soil contaminants, which could pose an inhalation hazard to workers if contaminants adhere to the dust; improperly stockpiled soils could introduce contaminants into stormwater; excavation and removal of contaminated soils, particularly if soils are used elsewhere onsite or

transported for offsite disposal or reuse could spread contaminants. Ground-disturbing construction activities, such as grading, and ground-disturbing activities during Project operation, such as landscaping, if done improperly, could release hazardous materials into the environment.

Groundwater under both the Commonwealth Site and the Jefferson Site was identified as containing levels of VOCs surpassing regulatory levels in the 1990s. Although this is the case, Project construction and operation do not include dewatering activities that could expose the public, construction personnel, or the environment to VOC groundwater contamination. Additionally, excavation and grading activities are expected to occur at shallow depths and are not expected to encounter groundwater (groundwater depth onsite ranges from 8 to 11 feet below ground surface).

Unintended releases of hazardous materials could also occur from construction equipment and processes. Typical hazardous materials that may be used during the construction activities include motor oils, solvents, cleaning fluids, and lubricants. There is a potential for dermal contact and inhalation of contaminants from any of these exposures. Demolition or excavation could disturb hazardous materials in existing building components, underground utilities, and tanks if done improperly. Buildings at the Commonwealth Site are known to contain asbestos, and the building at the Jefferson Site is also likely to contain asbestos. Buildings at both the Commonwealth Site and the Jefferson Site are likely to contain LBP. Fluorescent lights that may contain PCB ballasts may be present on both the Commonwealth Site and the Jefferson Site. Demolition of the buildings could disturb these hazardous building materials and cause adverse health or safety effects on construction workers, the public, and/or the environment if appropriate hazardous materials surveys and safety precautions are not taken.

Asbestos poses health hazards only when inhaled; therefore, friable (easily crumbled) asbestos is potentially hazardous if not encapsulated. Non-friable asbestos or encapsulated asbestos does not pose substantial health risks. Upon building demolition, asbestos fibers (if present) could be disturbed, released into the air, and inhaled by construction workers or the public unless proper precautions are taken. Existing laws and regulations (e.g., 29 CFR 1926.1101—Asbestos and BAAQMD Regulation 11, Rule 2—Asbestos Demolition, Renovation, and Manufacturing) would require the Sobrato Organization (Project Sponsor) to retain a qualified environmental specialist (e.g., a Cal/OSHA-certified asbestos consultant or similarly qualified individual) to inspect existing buildings that may be altered. In addition, existing government regulations, such as the California Health and Safety Code Section 39000 et seq., limit asbestos emissions from asbestos-related demolition or construction activities, and specific precautions and safe work practices that must be followed to minimize the potential release of asbestos fibers. In light of these regulations, public health risks due to asbestos exposure during demolition of the existing buildings are expected to be controlled and proper precautions would be implemented.

In sufficient concentrations, lead and mercury are regulated as hazardous wastes. RCRA and the state RWCA require that generators of PCBs, lead, or mercury waste test the debris for toxicity characteristics. This requires that building components be tested for those materials. If building components containing hazardous materials are found at levels that require special handling (i.e., any building material containing paint that contains more than 5,000 ppm of lead, or any building materials known or suspected to contain PCBs or mercury), these materials would be removed and disposed of offsite as required by law and according to federal and state regulations and guidelines, including those of DTSC, BAAQMD, Cal/OSHA, and any other agency with jurisdiction over these hazardous materials.

Further, soil movement during construction of the Project could expose ecological receptors to residual contaminants in soil and/or groundwater if measures are not implemented to control contaminants.

Because residual hydrocarbon contaminants remain in soil, onsite soil movement during construction could provide a new potential pathway through which wildlife species could be exposed to contaminants in soil or fill material. The primary environmental mechanisms for ecological exposure during soil disturbance would be (1) direct species contact with the fill or soil containing contaminants (e.g., birds landing on or rodents burrowing into stockpiled materials); (2) stormwater runoff from exposed soils or fill, or soils spilled onto roads during transport, which could carry contaminants into aquatic environments, where fish and benthic invertebrate species could be affected; or (3) windblown dust, which could be inhaled by terrestrial and avian species, or that could be deposited on surface water, where aquatic organisms could be affected. Consequently, impacts could be ***potentially significant***.

MITIGATION MEASURES. Implementation of Mitigation Measures HAZ-2.1 and HAZ-2.2 would reduce the impacts on human populations and ecological systems to a ***less-than-significant*** level.

HAZ-2.1: Engineering Controls and Best Management Practices during Construction. During construction the contractor shall employ use of BMPs to minimize human exposure to potential contaminants. Engineering controls and Construction BMPs shall include the following.

- Contractor employees working on site shall be certified in OSHA's 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training.
- Contractor shall monitor area around construction site for fugitive vapor emissions with appropriate field screening instrumentation.
- Contractor shall water/mist soil as its being excavated and loaded onto transportation trucks.
- Contractor shall place any stockpiled soil in areas shielded from prevailing winds.
- Contractor shall cover the bottom of excavated areas with sheeting when work is not being performed.

HAZ-2.2: Develop Construction Activity Dust Control Plan (DCP) and Asbestos Dust Management Plan (ADMP). Prior to commencement of site grading, the Project Sponsor shall retain a qualified professional to prepare a DCP/ADMP. The DCP shall incorporate the applicable BAAQMD pertaining to fugitive dust control. The ADMP shall be submitted to and approved by the BAAQMD prior to the beginning of construction, and the Project Sponsor must ensure the implementation of all specified dust control measures throughout the construction of the Project. The ADMP shall require compliance with specific control measures to the extent deemed necessary by the BAAQMD to meet its standard.

Impact HAZ-3: Exposure to Schools. The Project could emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (PS)

The Project would result in the handling of hazardous materials within 0.25 mile of existing schools. The closest school is Beechwood School, located approximately 0.12 mile from the Commonwealth Site. During Project construction, any hazardous materials at the Project site could be disturbed and released, and this could be a ***potentially significant*** impact. However, implementation of Mitigation Measures HAZ-2.1 and HAZ-2.2 would reduce the impact a ***less-than-significant*** level.

Impact HAZ-4: Impairment of Emergency Access or Emergency Plans. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (LTS)

As discussed in Section 3.3, Transportation and Traffic, the Project would increase traffic in the vicinity of the Project site. Currently, both the Commonwealth Site and Jefferson Site are each accessed by one ingress/egress point and the two sites are not interconnected.

The Project would improve the ability for emergency vehicles to circulate throughout the Project site. Emergency access to the Project site would be provided from access points onto Commonwealth Drive and Jefferson Drive. Emergency vehicles could enter the site from either Commonwealth or Jefferson Drives and continue along the northern portion of the Project site, adjacent to the proposed buildings. Fire hydrants and fire department connections would be located along the emergency access route in the vicinity of the proposed buildings. As a result, emergency vehicle access would be improved over existing conditions.

Implementation of the Project would not impede emergency access routes and would continue to maintain the existing City grid system. The Project would not result in permanent road closures that would physically interfere with the City's 2011 Emergency Operation Plan. Therefore, the impact would be ***less than significant***.

Cumulative Impacts

The geographic context for the analysis of cumulative impacts associated with hazardous materials varies depending on the threshold. The cumulative projects considered in this Draft EIR consist of two categories, as shown in Table 3.0-1 and Table 3.0-2 in Section 3.0, Environmental *Impact Analysis*. The cumulative context for disposal and transport of hazardous materials includes the area between the area of generation and the area of disposal as well as the route between a distribution facility to the Project area, where risk of upset and accident would occur. The cumulative context for analysis of contaminated soil and risk from hazardous materials in buildings is site-specific and includes only those cumulative projects in the immediate vicinity of the Project site. The cumulative context for airport hazards and emergency access is the airport influence area of the Palo Alto Airport.

Impact C-HAZ-1: Cumulative Hazardous Materials Use. The Project, in combination with other foreseeable development in the surrounding area, would not have a significant cumulative impact resulting from hazardous materials usage. (LTS)

Tier 1 and Tier 2

The Tier 1 projects are a combination of residential, office, commercial, retail, and medical office uses. Both the types and amounts of hazardous materials present at any one time in these uses would be limited to household-type products, with the exception of the medical offices. Medical offices could include laboratories where small amounts of chemicals would be used, along with pharmaceuticals and small amounts of radioactive materials for diagnosis and treatment. Medical offices would also generate biohazardous medical waste. The Tier 2 projects would include a similar range of land uses as Tier 1, with the addition of institutional, research and development (R&D)/industrial, park/trail, hotel, and rail corridor uses. The R&D and industrial uses would likely involve greater amounts of hazardous materials, such as solvents, flammable materials, and compressed gases, along with other chemicals used in manufacturing and processing.

Although existing, proposed, and reasonably foreseeable development could have potentially unique hazardous materials considerations, all such existing and potential users would comply with the range of federal, state, and local statutes and regulations applicable to the use, transport, and disposal of hazardous materials, and would be required to comply with existing and future programs of enforcement by the appropriate regulatory agencies, which are described in the *Regulatory Setting*. Compliance with these federal, state, and local laws and regulations pertaining to hazardous materials management would be sufficient to minimize health and safety risks because these laws and regulations have been designed to protect health and safety and are enforced by state and local agencies. In addition, stringent federal and state regulatory requirements apply to the common carriers that would handle the delivery and transport of hazardous materials to and from locations where hazardous materials are used. While these regulations do not eliminate the potential for accidents and resulting spills, they would reduce the frequency of possible occurrences and would limit the number of people that could be exposed. Therefore, the cumulative impact with regard to routine use, transport, disposal, and handling of hazardous materials would be less than significant.

Operation of the Project would involve limited hazardous materials use because of the types of activities that would occur (offices and related amenities). Moreover, as explained in Impact HAZ-1, the Project would also have to comply with all applicable statutes and regulations. This would ensure that the Project would not result in significant hazards as a result of hazardous materials use, transport, or disposal.

Development of the Tier 1 and Tier 2 projects and the Project would result in an increase in hazardous materials use and transportation in the area, and such use could also occur within 0.25 mile of schools. This could expose greater numbers of people to increased risks in the event of an inadvertent release or spill. However, hazardous materials incidents are usually site-specific, and the likelihood of multiple incidents occurring concurrently to result in a cumulative impact is anticipated to be very remote. As a result, associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials.

For the reasons explained above, the Project's cumulative impact would be ***less than significant***.

Impact C-HAZ-2: Cumulative Soil and Groundwater Contamination. Development of the Project site and other cumulative development could expose people or the environment to residual contaminants in soil and/or groundwater if measures are not implemented to control unintentional or inadvertent releases. This is a less-than-significant cumulative impact. (LTS)

Tier 1 and Tier 2

One project included in the Tier 1 analysis, Facebook West, is listed pursuant to Government Code Section 65962.5 (Cortese List). This project, which is located at 312-313 Constitution Drive, is an approved new construction for office use and is an active site for voluntary cleanup. The El Camino Real/Downtown Specific Plan (Tier 2 project) is also included on the Cortese List. This area includes two voluntary clean-up sites, two evaluation sites, and one state response site.

For projects in the City that would involve the development or redevelopment of an existing site where soil or groundwater contamination may have occurred, the potential exists for release of hazardous materials during construction and/or remediation of those sites. For individuals not involved in construction activities, the greatest potential source of exposure to contaminants would be airborne emissions, primarily through construction-generated dust. Other potential pathways, such as direct contact with contaminated soils or groundwater, would not pose as great a risk to the public because such exposure scenarios would typically be confined to the construction zones.

Assuming that site-specific risk management controls are implemented and compliance with applicable laws and regulations pertaining to site cleanup and hazardous materials management is achieved at all other locations, soil or water contamination in the identified geographic context would not result in significant cumulative impacts. Exposure to soil and groundwater contamination, inadvertent spills, etc. are all localized impacts that are not expected to combine with other incidents to create a cumulative impact for the same population or environment. Moreover, an individual who is near the construction zone of one source would not likely be exposed to maximum levels offsite from another source. Implementation of applicable hazardous materials management laws and regulations adopted at the federal, state, and local levels, which are explained in the *Regulatory Setting*, would reduce cumulative impacts related to development of known or potentially contaminated sites to less than significant.

All of the Project's impacts associated with soil and groundwater contamination would be mitigated to a less-than-significant level. As described above, the hazards associated with investigation and cleanup of contaminated sites elsewhere would not combine in the cumulative sense, nor would the Project Sponsor be responsible for participating in efforts to reduce the impacts at other locations. Therefore, the Project's cumulative impact would be ***less than significant***.

Impact C-HAZ-3: Cumulative Hazardous Materials in Building Components. Development of the Project and other cumulative development could expose people to asbestos, lead, PCBs, or other hazardous materials in existing buildings that may be demolished, renovated, or rehabilitated if measures are not implemented to control unintentional or inadvertent releases. (LTS)

Tier 1 and Tier 2

It is reasonable to assume development of some of the Tier 1 and/or Tier 2 projects could involve demolition of existing structures, or renovation and rehabilitation of some buildings. If demolition of existing buildings where asbestos, LBP, PCBs, or other hazardous materials are present, those projects, along with the Project, would be required to comply with applicable federal, state, and local regulations, which are explained in the *Regulatory Setting*. Prior to issuance of a demolition permit, the City would be responsible for ensuring that the necessary investigations and remediation have been completed.

Hazardous materials incidents associated with demolition activities where asbestos, lead, PCBs, or other hazardous materials could be released would be site-specific. As a result, associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials. Further, the likelihood of multiple incidents occurring concurrently to result in a cumulative impact would be minimal, and there would be no significant cumulative impact. Development of the Project would comply with all local, state, and federal regulations pertaining to the handling and disposal of hazardous materials that could be contained in the buildings to be demolished. Compliance with these regulations would reduce any potential Project impact to less than significant. Therefore, the Project's cumulative impact would also be ***less than significant***.

Impact C-HAZ-4: Cumulative Impairment of Emergency Access or Emergency Plan Impacts. Development of the Project and other cumulative development would not impair implementation of or interfere with an adopted emergency response or evacuation plan. (LTS)

Tier 1 and Tier 2

Cumulative development would result in increased traffic throughout the City. Emergency provider response times could be significantly impacted due to congestion at intersections, particularly for those projects that are farther away from fire and police stations. However, the Project is fairly near existing

Fire Station 77 (a driving distance of approximately three-quarters of a mile), and existing traffic preemption devices would ensure that response times are not significantly affected.

Since the site plans of several Tier 1 and Tier 2 projects are unknown, it is possible that emergency access to these sites could be affected. Certain features for the Tier 1 and Tier 2 projects would be required to be designed to ensure that adequate emergency access to and from the sites is maintained. During the design review process of the projects, the City would require appropriate measures to ensure that emergency access is not impeded and that the developments include adequate emergency access to the sites. As explained in Chapter 2, *Project Description*, adequate emergency access would be provided to the Project site.

With existing traffic preemption devices located throughout the City and adequate emergency access to the Project site, implementation of the Project would not impede emergency access routes and would continue to maintain the existing City grid system. The Project would not result in permanent road closures that would physically interfere with the City's 2011 Emergency Operation Plan. Therefore, the impact would be ***less than significant***.

3.11 Population and Housing

This section provides background information on existing and projected population, employment, and housing conditions in the City of Menlo Park (City) and estimates changes to the City's demographics that would result from the Commonwealth Corporate Center Project (Project). The analysis is based on population, employment, and housing data published in Projections 2013 by the Association of Bay Area Governments (ABAG)[1] and other demographic information from the Demographic Research Unit of the California Department of Finance (DOF) and the United States Census Bureau (U.S. Census). In addition, the recent Housing Element Update in the City's General Plan is included in this analysis.

The purpose of this section is to characterize the potential for Project-induced population, housing, and employment changes that may trigger physical environmental effects; these potential environmental impacts are examined in other sections of this Draft EIR (for example, Sections 3.3, *Transportation and Traffic*; 3.4, *Air Quality*; 3.6, *Noise*; 3.12, P*ublic Services*; and 3.13, *Utilities and Service Systems*).

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified pertain to housing implications as a result of the Project and the general process of how housing impacts are analyzed under the California Environmental Quality Act (CEQA).

Existing Conditions

Regulatory Setting

State

Housing Element Law. The Regional Housing Needs Allocation (RHNA) is a process established under the State Housing Element law which requires cities in California to plan for the future development of new housing units to meet their share of their regional housing needs. Housing needs for each region in the state are determined by the State Department of Housing and Community Development (HCD) and submitted to Councils of Government for allocation to local jurisdictions. ABAG is ultimately responsible for determining the share of regional housing needs to be met by each city in the San Francisco Bay Area (Bay Area). State housing law has established three housing affordability categories. The categories are based on the region's median income, taking into account households ranging in size from one to six people. These three affordability categories are used by ABAG in allocating regional housing needs.

- Very Low 0 to 50 percent of the area's median income
- Low 50 to 80 percent of the area's median income
- Moderate 80 to 120 percent of the area's median income

Currently the existing RHNA identifies allocated housing units for the 2014 to 2022 period (Table 3.11-1). ABAG identified 655 units (defined by income category) as Menlo Park's fair share of the regional

[1] ABAG data presented in Projections 2013 is a function of the following four elements: (1) ABAG Executive Board policies, which are based on the Smart Growth Vision; (2) General Plan policies for each particular jurisdiction; (3) economic trends; and (4) available land and prevailing land use pattern data, which are based on discussions between ABAG staff and planning staff in each particular jurisdiction.

housing need for the 2014 to 2022 period (Table 3.11-1).[2] The City is currently working on the Housing Element for the 2014 to 2022 time period.

Table 3.11-1. ABAG Regional Housing Need Allocation for 2014–2022

Income Level	Menlo Park Need	San Mateo County Need	Regional Need
Very Low	233	4,595	46,680
Low	129	2,507	28,940
Moderate	143	2,830	33,420
Subtotal of Affordable Units	*505*	*9,932*	*109,040*
Above Moderate[a]	150	6,486	78,950
Total	**655**	**16,418**	**187,990**

Source: Association of Bay Area Governments (ABAG). 2013. Regional Housing Need Plan for the San Francisco Bay Area: 2014-2022. Adopted July 18, 2013.

Notes:

a. Above Moderate: Households with incomes greater than 120 percent of County median family income. ABAG does not use the Above Moderate category. This category is included in the RHNA and in the analysis below to provide decision makers with more information on the housing impacts for a broad spectrum of the new worker households associated with the Project.

Sustainable Communities Strategy and SB 375. SB 375, adopted in 2008, requires preparation of a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP) for the Bay Area. Plan Bay Area, the SCS for the region, was jointly approved in July 2013 by ABAG and the Metropolitan Transportation Commission (MTC). The Plan represents a transportation and land use/housing strategy for how the Bay Area will address its transportation mobility and accessibility needs, land development, and greenhouse gas emissions reduction requirements through the year 2040. SB 375 requires that the RHNA be consistent with the SCS and establishes an 8-year cycle for RHNA. The 2014-2022 RHNA has been incorporated the Plan Bay Area.[3]

Local

City of Menlo Park General Plan. All California cities and counties are required to have a Housing Element included in their General Plan that establishes housing objectives, policies, and programs in response to community housing conditions and needs. The City is currently in the process of updating its Housing Element, which is being prepared to respond to current and near-term future housing needs in Menlo Park. The Housing Element will also provide a framework for the community's longer-term approach to addressing its housing needs. The Housing Element contains goals, updated information, and strategic directions (policies and implementing actions) that the City is committed to undertaking. The City's Housing Element was adopted in May 2013.[4]

[2] Association of Bay Area Governments (ABAG). 2013. Regional Housing Need Plan for the San Francisco Bay Area: 2014-2022. Adopted July 18, 2013.

[3] Association of Bay Area Governments and Metropolitan Transportation Commission. 2013. Plan Bay Area: Strategy for a Sustainable Region. Adopted July 18, 2013.

[4] City of Menlo Park. 2013. "Housing Element." May 21, 2013.

The following policy and implementing program from the Housing Element of the General Plan pertain to the Project.

> *Implementing Program H1.H:* Utilize the City's Below Market Rate (BMR) Housing Fund. The City will administer and annually advertise the availability of funds in the Below Market Housing Rate (BMR) Housing Fund as it applies to residential, commercial, and industrial development projects.
>
> *Policy H4.10:* Inclusionary Housing Approach. To increase affordable housing construction…, the City will require larger non-residential developments, as job generators, to participate in addressing housing needs in the community through the City's commercial in-lieu fee requirements.
>
> *Implementing Program H4.*D: Implement Inclusionary Housing Regulations and Adopt Standards to Implement State Density Bonus Law. Continue to administer the Below Market Rate (BMR) Housing Program for Commercial and Industrial Developments and the Below Market Rate (BMR) Housing Program for Residential Developments.

Environmental Setting

Population

The City is located in the southern portion of San Mateo County (County) and is bound by the San Francisco Bay (Bay) to the north, East Palo Alto to the east, Palo Alto to the east and south, Woodside and Portola Valley to the southwest, and Redwood City to the west. The City encompasses approximately 19 square miles, including nearly 12 square miles of the Bay and wetlands. The City's jurisdictional population was estimated to be 32,679 as of January 1, 2013. The California DOF estimates that the City currently averages approximately 2.57 persons per household (pph).[5] Table 3.11-2 presents population estimates and projections for years 2010 through 2020 for Menlo Park (sphere of influence),[6] San Mateo County, and the Bay Area (Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties).

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[5] Department of Finance (DOF). State of California. 2013. "Table 2: E-5 City/County Population and Housing Estimates." Available <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php> Accessed on February 20, 2014.

[6] Several additional unincorporated areas adjoining the City are recognized as being within the City's sphere of influence and, therefore, are included in the City's General Plan. In California, *sphere of influenc*e has a legal meaning as a plan for the probable physical boundaries and service area of a local agency. Spheres of influence at California local agencies are regulated by Local Agency Formation Commissions (LAFCO) that recognize the unincorporated communities that would be best and most likely served by the city agencies. Hence, the spheres of influence represent areas with the greatest potential for annexation by the city. In most cases, ABAG provides more detailed demographic and employment projections for a city's sphere of influence than for small cities such as Menlo Park. Consequently, unless otherwise specifically noted, all City data represents the City sphere of influence since only limited demographic data is available for the City's incorporated area. The sphere of influence designation for the City includes unincorporated West Menlo Park, Stanford Weekend Acres, Menlo Oaks, as well as the Stanford Linear Accelerator (SLAC). With the exception of SLAC, these areas are zoned residential and are substantially developed. All ABAG projections in this section for the City include the sphere of influence.

Table 3.11-2. Population Trends in Menlo Park, San Mateo County, and the Bay Area, 2010–2020

	2010	2015	2020	Growth 2010–2020
Menlo Park	36,820	37,700	38,700	1,880 (5.1%)
San Mateo County	718,450	745,400	775,100	56,650 (7.9%)
Bay Area	7,150,740	7,461,400	7,786,800	636,060 (8.9%)

Source: Association of Bay Area Governments (ABAG). Projections 2013. December 2013.

The data indicate that the population growth from 2010 to 2020 in Menlo Park (5.1 percent) would be less than the population growth of the County and the Bay Area as a whole (about 7.9 percent and 8.9 percent, respectively). These projections suggest, in part, that the residential areas of the City are more built out than other communities in the County and Bay Area.

Housing

According to the California DOF, the estimated number of housing units in the City (jurisdictional boundary) as of January 1, 2013 was 13,124, with an average household size of 2.57 pph and a vacancy rate of 5.6 percent.[7] Table 3.11-3 presents ABAG projections for households in the Bay Area, the County, and the City (sphere of influence) for years 2010 through 2020. According to ABAG, the number of households in the County is projected to grow from approximately 257,840 units in 2010 to 277,200 in 2020, an increase of approximately 7.5 percent. The number of households in the City is projected to grow from approximately 14,130 units in 2010 to 14,870 in 2020, an increase of approximately 5.2 percent. Overall, the household growth rate in the City (5.2 percent) is expected to be below the household growth rate for the County (7.5 percent) and the Bay Area (8.8 percent).

Table 3.11-3. Household Trends in Menlo Park, San Mateo County, and the Bay Area, 2010–2020

	2010	2015	2020	Growth (2010–2020)
Menlo Park	14,130	14,490	14,870	740 (5.2%)
San Mateo County	257,840	267,150	277,200	19,360 (7.5%)
Bay Area	2,608,020	2,720,410	2,837,680	229,660 (8.8%)

Source: Association of Bay Area Governments (ABAG). Projections 2013. December 2013.

Housing prices in the Bay Area are among the highest in the country, and the County has several of the most expensive residential communities in the Bay Area. Menlo Park is one of the more desirable communities within the County and, as a result, home prices exceed the County levels. The median single family home price in Menlo Park in 2012 was $1.325 million. This is a 10.5 percent increase from the previous year, when the median single family home price in Menlo Park was $1.199 million. The median price of a condominium was relatively more affordable, at $895,000 in 2012, but that was a 27 percent increase from 2011, when the median price of a condominium was $705,000. The median single family home price in the County in 2012 was $736,000 and for California as a whole it was $301,000.

[7] Department of Finance (DOF). State of California. 2013. "Table 2: E-5 City/County Population and Housing Estimates." Available <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php> Accessed on February 20, 2014.

Menlo Park's home prices have increased in real dollar terms over the last 10 years, while the prices for the state and the County have not.[8]

Employment

The employment profile for an area provides an indication of the composition of an area's economy and the present and future demand for employees. The County is a productive economic area led by technology-driven, bioscience, and service industries. Approximately 68 percent of Menlo Park residents age 16 and older were in the work force in 2010, nearly identical to the County rate and a few percentage points higher than the state rate. Most residents who are in the workforce (66 percent) are in management, business, science, and arts occupations, which is significantly more than the rate in the County or the state. According to the Census Bureau's employment industry analysis, many Menlo Park residents (28 percent) work in education, health care, or social assistance. The next most common category, with 23 percent of residents, is professional, scientific and management industries.[9]

The County was negatively affected by the economic downturn of the dot-com industry and again more recently by the housing mortgage/financial crises. Nonetheless, steady employment growth is expected between 2010 and 2020. The following tables present ABAG's employment projections, and these data are used in the analysis presented below. More recent existing employment data are available from the U.S. Census that indicate there are currently 28,599 jobs in the City.[10] However, since the U.S. Census does not provide projections, Table 3.11-4 presents only ABAG employment projections for the City, the County, and the Bay Area.

Table 3.11-4. Employment Trends in Menlo Park, San Mateo County, and the Bay Area, 2010–2020 (Total Number of Jobs)

	2010	2015	2020	Growth (2010–2020)
Menlo Park	29,830	31,920	34,130	4,300 (14.4%)
San Mateo County	345,190	374,940	407,550	62,360 (18.1%)
Bay Area	3,385,300	3,669,990	3,987,150	601,850 (17.8%)

Source: Association of Bay Area Governments (ABAG). Projections 2013. December 2013.

As indicated in Table 3.11-4, the ABAG projections from 2010 to 2020 show a steady increase in employment in the Bay Area (about 17.8 percent for the region). The County shows a slightly higher employment growth than the rest of the Bay Area (18.1 percent), and the City[11] shows lower rates of employment growth (14.4 percent) than the Bay Area average.

Table 3.11-5 presents a comparison of the projected total jobs available in the City to the projected number of employed residents within the City. According to ABAG's Projections, the number of

[8] City of Menlo Park. 2013. "Housing Element." May 21, 2013.

[9] City of Menlo Park. 2013. "Housing Element." May 21, 2013.

[10] U.S. Census Bureau, American Fact Finder, American Community Survey (ACS). 2009. "Sex of Workers by Means of Transportation to Work for Workplace Geography." 2009-2011 ACS 3-Year Estimates, ID B08406. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t> Accessed April 17, 2013.

[11] As mentioned in this section, the most current employment data indicate that there are currently 28,599 jobs in the City.

employed residents in the City would be equal to approximately 62 percent of the available jobs in the City in 2020.

Table 3.11-5. Comparison of Number of Jobs to Employed Residents in Menlo Park

	2010	2015	2020
Jobs[a]	29,830	31,920	34,130
Employed Residents[a]	16,960	18,090	19,310
Percent of Employed Residents to Total Number of Jobs	56.9	56.7	56.6

Source: ABAG, Projections 2013.
Note:
a. Jobs and employed residents are based on the City's sphere of influence, which also includes unincorporated areas of San Mateo County.

ABAG predicts gradual employment growth for both the City and the County. The City's future job growth is estimated to be 1.3 percent per year. The County is expected to experience future job growth at a comparable rate of approximately 1.6 percent per year.[12]

Because the City's housing prices are high, many people who work in the City cannot afford to live there. Consequently, people who work in the community often must commute long distances. To afford the median priced home in the City, a family would need to make more than $260,000 annually, and to afford average rent, a family would need to earn more than $125,000 annually. The difference between what the workforce and the community can pay for housing based on household income and what the prices are for homes in the community is referred to as an *affordability gap*. The affordability gap in the City is significant. Approximately 7.8 percent of the people who currently work in the City also live in the City.[13]

Environmental Impacts

This section describes the impact analysis related to population and housing for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to measure whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere.
- Displace a substantial number of people, necessitating the construction of replacement housing elsewhere.

[12] Association of Bay Area Governments (ABAG). Projections 2013. December 2013.
[13] City of Menlo Park. 2013. "Housing Element." May 21, 2013.

Methods for Analysis

This analysis considers whether population and household growth would occur with implementation of the Project and whether this is within forecasts for the City and/or can be considered substantial with respect to remaining growth potential in the City. This section uses ABAG's Projections to analyze the Project's impacts.

Impacts Not Evaluated in Detail

Displacement of Housing. The Project would demolish the existing onsite manufacturing, warehouse, and office structures and construct two four-story office/biotech/research and development (R&D) buildings with approximately 259,920 square feet (sf) of space. The Project site is currently zoned M-2 (General Industrial), which does not permit housing units. As such, no existing housing would be demolished under the Project and no units would be displaced. The Project would result in ***no impact*** related to the displacement of housing and, therefore, this impact is not evaluated further.

Impacts and Mitigation Measures

Impact POP-1: Population Growth. Implementation of the Project would not induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure). (LTS)

The impact of the Project on population growth within the City would not result in population growth due to the construction of new homes, as no residential development is proposed. However, the Project would generate employment opportunities, which could induce population growth in the area. The Project would include either office uses and/or a biotech and R&D campus. If the Project included only office uses, then it is estimated that approximately 1,300 office jobs would be generated.[14] In general, office uses generate more employees than biotech and R&D uses. The administrative areas of a biotech and R&D company would have a density similar to a corporate office; however, the research and laboratory spaces would have lower employee densities. Therefore, this analysis applies and analyzes the most conservative scenario of approximately 1,300 office employees at the Project site.

Construction of the Project, including the site preparation and building demolition phases, would temporarily increase construction employment. Given the relatively common nature and scale of the construction associated with the Project, the demand for construction employment would likely be met within the existing and future labor market in the City and the County. The size of the construction workforce would vary during the different stages of construction, but a substantial quantity of workers from outside the City or County would not be expected to relocate permanently.

Operation of the Project would generate up to 1,300 new jobs at full buildout and occupancy by 2020. As discussed above, approximately 7.8 percent of all the City's residents also work in the City.[15] The existing 7.8 percent of the City's workforce that are also residents is used to estimate the number of new workers who would seek and find housing in the City as a result of the Project. Approximately 102[16] of

[14] This estimate assumes 200 sf per employee based on similar office density rates on the San Francisco Peninsula. 259,920 sf of office/200 sf = ~1,300 employees. Information provided by the Sobrato Organization (Project Sponsor).

[15] City of Menlo Park. 2013. "Housing Element." May 21, 2013.

[16] 1,300 projected Project employees x 7.8 percent of Menlo Park employees who also live in the City = ~102 projected Project employees who live in the City.

the projected employees at the Project site would be expected to live in the City. Assuming that each employee forms a household with a City average of 2.57 pph, the Project would result in an increase of approximately 262 new residents. The City had 36,820 residents within its sphere of influence in 2010, and the population is projected to increase to approximately 38,700 people by 2020, according to the 2013 ABAG Projections. This represents a 10-year population increase of approximately 1,880 residents. The addition of 262 new residents as a result of the Project would represent approximately 13.9 percent of the anticipated population growth.

As shown in Table 3.11-3, above, ABAG estimates that between 2010 and 2020, the number of households in the City will grow by approximately 740. The Project would generate a housing demand of 102 units in the City, assuming that each new employee that lives in the City forms a household (a conservative scenario). Therefore, the Project-induced housing demand would equate to approximately 13.8 percent of the projected housing growth in the City from 2010 to 2020. The current vacancy rate in the City, according to the DOF, is 5.6 percent, as noted above. This represents a total of 740 vacant units in the City. The 102 housing units that would be needed to accommodate the estimated new households generated by the Project could be accommodated by the vacant units. Therefore, it is possible that no additional new housing would be required. Even if no vacant units were to become occupied by employees of the Project, which is unlikely, the 102 required units would represent only 13.8 percent of the projected housing growth, as noted. In addition, the City's 2013 Housing Element estimates that approximately 1,318 housing units will be constructed by 2035.[17] As such, the Project's demand for housing could be accommodated within the City's anticipated housing construction.

While 7.8 percent of the total housing demand would occur within the City, the remaining 1,196 units (assuming that each employee forms a household) would be distributed throughout the region, with the majority likely living in San Mateo and Santa Clara Counties. According to ABAG estimates, household growth in the Bay Area is expected to increase by approximately 229,660 households from 2010 to 2020. The housing demand resulting from the Project would represent approximately 0.5 percent of the regional growth during the 10-year period. The Project would not significantly impact the population and household growth within the City and the region, and the demand for housing as a result of the Project would be ***less than significant***.

Impact POP-2: Displacement of People. The Project would not result in the displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere. (LTS)

As discussed above under *Impacts Not Evaluated in Detail*, the Project site does not contain housing units. Therefore, the Project would not displace residents. The Commonwealth Site previously included an operational manufacturing and distribution plant, which ceased operations in July 2011. Because there are currently no workers at the site, the Project would not displace people at the Commonwealth Site. However, approximately 30 employees currently work at the Jefferson Site, which is used as warehouses and offices for storage and light industrial uses. Under the Project, the 20,462-sf building would be demolished and replaced by a secondary driveway, active recreation space, and landscaping. Although the Project would not accommodate the current uses and employees, there is available space in the City to accommodate the small amount of current tenants at the Jefferson Site displaced by the Project. The Project would not displace a substantial number of people and would not necessitate the construction of replacement housing; therefore, the impact would be ***less than significant***.

[17] City of Menlo Park. 2013. "Housing Element." May 21, 2013.

Cumulative Impacts

The City represents the geographic context for the cumulative analysis of the Project and Tier 1 projects. For Tier 2 projects, in combination with the Project, the geographic context is the County of San Mateo. This cumulative analysis examines the effects of the proposed development in the Project area in combination with other current projects, probable future projects, and projected future growth within the applicable geographic context in the next 20 years.

Impact C-POP-1: Cumulative Increase in Population. Cumulative development in the City and County would increase the resident population, but would not exceed growth projections. (LTS)

Tier 1

The Project, in combination with other projected growth in the City, would increase population, employment, and housing. The cumulative development projects within the City would include commercial, industrial, office, mixed-use, hotel, and residential developments. If cumulative projects were to induce substantial population growth in the City that would exceed ABAG projections, then the cumulative impact would be significant. The Tier 1 projects would develop 98 dwelling units, which, when taken together with the Project's 262 new residents, would result in an increase in resident population of 514 (based on the current City pph ratio of 2.57).[18] ABAG projects that the City's population will be approximately 38,700 in 2020. If the Tier 1 projects are completed concurrently with the Project, an increase of 514 total residents would result from cumulative development. Added to the 2010 sphere of influence population of 36,820, this would result in a total City population of 37,334 persons in 2020, which is below ABAG projections. However, it is important to note that this is a conservative scenario since the new Project employees could potentially occupy some of the dwelling units proposed in the Tier 1 projects.

In 2010, the City had approximately 29,830 jobs, and ABAG estimates that employment in the City will grow by 14.4 percent between 2010 and 2020. The Tier 1 projects[19] would develop approximately 1,558,000 sf of office/retail/commercial uses, which would generate approximately 5,453 jobs (based on an average of 3.5 employees per 1,000 sf). Using the same assumptions applied to the Project,[20] this would result in population growth of an additional 1,093 persons.[21] Added to the 262 residents expected from the Project, this would result in a cumulative growth of 1,355 residents by 2020. Adding this growth of 1,355 residents from non-residential growth to the growth of 252 residents from residential development, City population in 2020 would be expected to total approximately 38,427 new residents. This would be slightly below ABAG projections of 38,700 by 2020. Thus, the Project's indirect contribution of 262 residents to the total cumulative population growth within the City would result in a ***less-than-significant*** cumulative impact.

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[18] 514 new residents = 262 residents resulting from the Project + (98 dwelling units * 2.57 pph)

[19] Not including the Stanford University Medical Center (SUMC) Project, which is located in Palo Alto and not considered in City of Menlo Park employment projections. The SUMC Project would include 1.3 million sf of medical buildings.

[20] Approximately 7.8 percent of Menlo Park employees would live in the City, all new employees would form a household, and a pph ratio of 2.57.

[21] 1,093 new residents = 5,453 new jobs * 7.8 percent City share * 2.57 pph

Tier 2

The Tier 2 projects encompass a larger geographic area and consist of projects that are in the early stages of planning/programming or whose development could be considered somewhat speculative. The geographic context for the Tier 2 analysis would be the County of San Mateo, within which the Tier 2 projects are located. The Tier 2 projects, if completely realized, could result in development of 5,177 dwelling units, 2,781,340 sf of non-residential uses, and 380 hotel rooms. This residential development could result in a direct population increase of 13,305 residents[22] and, using the same assumptions applied to the Project, a population increase through creation of approximately 9,830 jobs (based on an average of 3.5 employees per 1,000 sf and 1 employee per four hotel rooms) that would generate 1,971 new residents.[23]

Population in the County is projected to increase by approximately 56,650 residents from 2010 to 2020. The growth resulting from Tier 2 projects would total approximately 27 percent of the population growth forecasted for the County by ABAG between 2010 and 2020. The Project would add approximately 262 new residents to the County, which represents approximately 1.7 percent of the population growth in that could result from Tier 2 projects or 0.46 percent of total projected County growth. Therefore, the Project's contribution to this potential cumulative impact is not considerable, and the Project's cumulative impact would be ***less than significant.***

Impact C-POP-2: Cumulative Increase in Housing Demand. Cumulative development in the City and County would increase the demand for housing, but would not exceed growth projections. (LTS)

Tier 1

The Tier 1 projects would result in 98 additional dwelling units. The Tier 1 projects would develop 1,558,000 sf of office/retail/commercial uses with approximately 5,453 new jobs. Assuming that 7.8 percent of employees lived within the City and each formed their own household, the Tier 1 projects would generate a housing demand of approximately 425 units within the City. The City's existing housing supply consists of 13,124 housing units with a vacancy rate of 5.6 percent. With this vacancy rate, approximately 740 dwelling units are available to house additional residents. Employees generated by the Project would require approximately 102 housing units as discussed above under Impact PH-1. Cumulatively, the demand of 527 additional dwelling units (102 from the Project and 425 from Tier 1) could be accommodated by the existing vacant housing in the City. Even without the availability of vacant housing units, the City's Housing Element expects the construction of approximately 1,318 housing units by 2035. The demand generated by the Project and Tier 1 projects could be accommodated by these anticipated units.

In addition, the Project and Tier 1 cumulative housing demand is within the RHNA allocation. As shown in Table 3.11-1, the City's 2014 to 2022 housing need totals 655 units. The Project and Tier 1 projects together represent approximately 79 percent of the identified RHNA. Depending on the allocation of units among income tiers for cumulative projects, this demand could significantly affect the availability of affordable housing. Housing affordability is an important consideration for the City's planning purposes, but it is considered to be a socioeconomic issue that need not be evaluated under CEQA. A shortfall of affordable units within the City is not considered a physical environmental impact.

[22] 13,305 residents = 5,177 dwelling units * 2.57 pph

[23] 1,971 new residents = 9,830 new jobs * 7.8 percent City share * 2.57 pph

Nevertheless, the Project's contribution to this impact (15.6 percent of total 2014 to 2022 housing demand) is not considerable. Therefore, the Project's cumulative impact would be ***less than significant***.

Tier 2

The Tier 2 projects could result in 5,177 dwelling units. Using the same assumptions applied to the Project, the housing demand that could result from the creation of approximately 9,830 jobs is 767 dwelling units within the City. Cumulatively, with the Project, housing demand associated with Tier 2 projects totals 6,046 dwelling units. As identified in Table 3.11-3, the County's housing demand is expected to grow by 19,360 between 2010 and 2020. The demand generated by the Project and Tier 2 would be within these growth projections.

As shown in Table 3.11-1, the Project and Tier 2 cumulative housing demand would not exceed the County's RHNA allocation of 16,418 units. In addition, the Project's contribution (0.6 percent of total 2014 to 2022 County housing demand) would not be considerable. Therefore, the Project's cumulative impact would be ***less than significant***.

3.12 Public Services

This section describes the existing environmental setting of public services within the City and addresses potential impacts of the Commonwealth Corporate Center Project (Project) on public service providers, including police, fire and emergency services, recreation, libraries, and schools. The analysis identifies the effects of the Project on the ability of the service providers to deliver required services.

Public service impacts are assessed in California Environmental Quality Act (CEQA) documents in the context of the 1995 appellate court decision *Goleta Union School District v. The Regents of the University of California.* This decision holds that an increase in demand for public services, such as additional staff or lengthier response times, could lead to potentially significant environmental impacts only if constructing or expanding a public services facility would be required and the construction or operation of that facility might adversely affect aspects of the physical environment. As a result, increases in public service demand alone do not constitute a significant environmental effect, but if it is determined that new public service facilities would need to be constructed, the City must identify appropriate mitigation measures.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified pertain to fire and emergency services.

Existing Conditions

Regulatory Setting

State

California Senate Bill 50 (SB 50). Under the provisions of SB 50, school districts may collect Level Two and Level Three fees to offset the costs related to increasing school capacities in response to growing student enrollments associated with development. Level Two fees require a project developer to provide one-half the costs of accommodating students in new schools, while the state provides the other half. Level Three fees require a project developer to pay the full cost of accommodating the students in new schools and would be implemented at the time the funds available from Proposition 1A (approved by the voters in 1998) are expended. School districts must demonstrate to the state their long-term facilities needs and costs based on long-term population growth in order to qualify for Level Two or Level Three fees.

Local

City of Menlo Park General Plan. The following goal and policies within the Open Space/Conservation Element of the City of Menlo Park's (City's) General Plan are relevant to the Project.

> **Goal OSC2:** Provide Parks and Recreation Facilities. Develop and maintain a parks and recreation system to provide areas and facilities conveniently located, sustainable, properly designed and well maintained to serve the recreation needs and promote healthy living of residents, workers and visitors to Menlo Park.
>
> *Policy OSC2.4*: Parkland Standards. Strive to maintain the standard of 5 acres of parkland per 1,000 residents.

The following goal and policies within the Safety Element of the General Plan are relevant to the Project.

> **Goal S1:** Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
>
> *Policy S1.10*: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention and adequate access for emergency vehicles in new development.
>
> *Policy S1.5*: New Habitable Structures. Require that all new habitable structures incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused disasters.
>
> *Policy S1.29*: Fire Equipment and Personnel Access. Require adequate access and clearance, to the maximum extent practical, for fire equipment, fire suppression personnel and evacuation for high occupancy structures in coordination with the Menlo Park Fire Protection District.
>
> *Policy S1.30*: Coordination with the Menlo Park Fire District. Encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the Menlo Park Fire Protection District prior to project approval.
>
> *Policy S1.38*: Emergency Vehicle Access. Require that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.

The following goal within the Land Use Element of the General Plan is relevant to the Project.

> **Goal I-H:** To promote the development and maintenance of adequate public and quasi-public facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

Menlo Park Fire Protection District Fire Prevention Code, Ordinance 30. The District Fire Prevention Code is adopted pursuant to the Fire Protection District Act of 1987 (California Health and Safety Code Sections 13800 et seq.). This code, which was adopted by the Menlo Park Fire Protection District (MPFD) in September 2007, adopts by reference the 2006 edition of the International Fire Code (IFC) with necessary state amendments. Under Ordinance 30 of the Fire Prevention Code, fire protection systems are required and shall apply to the design, installation, inspection, operation, testing, and maintenance of all fire protection systems. Automatic fire sprinkler systems shall be required in new buildings if the new structure has a total floor area of 5,000 square feet (sf) or more, if the building is four or more stories in height, or if the building has a height of 40 feet or more. The sprinkler systems are also required in existing buildings where the cost of the improvements made to the building exceeds 50 percent of the assessed valuation of the structure. Fire extinguishers and fire alarms would also be required.[1]

Menlo Park Fire Protection District Fire Prevention Code, Ordinance 32. Pursuant to Title 24 of the California Code of Regulations (also known as the California Building Standards Code [CBSC]) and the California Health and Safety Code Section 13869 et seq., a fire protection district may adopt a fire prevention code by reference. The MPFD adopted a new amended and restated District Fire Prevention Code in November 2010 that makes local amendments to the 2010 California Fire Code. Ordinance 32 of the Fire Prevention Code includes outlined requirements for burning, fire apparatus access roads, traffic

[1] Menlo Park Fire Protection District. 2007. "District Fire Prevention Code Ordinance #30 & District Standards, Local Ordinance to 2007 California Fire Code & Fee Schedule. Adopted September 5, 2007. Available <http://www.menlofire.org/ fireprevention/forms/Ordinance%2030.pdf> Accessed October 21, 2013.

calming devices, photovoltaic system installation, automatic fire sprinkler systems, fire alarm systems and components, and building access in the event of an emergency.[2]

Environmental Setting

Fire and Emergency Services

Fire protection services in the Project area are provided by the MPFD. The MPFD service boundary includes the City, Atherton, and East Palo Alto, plus parts of unincorporated San Mateo County and federal facilities such as the Veterans Hospital, United States Geological Survey, and the Stanford Linear Accelerator. The MPFD's seven fire stations, one administrative building, and one rescue warehouse serve a service population of over 99,050[3] and cover 30 square miles. The MPFD's service area is primarily residential, but it also serves some industrial areas on the easternmost part (including the Project site). In addition, the MPFD is part of the greater San Mateo County boundary-drop plan whereby the closest apparatus responds to each call.[4]

Headed by the Fire Chief, the MPFD is organized into the Administrative Services Division, the Fire Prevention Division, Operations Division, and the Training Division. Fully staffed, the MPFD has 87 line safety employees/firefighters, three Fire Inspectors, seven Chief Officers, and 13 staff personnel for a total of 110 employees. This equates to a ratio of 1.11 positions per 1,000 people. Each engine and truck is staffed by a minimum of 3 personnel.[5]

The MPFD responded to approximately 8,500 emergencies incident calls per year with about 60 percent of them being emergency medical incidents.[6] The response goals are less than 6.59 minutes for an emergency medical incident and under 8 minutes for all units to arrive for a structure fire. However, the actual response time may vary depending on whether the units are in quarters, in their response areas, responding to simultaneous incidents, or are out of their area for training.[7]

Fire Stations 77, 1, and 5 in the City and Fire Station 2 in East Palo Alto are the closest stations to the Project site. Fire Stations 77 and 2 are the only two stations located north of US 101. Station 77, at 1467 Chilco Avenue, is expected to serve the Project site and is approximately 0.6 mile west of the Project site. The driving distance between Station 77 and the Project site is about three-quarters of a mile. Per shift, Station 77 is manned by three firefighting personnel (one Captain and two firefighters), one fleet manager, and one mechanic. The station operates Engine 77 (Type 1 Pierce Saber Fire Engine), an air

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2 Menlo Park Fire Protection District. 2010. "District Fire Prevention Code Ordinance No. 32-2010, Adopting the 2010 California Fire Code with Local Amendments." Adopted November 16, 2010. Available <http://www.menlofire.org/fireprevention/forms/2010%20Ordinance%2032.pdf> Accessed October 21, 2013.

3 BAE Urban Economics. 2013. Fiscal Impact Analysis Report for proposed Commonwealth Corporate Center. Submitted to the City of Menlo Park, CA: October 25, 2013.

4 Menlo Park Fire Protection District. 2013. "Menlo Park Fire Protection District Information." Available at <http://www.menlofire.org/districtinfo.html> Accessed August 15, 2013.

5 Harold Schapelhouman, Fire Chief. 2013. Memorandum to Rachel Grossman, City of Menlo Park. April 11, 2013.

6 Menlo Park Fire Protection District. 2013. "Menlo Park Fire Protection District Information." Available at <http://www.menlofire.org/districtinfo.html> Accessed August 15, 2013.

7 Harold Schapelhouman, Fire Chief. 2013. Memorandum to Rachel Grossman, City of Menlo Park. April 11, 2013.

boat, urban search and rescue (USAR) vehicles, and other various utility vehicles owned by the MPFD.[8] The MPFD is in the initial planning stages for the reconstruction of Station 2.[9]

The MPFD is currently studying a Fire Protection Facilities Impact Fee Program to ensure that new development funds its fair share of the costs of needed capital facilities to serve growth within its boundaries. These capital facilities would include fire stations and buildings, fire protection vehicles, and other fire protection and emergency equipment. The fee would be adopted under the authority allowed by Assembly Bill (AB) 1600, the Mitigation Fee Act, contained in Section 66000 and subsequent sections of the California Government Code. Assembly Bill 1600 established a process for local governments and districts to formulate, adopt, impose, collect, and account for impact fees. As per AB 1600, cities hold the legal authority to impose fees on behalf of the MPFD within their city limits. The fee would be levied on new residential and non-residential development in the MPFD's boundaries to offset the demand for capital facilities generated by new development.[10]

Police

Police services in the vicinity of the Project site are provided by the Menlo Park Police Department (MPPD), which serves the City, with mutual aid provided on an as-needed basis from neighboring law enforcement agencies. The Project area is located within MPPD's Beat 3.[11] The MPPD is headquartered at the Menlo Park Civic Center at 701 Laurel Street, approximately 1.85 miles southwest of the Project site. This main station serves the Project site. A substation is located at 1197 Willow Avenue, at Newbridge Avenue, approximately 1.09 miles southeast of the Project site, which is an auxiliary site for officers who work in the Belle Haven neighborhood to use as office space and is not open to the public. The MPPD is considering locations of a new site for this substation, which would provide more access to the public. The substation would have limited business hours and would be staffed with a part-time clerk. There are no other immediate or near-future plans for expansion MPPD's facilities, staff or equipment, aside from normal replacement schedules.

The MPPD is headed by the Chief of Police and consists of two divisions: Patrol Operations Division and Special Operations Division. The MPPD has a total of 47 sworn officers covering three beats, 5 community service officers (non-sworn), and 22 professional staff. Beat 3, which serves the Project site, is staffed with 2 to 3 sworn officers; however, officers in the City working the shift are available to assist during emergencies. The MPPD service population is 42,046 people, which includes the total resident population of the City and one-third of all employees (daytime residents) who work in the City. The current service ratio is 1.11 sworn officers per 1,000 residents, which meets the goals of the MPPD.

From November 2011 to November 2012 (the most recent data available), the MPPD received a total of 10,322 emergency calls, 10,566 calls for services, and 22,043 officer-initiated contacts, for a total of 42,931 calls. The MPPD is committed to maintaining response times that are consistent with industry standards. MPPD's current response times, which are considered acceptable, are as follows.

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8 Menlo Park Fire Protection District. 2013. "Station 77." Available <http://www.menlofire.org/station7.html> Accessed on August 15, 2013.

9 Harold Schapelhouman, Fire Chief. 2013. Memorandum to Rachel Grossman, City of Menlo Park. April 11, 2013.

10 Menlo Park Fire Protection District. 2013. "Fire Protection Facilities Impact Fee Nexus Study – Administrative Draft." Prepared by Seifel Consulting and Urban Economic. June 2013.

11 Dave Bertini, Commander, Menlo Park Police Department, Memo to Rachel Grossman, City of Menlo Park, April 11, 2013.

- Priority 1: Immediate threat of danger to person or a large amount of property and the crime is in progress and/or there is a chance of immediate apprehension of the suspect. The response time for Priority 1 calls for the MPPD is 4 minutes.
- Priority 2: Emergency is in progress, but it is not life threatening or does not immediately threaten a large amount of property. Alternatively, the situation could be life-threatening, but the threat has passed and the suspect is in custody. The response time for Priority 2 calls for the MPPD is 7 minutes.
- Priority 3: The situation is not life threatening and time is not significant. The response time for Priority 3 calls for the MPPD is 10 minutes.

Schools

Four elementary/middle school districts and one high school district are within the boundaries of the City: the Menlo Park City School District, the Ravenswood School District, Redwood City School District, Las Lomitas School District, and the Sequoia Union High School District. However, this analysis does not consider the Las Lomitas School District. The portion of the City that includes the Las Lomitas Elementary School District, which is generally bound by Alameda de las Pulgas to the north and I-280 to the south, is built out with no substantial potential for new housing units. Thus, this school district is not further analyzed in this section since the Project would not indirectly induce the construction of new housing in this area and result in the generation of new students.

Menlo Park City School District. The Menlo Park City School District (MPCSD) serves parts of the City, Atherton, and unincorporated San Mateo County. There are approximately 2,795 students, kindergarten through eighth grade, enrolled in the four schools of the District. [12] Oak Knoll Elementary School and Hillview Middle School are located in the City, while Laurel Elementary School and Encinal Elementary School are located in the Town of Atherton.[13]

The MPCSD employed 165 full-time equivalent teachers during the 2011–2012 school year (the most recent data available) with an average student-to-teacher ratio of 16.9 students per teacher.[14] Pursuant to Education Code Section 52121–52128, the MPCSD strives to provide class sizes of 20 students for grades kindergarten through third and 24 students for grades fourth through eighth.[15] On average the MPCSD exceeds this goal.

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[12] Menlo Park City School District, "About Us," Available: <http://district.mpcsd.org/modules/cms/pages.phtml?pageid=169038&sessionid=69d7bf3a3142231aa2155898b6f502d9> Accessed October 22, 2013.

[13] Menlo Park City School District, "District Boundaries," Available: <http://district.mpcsd.org/modules/cms/pages.phtml?pageid=171241&sessionid=ace8f1cbb3bf78dafce27dbfc3ecf22b&sessionid=ace8f1cbb3bf78dafce27dbfc3ecf22b>. Accessed October 22, 2013.

[14] California Department of Education, Data Reporting Office. 2013. "Certified Staff by Ethnicity for 2011-2012 - # of Staff by District by Ethnicity." Staff Type: Teachers. 4168965 – Menlo Park City Elementary. Available <http://dq.cde.ca.gov/dataquest/> Accessed October 22, 2013.

[15] Menlo Park City School District. 2008. "Class Size and School Assignment.," Menlo Park Board Policies, Board Policy 5116.2. "Class Size and School Assignments." Adopted June 2003, revised April 2008. Available <http://district.mpcsd.org/modules/cms/pages.phtml?pageid=171089#Philosophy> Accessed October 22, 2013.

The MPCSD's schools and associated capacity for the 2012–2013 school year is listed in Table 3.12-1 below. As shown, Encinal School, Oak Knoll School, and Hillview Middle School have additional capacity available for new students. However, Laurel School is over capacity.[16,17] Nonetheless, if a school is at

Table 3.12-1. Menlo Park City School District—Capacity and Enrollment 2012–2013

School	Grades	Total Capacity[a]	Current Enrollment (2012–2013)[b]	Additional Capacity
Laurel School	K-3	484	489	-5
Encinal School	K-5	763	755	8
Oak Knoll School	K-5	763	739	24
Hillview Middle School	6-8	950–1,050	812	138–238
Total		2,960/3,060	2,795	165–275

Sources:
a. Menlo Park School District. 2013. "Facility Master Planning Update."
b. California Department of Education, 2013.

capacity, students have the potential to attend another elementary school in the district. The MPCSD is required to accommodate the students within its boundary. If all classes are at capacity, then the MPCSD may accommodate additional students by either increasing the class size or opening new classrooms. The MPCSD currently uses student generation rates of 0.21 students per single-family dwelling; 0.26 students per townhouse dwelling; and 0.13 students per multifamily dwelling.[18]

Ravenswood City School District. The Ravenswood City School District (Ravenswood CSD) primarily serves the communities of East Palo Alto and the Belle Haven neighborhood in the City. Ravenswood CSD serves approximately 4,077 students kindergarten through eighth grade in seven elementary schools. Ravenswood CSD also includes Ravenswood Child Development Center (pre-kindergarten, 3 through 5 years of age) and San Francisco 49er's Academy (sixth through eighth grades, located at Costaño Elementary School). In addition, Ravenswood CSD holds charters for five charter schools, including one high school. Two Ravenswood CSD schools, Belle Haven Elementary School and Willow Oaks Elementary School, are located within the City.[19,20]

16 Menlo Park School District. 2013. "Facility Master Planning Update." Presentation at the Special Board Meeting May 29, 2013. Available <http://www.district.mpcsd.org/modules/groups/homepagefiles/cms/1602720/File/FINAL%20Board%20Meeting%20May%2029.pdf?sessionid=d71284ef773f18797e998c18007e01dd> Accessed October 22, 2013.

17 California Department of Education, Education Demographics Unit. 2013. "Enrollment by Grade for 2012-2013, District and School Enrollment by Grade." 4168965 – Menlo Park City Elementary. Available <http://dq.cde.ca.gov/dataquest/> Accessed October 22, 2013.

18 Bay Area Urban Economics. 2013. "Fiscal Impact Analysis of the Housing Element Update." April 1, 2013. Available <http://www.menlopark.org/departments/pln/he/fia/he_fia.pdf> Accessed October 22, 2013.

19 Ravenswood City School District. 2013. "Homepage." Available <http://www.ravenswood.k12.ca.us/> Accessed October 22, 2013.

20 California Department of Education, Educational Demographics Unit. 2013. "Enrollment by Grade for 2012-2013, District and School Enrollment by Grade." 4168999 – Ravenswood City Elementary. Available: <http://dq.cde.ca.gov/dataquest/> Accessed October 22, 2013.

As of the 2011–2012 school year (the most recent data available), Ravenswood CSD employed 232 teachers,[21] resulting in a ratio of approximately 17.6 students per teacher. According to the Ravenswood City School District Final Demographic Report, Belle Haven Elementary School's enrollment is expected to decrease from 564 to 424 students, while Willow Oaks Elementary School's enrollment is expected to increase from 700 to 1,065 students by 2018. Belle Haven Elementary School and Willow Oaks Elementary School can accommodate up to 816 students and 1,075 students, respectively.[22] As shown in Table 3.12-2, these two schools are currently under capacity. The Ravenswood CSD uses a student generation rate of 0.39 students per single-family dwelling and 0.12 students per multifamily dwelling.[23]

Table 3.12-2. Ravenswood City School District Schools in Menlo Park—Capacity and Enrollment 2012–2013

School	Grades	Total Capacity[a]	Current Enrollment (2012–2013)[b]	Additional Capacity
Belle Haven Elementary School	K-8	1,075	564	511
Willow Oaks Elementary School	K-8	816	700	116
Total			1,264	627

Sources:
[a.] Ravenswood City School District. 2011. "Final Demographic Report."
[b.] California Department of Education, 2013.

Redwood City School District. Redwood City School District (Redwood CSD) serves elementary school students in Redwood City and portions of San Carlos, Menlo Park, Atherton, Woodside, and incorporated areas near Redwood City.[24] There are approximately 9,210 students, kindergarten through eighth grade, enrolled in the 16 schools of the district. Taft Elementary School, which has an enrollment of approximately 578 students, and John F. Kennedy Middle School, which has an enrollment of approximately 798 students, serve portions of Menlo Park. [25] However, since Redwood CSD is a "district of choice," it is not likely that all students generated from future development under the General Plan in this area would go to these two schools.[26]

[21] California Department of Education, Educational Demographics Unit. 2013. "Certified Staff by Ethnicity for 2011-2012, # of Staff by District by Ethnicity." 4168999 – Ravenswood City Elementary. Available: <http://dq.cde.ca.gov/dataquest/> Accessed October 22, 2013.

[22] Ravenswood City School District. 2011. "Final Demographic Report."

[23] Bay Area Urban Economics. 2013. "Fiscal Impact Analysis of the Housing Element Update." April 1, 2013. Available <http://www.menlopark.org/departments/pln/he/fia/he_fia.pdf> Accessed October 22, 2013.

[24] Redwood City School District. 2013. "District Profile." Available: < http://www.rcsd.k12.ca.us/domain/5>. Accessed December 13, 2013.

[25] California Department of Education, Data Reporting Office. 2013. "District Enrollment by Ethnicity, 2012-2013." 4169005 – Redwood City Elementary. Available <http://dq.cde.ca.gov/dataquest/> Accessed December 13, 2013.

[26] The Redwood City School District offers a combination of neighborhood schools and "schools of choice." Neighborhood schools have residential boundaries, and students are generally assigned to them based on where the students live. Redwood CSD offers four schools of choice—Adelante Spanish Immersion School, McKinley Institute of Technology (MIT), North Star Academy, and Orion School—that do not have neighborhood boundaries. All students within the district are eligible to apply to attend one of the four schools of choice or a neighborhood school outside their boundary area. From: Redwood City School District. 2013. "Schools of Choice." Available: <http://www.rcsd.k12.ca.us/site/Default.aspx?PageID=228>. Accessed December 13, 2013.

Redwood CSD employed 444 full-time equivalent teachers during the 2011–2012 school year (the most recent data available) with an average student-to-teacher ratio of 20.7 students per teacher.[27] Redwood CSD considers its population stable and projects an increase of approximately 500 additional students by 2017. Redwood CSD is currently updating its facilities master plan and a demographic study is in progress. A student generation rate of 0.3 students per dwelling unit is used for the Redwood CSD.[28]

Sequoia Union High School District. Sequoia Union High School District (SUHSD) is the only high school district within the City. The SUHSD serves approximately 9,247 students[29] from ninth grade to twelfth grade in the communities of Atherton, Belmont, East Palo Alto, Menlo Park, Portola Valley, Redwood City, Redwood Shores, San Carlos, and Woodside. The schools that serve the district include Carlmont High School, Redwood High School, Woodside High School, Sequoia High School, Menlo-Atherton High School, and Sequoia District Adult Education.[30]

SUHSD currently employs 475 teachers with an average student-to-teacher ratio of 19.5 students per teacher.[31] The district is projected to increase by over 1,000 students by 2020. The district is currently looking for potential sites for additional schools and is looking at expansion of its existing campuses. SUHSD has not established its own student generation rate and uses the statewide average of 0.2 students per dwelling unit.[32]

Parks and Recreation

The Menlo Park Community Services Department (Department) is responsible for providing recreational and cultural programs for the residents of the City. The Department's facilities located within City boundaries include 221 acres of parkland distributed among 13 parks, 2 community centers, 2 public pools, 2 child care centers, and 2 gymnasiums. Included in the parks and recreational areas are tennis courts, softball diamonds, picnic areas, playgrounds, swimming pools, gymnastics centers, soccer fields, and open space.[33] The parks and facilities administered by the Department that are located on the north side US 101, in the vicinity of the Project site, are identified in Table 3.12-3.

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27 California Department of Education, Data Reporting Office. 2013. "Certified Staff by Ethnicity for 2011-2012 - # of Staff by District by Ethnicity." Staff Type: Teachers. 4169005 – Redwood City Elementary. Available <http://dq.cde.ca.gov/dataquest/> Accessed December 13, 2013.

28 Bay Area Urban Economics. 2013. "Fiscal Impact Analysis of the Housing Element Update." April 1, 2013. Available <http://www.menlopark.org/departments/pln/he/fia/he_fia.pdf> Accessed October 22, 2013.

29 California Department of Education, Educational Demographics Unit. 2013. "Enrollment by Grade for 2012-2013, District and School Enrollment by Grade." 4169062 – Sequoia Union High School. Available: <http://dq.cde.ca.gov/dataquest/> Accessed October 22, 2013.

30 Sequoia Union High School District. 2013. "Home Page." Available <http://www.seq.org/> Accessed October 22, 2013.

31 California Department of Education, Educational Demographics Unit. 2013. "Certified Staff by Ethnicity for 2011-2012, # of Staff by District by Ethnicity." 4169062 – Sequoia Union High. Available: <http://dq.cde.ca.gov/dataquest/> Accessed October 22, 2013.

32 Bay Area Urban Economics. 2013. "Fiscal Impact Analysis of the Housing Element Update." April 1, 2013. Available <http://www.menlopark.org/departments/pln/he/fia/he_fia.pdf> Accessed October 22, 2013.

33 City of Menlo Park Community Services Department. 2013. "Community Services Department." Available <http://www.menlopark.org/departments/dep_comservices.html> Accessed August 15, 2013.

Table 3.12-3. Parks and Community Facilities Located Within the Vicinity of the Project Site

FacilityName	Location	Size	Distance from Site (miles)[a]	Description
Park Facilities				
Bedwell–Bayfront Park	Bayfront Expressway & Marsh Road	155 acres	0.60	An extensive trail system, as part of the San Francisco Bay Trail, allowing hiking, running, bicycling, dog walking, bird watching, kite flying, and photography.
Kelly Park	100 Terminal Avenue	8.3 acres	0.25	A synthetic turf soccer field with lights, full size track with four different exercise apparatuses, lighted tennis courts, lighted basketball court, benches, bleachers, and a full men's and woman's bathroom facility.
Marketplace Park	Ivy Drive & Market Place	1 acre	0.46	Playground, open grass areas, and walkways.
Hamilton Park	Hamilton Avenue (Sage Street and Hazel Street)	1.2 acres	0.67	A play structure, picnic tables, and open grass area.
Community Facilities				
Belle Haven Child Development Center	410 Ivy Drive	6,600 sf	0.14	Licensed by the Department of Social Services to provide quality subsidized, full-time child development services.
Belle Haven After School Center	100 Terminal Avenue	2,485 sf	0.58	Licensed by the Department of Social Services to provide care for children in kindergarten to sixth grade.
Senior Center	110 Terminal Avenue	11,000 sf	0.26	Health, recreational, and educational programs, as well as cultural events and social services to older adults. Hot meals provided for minimal cost.
Onetta Harris Community Center	100 Terminal Avenue	11,000 sf	0.26	A gym, weight room, computer lab, a large multipurpose room with adjacent kitchen, three classrooms, and office space.
Belle Haven Pool	100 Terminal Avenue	6,300 sf	0.26	Currently a seasonal pool that is open form mid-June to the end of August. A 25 meter pool with an additional shallow areas as well as a small kiddie pool.

Source: City of Menlo Park. 2013. City of Menlo Park General Plan – Open Space, Conservation, Noise, and Safety Elements. Adopted May 21, 2013.

Note:

a. As measured from the address of 151 Commonwealth Drive, Menlo Park, CA, 94025.

The City has adopted a goal of maintaining a ratio of 5 acres of developed parkland per 1,000 residents.[34] Currently, the City provides a net of approximately 221 acres of parkland for the residents of Menlo Park, which equates to a ratio of 6.76 acres per capita.[35] The City currently exceeds its goals.

Libraries

The City has two libraries accessible to local residents that are part of the Peninsula Library System. These libraries include the Main Menlo Park Library and the Belle Haven Community Library. The Main Menlo Park Library is a 34,200-sf, one-story building in the Civic Center located at 800 Alma Street. In 1999, the City opened a 3,600-sf branch library in the Belle Haven Elementary School at 413 Ivy Drive as part of a joint venture with Ravenswood CSD. Students of Belle Haven Elementary have easy access to the 18,128 volumes of books in circulation at this library on the school campus.[36] In total, the two City libraries comprise approximately 37,846-sf and have staffs of approximately 53 people, including 7 librarians. The two libraries provide approximately 150,017 volumes of books in circulation to its patrons, with over 10,000 audio books.[37]

According to the General Plan, the Menlo Park Library has a goal to maintain a ratio of 3.29 books per capita and a ratio of 1.02 sf of library space per capita.[38] Currently, there are approximately 150,017 children's books, adult/juvenile books, and serial volumes and 37,846 sf of library space between the Main Menlo Park and Belle Haven branches. With a service population of approximately 32,679 residents, this equates to a ratio of 4.59 books per person and 1.16 sf of library space per person, exceeding the existing standard. The Menlo Park Library currently experiences a shortage of reading room space and overcrowding at children's story times because of an increasing number of children.

Environmental Impacts

This section describes the impact analysis relating to public services for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public services and facilities.

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[34] City of Menlo Park. 2013. City of Menlo Park General Plan – Open Space, Conservation, Noise, and Safety Elements. Adopted May 21, 2013.

[35] 6.76 = (221 acres / January 1, 2013 population of 32,679) * 1,000 residents

[36] Lapkoff & Gobalet Demographic Research, Inc. 2010. Demographic Analysis of the Belle Haven Community for the Menlo Park Library. August 5, 2010.

[37] California State Library. 2011-2012. "Public Library Survey Data (2011-2012 Fiscal Year). Available <http://library.ca.gov/lds/librarystats.html> Accessed October 21, 2013.

[38] City of Menlo Park. 1994. City of Menlo Park General Plan. "General Plan Background Report, Public Facilities and Services." Page B-VI-8.

Methods for Analysis

Potential impacts on public services are evaluated by (a) assessing the potential for the Project to increase demand for public services based on goals established by service providers, and (b) comparing the ability of the service provider/public facility to serve the Project and accommodate the associated increase in demand. A determination is then made as to whether the existing services and facilities are capable of meeting the demand of the Project and, if not, if expansion of existing facilities could cause an adverse environmental effect. The analysis is based on the review of City documents and maps, field reconnaissance, and direct communications with City service providers.

Impacts and Mitigation Measures

Impact PS-1: Impacts on Fire Services. The Project would not result in the need for new or physically altered fire service facilities. (LTS)

The Project is anticipated to increase daytime population by approximately 1,300 people[39] and, based on MPFD standards of each employee as the equivalent of 0.5 residents,[40] this equates to approximately 650 people added to the service population. In addition, the Project is anticipated to generate approximately 102 new employees who could live in the City and in the MPFD's service area. Assuming that each of these employees would form a household with the City average of 2.57 persons per household, the population would increase by approximately 262 residents. In total, the Project could result in approximately 912 people added to the service population. If there were no increase in MPFD staffing (110 fire safety personnel), then the ratio would decrease slightly from 1.11 to 1.10 positions per 1,000 residents.[41] In order to maintain the current ratio, approximately one additional fire safety staff member would need to be hired. This one additional person could be accommodated by the upcoming Station 2 expansion or within the existing facility at Station 77.

Upon Project completion, the MPFD would continue to serve the Project area and respond to calls for assistance from its existing stations. Three MPFD fire stations are less than 2 miles from the Project site. In addition, the MPFD has an automatic aid agreement with the City of Redwood City to provide back up and respond in the event of a major fire and an automatic aid agreement with the City of Palo Alto. Within an 8 to 9 minute response time, Station 1 houses the MPFD's one aerial ladder truck that would be available, if necessary.[42]

The Project would be required to comply with all applicable MPFD codes and regulations and would be required to meet MPFD standards related to fire hydrants (e.g., water fire flow requirements, spacing of hydrants), design of driveway turnaround and access points to accommodate fire equipment, and other fire code requirements. Specifically, the Menlo Park Fire Protection District Fire Prevention Code Section 903.2 requires automatic fire sprinkler protection buildings for commercial occupancies over 5,000 sf if the building is 40 feet or taller.

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39 Although there are currently 30 people employed at the Project site (the Jefferson Site), this number is insignificant, and 1,300 people is a conservative estimate that represents all new employees under the Project.

40 Menlo Park Fire Protection District. 2013. "Fire Protection Facilities Impact Fee Nexus Study – Administrative Draft." Prepared by Seifel Consulting and Urban Economic. June 2013.

41 1.10 = (110 fire safety personnel / new service population [99,050+912=99,962]) * 1,000 residents

42 Menlo Park Fire Protection District. 2007. "District Fire Prevention Code Ordinance #30 & District Standards, Local Ordinance to 2007 California Fire Code & Fee Schedule." Adopted September 5, 2007. Available <http://www.menlofire.org/fireprevention/forms/Ordinance%2030.pdf> Accessed October 21, 2013.

At this time, the MPFD is considering the adoption of an impact fee for Fire Protection Services. If adopted prior to project approval, the Project Sponsor would be required to pay applicable facilities fees, as would be outlined in the Fire Protection Facilities Impact Fee Program for the new construction at the Project site if the fee is adopted prior to the issuance of a building permit. Payment of this fee would address the potential need for any additional fire service equipment.

The one additional firefighter that could potentially need to be hired as a result of the Project, and any additional necessary equipment, could be accommodated in the expansion of Station 2 or within Station 77. As such, the Project would not result in substantial adverse physical environmental impacts associated with the provision of new or physically altered fire and emergency service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Fire service impacts as a result of the Project would be ***less than significant***.

Impact PS-2: Impacts on Police Services. The Project would not result in the need for new or physically altered police service facilities. (LTS)

The Project could impact the MPPD by intensifying site activity, adding new employees and visitors, increasing square footage, and increasing traffic incidents. In total, the Project would increase employees at the Project site to approximately 1,300. As mentioned above, when calculating the service population, the MPPD considers employees who work in Menlo Park as a one-third of a resident. As such, the MPPD's service population would increase by approximately 433 people for a total of 42,479 people. This would result in a nominal decrease of the officers per resident ratio, which would remain at 1.11 officers per 1,000 residents. Police surveillance in the Project area would continue with routine patrols and responses to calls for assistance. The Project would not require the MPPD to expand its current service boundary to include the Project area because it is already included in Beat 3.

The Project site would likely be served by private security for basic monitoring of the site and buildings, which would supplement police patrol services already provided by the MPPD. As part of the City's review process, the MPPD would review plans and other safety features of the Project to ensure that safety standards are properly located and designed. As part of this process, additional safety and security measures could be added as the Project design is refined such as controlled access points, intrusion barriers, additional security cameras, and/or area alarms in specific areas of the site and inside the buildings, where appropriate.

The Project is not anticipated to put an additional demand on MPPD. The increase in service population would not change the existing ratio of 1.11 sworn officers per 1,000 residents. Therefore, no additional MPPD staff or equipment would be required and MPPD facilities would not need to be expanded or constructed. As such, impacts on the MPPD would be ***less than significant***.

Impact PS-3: Impacts on School Facilities. The Project would not result in the need for new or physically altered school facilities. (LTS)

The Project would consist of office uses and would not construct residential units that would generate school-age students. However, as discussed in Section 3.11, *Population and Housing*, the Project would indirectly induce housing demand by increasing employment within the City. The Project could result in a demand of approximately 102 new households in the City (assuming that each new employee who would also live in the City would form a household).

As previously stated, four elementary/middle school districts and one high school district serve the City. However, one of the elementary/middle school districts would not be affected by the indirect population

increases associated with the Project. The portion of the City that includes the Las Lomitas Elementary School District is built out, and there is a very limited potential for the construction of additional housing. Therefore, this school district is not further analyzed in this section because the Project would not indirectly induce the construction of new housing in this area.

To ensure a conservative analysis, for elementary/middle school students, the generation rate for the Ravenswood CSD is used since the student per household ratio is larger. Using these rates, each new single-family/ townhouse unit would generate approximately 0.39 new students, and multifamily units would generate approximately 0.12 new students. For high school students, each new dwelling unit would generate 0.2 new students. At this time, the type of housing units that the Project employees would occupy is unknown. Therefore, this analysis assumes a similar breakdown in housing units as existing housing unit types within the City. According to the City's Housing Element, approximately 63 percent of housing units within the City are single-family units/townhouses and 37 percent are multifamily units. Therefore, the 102 new households generated by the Project would occupy 64 single family units and 38 multifamily units. The Project would generate approximately 30[43] elementary/middle school students and approximately 21 high school students.

Elementary and Middle Schools. Three elementary/middle school districts would serve the new housing that would be an indirect result of the Project. For the purposes of this analysis, it is assumed that one-third of the projected students would attend MPCSD, one-third would attend Ravenswood CSD, and one-third would attend Redwood CSD, which equates to approximately 10 students per district.

Menlo Park City School District. As shown in Table 3.12-1, there is currently capacity for a total of 165 to 275 additional students within the MPCSD, with elementary schools having the least remaining capacity of approximately 27 total students. The 10 students generated by the Project, if evenly distributed between the brackets (elementary [kindergarten through fifth] and middle [sixth through eighth]), would result in approximately 7 new students at the elementary schools and 3 new students at the middle school.

With the recent completion of the Hillview Middle School expansion, there is additional capacity for approximately 138 to 238 new students. As such, the 3 new middle school students generated by the Project would be able to be accommodated within Hillview Middle School. However, one of the three elementary schools currently exceeds capacity and, when combined, the elementary schools are close to capacity. Regardless, the 7 new students at the elementary schools would be able to be accommodated in the existing facilities without increasing class sizes. If a school reaches capacity within the school district, then students would be sent to the next closest school.

Ravenswood City School District. As shown in Table 3.12-2, there is additional capacity for a total of 627 additional students within the Ravenswood CSD. The 10 students generated by the Project, if evenly distributed between the grade levels, would result in approximately 7 new students at the elementary schools and 3 new students at the middle school. Hence, Ravenswood CSD would be able to accommodate the increase in students potentially generated by the Project.

Redwood City School District. Because the Redwood CSD is the "district of choice," this analysis assumes 70 percent of the 10 students (7 students) generated by the Project would attend Taft Elementary School and John F. Kennedy Middle School. This growth is consistent with the 1 percent growth per year

[43] (64 single family units * 0.39 students / unit = 25 new students) + (38 multifamily units * 0.12 students / unit = 5 new students) = 30 total new students.

projected by Redwood CSD. Therefore, the Redwood CSD would be able to accommodate the increase in students potentially generated by the Project.

High Schools. Only one high school district, the SUHSD, serves the City. As such, it is assumed that all high school students generated by the Project would attend the SUHSD, which equates to approximately 21 students. As explained above, the SUHSD is close to capacity and is looking for potential sites for additional schools and considering the expansion of its existing campuses. Adding 21 students to the school district could trigger the need for new or expanded facilities.

Overall School Impacts. As discussed above, the Project could result in an increase in students within the City, which could impact the MPCSD, the Ravenswood CSD, the Redwood CSD, and the SUHSD. It should be noted, however, that the actual generation of new students would be a tertiary impact of the Project. The Project would directly increase employment, which is expected to generate housing demand, and thus induce more housing, a secondary impact. Construction of more housing units would generate more students, a tertiary impact. In addition, the housing needed to serve these 102 households would have to be constructed for any of the possible impacts to occur.

Non-residential development, including the Project, is subject to SB 50 School Impact Fees (established by the Leroy F. Greene School Facilities Act of 1998). As a result of the wide-ranging changes in the financing of school facilities, including the passage of state school facilities bonds intended to provide a major source of financing for new school facilities, Section 65996 of the State Government Code explains that payment of school impact fees established by SB 50 is deemed to constitute full and complete mitigation for school impacts from development that may be required from a developer by any state or local agency.

In addition, the new residential development that may indirectly result from the increase in employment and that would generate students would be subject to separate CEQA review and would also be subject to residential school impact fees (which are higher than non-residential school impact fees). As a result, the tertiary impacts related to schools would be ***less than significant***.

Impact PS-4: Impacts on Parks and Recreation Facilities. The Project would not result in the need for new or physically altered parks and recreation facilities. (LTS)

The Project would provide onsite amenities to the employees such as a lawn, active recreation space, and picnic tables. These proposed features would reduce the likelihood of employees utilizing or overburdening City facilities. The Project would add approximately 1,300 new employees to the area. Although the number of employees would increase, it is likely that these employees would mainly use the onsite facilities during work hours rather than the neighboring City parks.

As stated in Section 3.11, *Population and Housing*, 102 new households are expected to be generated in the City as a result of the Project. These employees and their families could use the park facilities during non-work hours. Nonetheless, as explained above, the Department currently exceeds its goal of 5 acres per 1,000 residents and has not identified any existing capacity issues. Currently, the Department of Finance (DOF) estimates that the City averages approximately 2.57 persons per household. The addition of approximately 262 new residents as a result of the Project would slightly reduce the parks service ratio from 6.76 to 6.70[44] residents per 1,000 acres of parklands. However, this would still exceed the City's service goal of 5 acres of parkland per 1,000 residents. In addition, given the availability of City-maintained parks, population growth related to the Project is not anticipated to increase the use of

[44] 6.70 = (221 acres / 32,679+262 population) * 1,000 residents

recreational resources such that substantial physical deterioration would occur. Regardless, the Project would be subject to supplemental property taxes to pay for bonds issued for park and recreation.

Although the employee and residential population in the City would increase as a result of the Project, there are no capacity issues and the existing facilities would be able to accommodate the increase in residents. The Project would not trigger the need for the construction or expansion of parks or other recreational facilities. Therefore, impacts would be ***less than significant***.

Impact PS-5: Impacts on Library Facilities. The Project would not result in the need for new or physically altered library facilities. (LTS)

As discussed above, the City's libraries have a wide range of resources accessible to the community. The Project would add approximately 1,300 new employees to the area. As a result, the Project is expected to increase the population in the City by approximately 262 residents. As stated above, the Menlo Park Library has a goal to maintain a ratio of 3.29 books per capita and a ratio of 1.02 sf of library space per capita. The increase in 262 residents would slightly degrade the existing ratios from 4.59 to 4.55 books per capita and from 1.16 to 1.15 sf per capita. Nonetheless, this would still be above the current goals and standards. As discussed above, the Menlo Park Library currently experiences a shortage of reading room space and overcrowding at children's story times because of an increasing number of children. However, the Project would not result in a significant new demand for these services. It is expected that the existing libraries in the City would be able to accommodate an increase in employment at the Project site and the associated increase in residents. Therefore, impacts would be ***less than significant***.

Cumulative Impacts

The geographic context for this cumulative public services analysis is the service area of the service in question. For instance, the geographic context for cumulative impacts on police service and park/recreational facilities is the City because these services are provided on a citywide basis, and service ratios by which demand is estimated is based on citywide figures. However, the fire protection cumulative context area would include the City and the cities of Palo Alto, Atherton, East Palo Alto, and parts of unincorporated San Mateo County to correspond with the MPFD's service area. Likewise, the cumulative analysis for impacts on schools would include the communities served by the five school districts discussed in this analysis.

The projects associated with the Tier 2 analysis (as included in Table 3.0-2 and illustrated in Figure 3.0-1 in Section 3.0, Introduction to Environmental Analysis) span a larger geographical area. The identified Tier 2 projects are relevant to the Menlo Park, East Palo Alto, and Redwood City areas. This cumulative analysis examines the effects of the Project in the relevant geographic area, in combination with other current projects, probable future projects, and projected future growth.

Impact C-PS-1: Cumulative Fire Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered fire service facilities. (LTS)

Tier 1 and Tier 2

Cumulative development in the MPFD service area will result in increased demand for fire and emergency services to accommodate growth. Population and employment growth would increase service calls and potentially create a need for additional facilities to maintain existing MPFD service levels. Additionally, new development and intensification of existing land uses could result in taller

buildings. These changes would result in the need for larger fire suppression apparatus, new specialized equipment, and more personnel, which would require either an expansion or relocation of existing fire stations.[45]

As noted above, the firefighter-to-resident ratio of the MPFD is currently 1.11 firefighters per 1,000 residents. The current staffing model is a minimum daily staff of 110 fire safety employees or 1 employee per 4,062 service population served. The MPFD's staffing is currently adequate for daily operations based on the current risk profile, population, and call volumes. The MPFD considers growth forecasts during its annual budgeting process. The MPFD currently anticipates a 22.6 percent increase in the service population by 2040, increasing by approximately 24,000 people.[46] Assuming a steady growth, this would represent a growth rate of approximately 860 new people per year, and approximately 6,000 additional people by 2020.

The Project would add approximately 1,300 employees, which translates to a service population of 650 Project employees (considering each employee as half of a resident) and 262 new residents, for a total of 912 new people in the service area. The additional service population and residents as a result of the Project represents only 15.2 percent of the MPFD forecasted population growth in the service area by 2020. Station 77, at 1467 Chilco Avenue, is expected to serve the Project and is approximately 0.5 miles southwest of the Project site. The MPFD is planning on reconstructing Station 2 and has a Capital Improvement Plan that identifies improvements to other facilities. While the Project could have a considerable contribution to the overall expected growth in service population by 2020, with improvements district wide as well as implementation of the impact fee discussed above, cumulative impacts are not anticipated. The Project's cumulative impact would be ***less than significant***.

Impact C-PS-2: Cumulative Police Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered police service facilities. (LTS)

Tier 1 and Tier 2

The cumulative development projects within the City would include commercial, industrial, office, mixed-use, hotel, and residential developments and would increase the demand for police protection services. As noted, the MPPD's current service ratio is approximately 1.11 sworn officers per 1,000 residents. According to 2009 ABAG Projections, there are expected to be 3,100 additional residents and 1,000 new jobs in the City in 2020.[47] This would result in an anticipated total service population increase of approximately 3,433 people (assuming the MPPD standard of each worker in the City as one-third of a resident). The Project, in combination with other projected growth in the City, would increase population, employment, and housing in the City.

Population forecasts are reviewed during the annual budgeting process to determine whether additional police services will be required to accommodate growth. In 2020, a resident population of 39,300 persons and worker population of 10,130[48] persons (based on MPPD calculation of each employee as one-third of a resident) would result in a total MPPD service population of 49,430 persons. Based on the

[45] Menlo Park Fire Protection District. 2013. "Fire Protection Facilities Impact Fee Nexus Study – Administrative Draft." Prepared by Seifel Consulting and Urban Economic. June 2013.

[46] Menlo Park Fire Protection District. 2013. "Fire Protection Facilities Impact Fee Nexus Study – Administrative Draft." Prepared by Seifel Consulting and Urban Economic. June 2013.

[47] Association of Bay Area Governments (ABAG). Projections 2009. December 2009.

[48] Based on the 30,390 estimated jobs in Menlo Park in 2020 as discussed in Section 3.11, *Population and Housing*.

current MMPD staffing (47 sworn officers), this would result in a ratio of 0.95 officers per 1,000 residents, which is below the current service ratio of 1.11. Additional police officers and facilities would be required to accommodate the growth envisioned by the projected cumulative growth and to maintain the same level of service as under existing conditions. This would be a potentially significant cumulative impact.

The Project would result in 1,300 new employees in the City of Menlo Park. This would translate to a daytime population of 433 people (based on MPPD calculations of each employee as one-third of a resident) and 262 fulltime residents, which would place an additional demand on the MPPD, require additional staff, and potentially increase response times. However, the one new police officer required to accommodate the Project would not require the construction or expansion of police protection facilities to house additional staff as the existing MPPD facilities could house the new officers. Thus, the Project would not make a cumulatively considerable contribution to the increased demand for police services, and the cumulative impact would be ***less than significant***.

Impact C-PS-3: Cumulative School Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered school facilities. (LTS)

Tier 1 and Tier 2

The geographic context for an analysis of cumulative school impacts is the area served by the MPCSD, the Ravenswood CSD, the SUHSD, the Redwood CSD, and the Las Lomitas Elementary School District. Future housing projects in this area would generate additional students that would need to be accommodated within the school districts.

Projects identified for consideration in the Tier 1 and Tier 2 cumulative scenario would be addressed case-by-case during the review of the respective development. In addition, as previously discussed, Section 65996 of the State Government Code explains that payment of school impact fees established by the Leroy F. Greene School Facilities Act of 1998 is deemed to constitute full and complete mitigation for school impacts. The aforementioned school districts have enacted development fees in accordance with the Leroy F. Greene School Facilities Act and levy these fees on development projects within its service area. Cumulative projects would be required to pay the school impact fees, which are based on the amount of proposed residential and commercial space. This process and fee payment would ensure that services to accommodate current and future citywide growth could be reasonably provided within the cumulative context.

The Project would not directly contribute new students to the cumulative enrollment growth since the development of housing units is not proposed as part of the Project. On a tertiary level, the Project would add approximately 30 elementary school students and 21 high school students to the respective school districts. This contribution would not be considerable to the cumulative enrollment growth that is assumed to necessitate construction of new facilities. Therefore, the Project's cumulative impact would be ***less than significant***.

Impact C-PS-4: Cumulative Parks and Recreation Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered parks and recreation facilities. (LTS)

Tier 1 and Tier 2

The geographic context for an analysis of cumulative impacts on parks and recreation is the City, as the Menlo Park Community Services Department is responsible for providing recreational and cultural programs for the residents of the City. The City has adopted a goal of maintaining a ratio of 5 acres of developed parkland per 1,000 residents. This results in a current ratio of 6.79 acres per 1,000 residents, which exceeds the goal. According to ABAG Projections, which reasonably includes the Tier 1 and Tier 2 projects as well as ambient growth, the population in Menlo Park could increase to 39,300 by 2020.[49] A total population of 39,300 people utilizing 221 acres of parkland yields a ratio of 5.62 acres per 1,000, which still exceeds the goal. Therefore, cumulative development is not expected to result in a significant cumulative impact on parks and recreation.

The Project would add approximately 1,300 new employees and 262 residents to the City. Based on the existing population of 32,679, a total residential population of 32,941 would result in a parkland ratio of 6.70 acres per 1,000 residents. Even with projected population growth, the City's parkland ratio would still be above the acceptable threshold, even without the construction of any new parks or recreational facilities. Therefore, the cumulative impact would be ***less than significant***.

Impact C-PS-5: Cumulative Library Service Impacts. The Project, in combination with other foreseeable development in the City, would not result in the need for new or physically altered library facilities. (LTS)

Tier 1 and Tier 2

The geographic context for an analysis of cumulative impacts to library services is the area served by the Peninsula Library System, a consortium of 32 city, county, and community college libraries in San Mateo County. Cumulative development in this service area would place additional demand on library services. This would be a significant cumulative impact if new libraries are not constructed to accommodate regional growth. According to the General Plan, the City has a goal to maintain a ratio of 3.29 books per capita and a ratio of 1.02 sf of library space per person. Cumulative development of the Tier 1 and Tier 2 projects, in combination with ambient growth would, without construction of new libraries or expansion of existing libraries, result in a reduction of the number of books per capita and could force the existing ratio of 4.59 books per person and 1.16 sf of library space per person to below the acceptable threshold. This is a potentially significant cumulative impact.

The Project would not directly add resident population to the City, although some employees may choose to reside within the City. As noted earlier, the Project is expected to indirectly increase the population in the City by approximately 262 residents. As stated above, the Menlo Park Library has a goal to maintain a ratio of 3.29 books per capita and a ratio of 1.02 sf of library space per capita. The increase in 262 residents would slightly degrade the existing ratios from 4.59 to 4.55 books per capita and from 1.16 to 1.15 sf per capita. Although, the Menlo Park Library currently experiences a shortage of reading room space and overcrowding at children's story times because of an increasing number of children, the Project would not result in a significant new demand for these services. Therefore, the

[49] Association of Bay Area Governments (ABAG). Projections 2009. December 2009.

Project would not result in a cumulatively considerable contribution to any potential cumulative impact on library services. The Project's cumulative impact would be ***less than significant***.

3.13 Utilities and Service Systems

This section describes the affected environment and regulatory setting for utilities and service systems. It also describes the impacts on utilities and service systems that would result from implementation of the Commonwealth Corporate Center Project (Project) and mitigation measures that would reduce these impacts. Cumulative impacts are discussed at the end of this section.

The documentation to support this analysis is included in Appendix 3.13. No comments were received in response to the Notice of Preparation (NOP) (Appendix 1) or during scoping meetings that addressed utilities.

Existing Conditions

Regulatory Setting

Federal

National Pollutant Discharge Elimination System. Refer to Section 3.9, *Hydrology and Water Quality*, for information regarding applicable National Pollutant Discharge Elimination System (NPDES) permits associated with the regulation of stormwater.

Safe Drinking Water Act. The U.S. Environmental Protection Agency (EPA) administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminates that could threaten public health.

State

Urban Water Management Planning Act. Section 10610.4 of the California Urban Water Management Planning Act specifies that "Urban Water Suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies." The Menlo Park Municipal Water Department (MPMWD) adopted the 2010 Urban Water Management Plan (UWMP) and Update to the Water Shortage Contingency Plan in June 2011.[1]

Senate Bill 610. Effective January 1, 2002, the State of California, through Senate Bill 610 (SB 610) requires that a city or county, and the associated public water system, prepare a Water Supply Assessment (WSA) for projects that meet certain criteria: (1) a project creating the equivalent demand of 500 residential units, (2) a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sf) of floor space, or (3) a commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space. The Project meets the criteria for requiring a WSA because it would create employment for over 1,000 persons and would include more than 250,000 sf of floor space. The WSA that is required as part of the CEQA process must include, among other information, an identification of existing water supply assessments, water

[1] Menlo Park Municipal Water District. 2010 Urban Water Management Plan, 2011, website: http://www.menlopark.org/departments/pwk/MP_2010_UWMP_Final.pdf, accessed June 4, 2013.

rights or water service contracts relevant to the identified water supply for the project, and water received in prior years pursuant to those entitlements, rights, and contracts. A WSA was prepared for the Project by GHD (Appendix 3.13), the results of which are incorporated in this section. The WSA was approved by the City Council on December 17, 2013.

Senate Bill x7-7 2009 (Water Conservation Act of 2009). Effective January 1, 2010, Senate Bill x7-7 (SBx7-7) requires the state to achieve 20 percent reduction in urban per capita water use by December 31, 2020. In addition, SBx7-7 requires agricultural water management plans and efficient water management practices for agricultural water suppliers and promotes expanded development of sustainable water supplies at the regional level. The portion of SBx7-7 focused on urban water management establishes processes for urban water suppliers to meet the statewide water conservation targets. Further, SBx7-7 requires California Department of Water Resources (DWR) review and reporting on urban water management plans; creates a Commercial, Industrial, and Institutional (CII) Task Force to develop best management practices (BMPs) for water use in this sector; requires DWR to promote implementation of regional water resource management practices through increased incentives; and requires DWR, in consultation with the State Water Resources Control Board (State Water Board) to, develop or update statewide targets for recycled water, brackish groundwater desalination, and urban stormwater runoff.

California Integrated Waste Management Act (Assembly Bill 939). To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the state legislature passed Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties in California were required to divert 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000.

Solid waste plans are prepared by each jurisdiction to explain how each city's AB 939 plan is integrated with its county plan. The plans must promote, in order of priority: source reduction, recycling and composting, and environmentally safe transformation and land disposal. The City/County Association of Governments of San Mateo County (C/CAG) is responsible for review and comment of a Countywide Integrated Solid Waste Management Plan (CIWMP) through their Solid Waste Advisory Committee.

Public Resources Code (PRC) Sections 41770 and 41822, and Title 14, California Code of Regulations (CCR) Section 18788 require that each city and county is required to review and revise, if necessary, the CIWMP at least once every 5 years. The 2009 CIWMP is the most recent iteration of the C/CAG's CIWMP.[2]

State Model Ordinance California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327). AB 1327 requires development projects to reserve adequate areas for collecting and loading recyclables. The City of Menlo Park (City), in its building code, similarly has requirements for including garbage and recycling enclosures in site design, including space for recycling containers and access for recycling and garbage collection trucks.

California Assembly Bill 341 (AB 341). AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The purpose of the law is

[2] The County of San Mateo, Public Works Department, Five Year Countywide Integrated Waste Management Plan Review Report, San Mateo County, December 2009, website: http://www.co.sanmateo.ca.us/bos.dir/BosAgendas/agendas2010/Agenda20100126/20100126_att1_54.pdf, accessed June 4, 2013.

to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California.[3]

Building Energy Efficiency Standards (CCR Title 24). Building energy consumption is regulated under Title 24 of the CCR. The efficiency standards contained in this title apply to new construction, both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water, and lighting.

Local

Municipal Code, Chapter 12.44. Chapter 12.44[4] of the City Municipal Code defines water-efficient landscaping standards that must be employed by new developments. All property owners of regulated projects shall complete and submit the landscape project application, comply with the landscape and irrigation maintenance schedule, and maintain landscape irrigation facilities to prevent water waste and runoff.

Municipal Code, Chapter 12.48. Chapter 12.48[5] of the City Municipal Code specifies landfill diversion requirements of construction and demolition debris. Commercial construction projects of 5,000 sf or greater are required to divert at least 60 percent of total generated waste tonnage from landfills by using recycling, reuse, salvage, and other diversion programs. Before obtaining a building or demolition permit, project applicants must submit a form and obtain approval from the building division.

City of Menlo Park Climate Action Plan. The City's Climate Action Plan (CAP) recommends an extensive list of emission reduction strategies related to energy, water, and solid waste. Near term emission reduction strategies that would also result in the decreased use and/or generation of energy, water, and solid waste include, but are not limited to, an energy efficiency and renewable energy financing program, enhancements to recycling services, incentives for building practices that reduce energy consumption beyond current codes, and the MPMWD conservation programs.

City of Menlo Park General Plan. The following policies within the Open Space/Conservation Element of the General Plan are relevant to the Project.

> *Policy OSC1.11:* Sustainable Landscape Practices. Encourage the enhancement of boulevards, plazas and other urban open spaces in high-density and mixed-use residential development, commercial and industrial areas with landscaping practices that minimize water usage.
>
> *Policy OSC4.1:* Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
>
> *Policy OSC4.5:* Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.

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[3] CalRecycle. Mandatory Commercial Recycling. Available:< http://www.calrecycle.ca.gov/recycle/commercial/> Accessed: December 10, 2013.

[4] City of Menlo Park, Municipal Code, Title 12: Buildings and Construction, Chapter 12.44: Water-Efficient Landscaping, passed August 23, 2011, 2011, website: http://www.codepublishing.com/CA/menlopark/accessed June 4, 2013.

[5] City of Menlo Park, Municipal Code, Title 12: Buildings and Construction, Chapter 12.48: Recycling and Salvaging of Construction and Demolition Debris, passed March 26, 2013, website: http://www.codepublishing.com/CA/menlopark/, accessed June 4, 2013.

Policy OSC4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.

Policy OSC4.7: Waste Management Collaboration. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.

Policy OSC4.8: Waste Diversion. Develop and implement a zero waste policy, or implement standards, incentives, or other program that would lead the community towards a zero waste goal.

The following policy within the Safety Element of the General Plan is relevant to the Project.

Policy S1.27: Regional Water Quality Control Board (RWQCB) Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWCQB general National Pollutant Discharge Elimination System requirements, the San Mateo County Water Pollution Prevention program and the City's Stormwater Management program. Revise, as necessary, City plans so the integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

West Bay Sanitary District Code of General Regulations. Under West Bay Sanitary District's (WBSD's) Code of General Regulations, a Class 3 permit is required for construction of sewer mains, pumping stations and other wastewater. The WBSD Manager or his representative shall examine the plans submitted under a Class 3 sewer permit to verify that they are in accordance with good engineering practices and in compliance with the standard specifications and policies of WBSD. Plans which have been so examined and approved will be submitted to the WBSD Board for approval, alteration, or rejection. After approval of the plans by the WBSD Board, actual construction may be started and all work shall be performed under the inspection of, and in accordance with the standard specifications of WBSD.

All work shall be inspected by WBSD when construction is completed but before use is made of the facilities constructed. Inspection shall be made at such other times as the WBSD Manager may require. Subsequent to the District Board's acceptance of a sewer system constructed pursuant to a Class 3 permit, but prior to connection of and discharge into the District's wastewater facilities, a Class 2 permit, required for non-residential sewer connections, must be obtained by the applicant. The applicant shall give 24 hours advance notice to the WBSD Manager that construction performed under a Class 2 sewer permit is ready for inspection. The applicant shall give 48 hours advance notice with respect to such construction performed under a Class 3 sewer permit.[6]

Environmental Setting

Water Supply, Storage, Treatment, and Distribution

Water Supply. The Project area is served by Menlo Park Municipal Water Department (MPMWD), which supplies water to an area of 4 square miles and a population of about 14,000 people. The remainder of the City is served by the California Water Services Company (Cal Water) and the O'Conner Tract Cooperative Water Company. MPMWD purchases wholesale water from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS). The SFPUC RWS is comprised of two regional water supply and conveyance systems: the Hetch Hetchy system and the Alameda and Peninsula system.

[6] Bill Kitajima, West Bay Sanitary District, email communication, May 6, 2013.

SFPUC obtains approximately 94 percent of its water from Sierra Nevada snowmelt stored in the Hetch Hetchy reservoir, which is situated on the Tuolumne River in Yosemite National Park. The water from Hetch Hetchy travels more than 160 miles across California by gravity to reach Menlo Park. The remaining 6 percent of water supply comes from runoff in the Alameda and Peninsula watershed, which is captured in reservoirs within San Mateo and Alameda Counties.[7] The Hetch Hetchy system delivers 260 million gallons per day (mgd) of water to 1.7 million San Francisco Bay Area (Bay Area) residents, businesses, and community organizations.[8] The supply quantities for the SFPUC and MPMWD for normal rainfall years and for multiple dry years, are shown in Table 3.13-1.

Table 3.13-1. SFPUC System Wide and MPMWD Water Supply Quantities

Water Supply Sources	Average/Normal Water Year	Single-Dry Water Year	Multiple-Dry Water Years		
			Year 1	Year 2	Year 3
San Francisco PUC (to customer) (AFY)	206,121	170,946	170,946	148,429	148,429
Percent of Average/ Normal Year		83%	83%	72%	72%
MPMWD	4,993.0	4,140.9	4,140.9	3,595.5	3,595.5
MPMWD Percent of Average/ Normal Year		83%	83%	72%	72%

Source: GHD, Water Supply Assessment for the City of Menlo Park Commonwealth Corporate Center Project, prepared for the Menlo Park Municipal Water District, October 24, 2013.

On the San Francisco Peninsula, SFPUC uses Crystal Springs Reservoir, San Andreas Reservoir, and Pilarcitos Reservoir to capture local watershed runoff. In the Alameda Creek watershed, SFPUC uses the recently constructed Calaveras Reservoir and San Antonio Reservoir for water storage. In addition to capturing runoff, these facilities provide storage for Hetch Hetchy diversions and serve as an emergency water supply in the event of an interruption to Hetch Hetchy diversions.

Water Contracts and Agreements. The business relationship between San Francisco and its wholesale customers is largely defined by the current Water Supply Agreement (Agreement) between the City and County of San Francisco and wholesale customers in Alameda County, San Mateo County, and Santa Clara County entered into in July 2009. The new agreement replaced the Settlement Agreement and Master Water Sales Contract (MSA) from 1984 that expired June 2009. The agreement addresses the rate-making methodology used by San Francisco in setting wholesale water rates for its wholesale customers and also addresses water supply and water shortages associated with the SFPUC RWS. The agreement has a 25-year term and is supplemented by Individual Water Supply Contracts.[9]

The agreement provides for a 184 mgd "Supply Assurance" (expressed on an annual average basis) to SFPUC's wholesale customers, subject to reduction to the extent and for the period made necessary by reason of water shortage, due to drought, emergencies, or by malfunctioning or rehabilitation of the

[7] Bay Area Water Supply & Conservation Agency, "Hetch Hetchy Water System," website: http://bawsca.org/water-supply/hetch-hetchy-water-system/, accessed October 29, 2013.

[8] Bay Area Water Supply & Conservation Agency, "About," website: http://bawsca.org/about/, accessed October29, 2013.

[9] Menlo Park Municipal Water District. 2010 Urban Water Management Plan, 2011, website: http://www.menlopark.org/departments/pwk/MP_2010_UWMP_Final.pdf, accessed June 4, 2013.

regional water system.[10] Each member holds an Individual Water Supply Contract with SFPUC, and the agreement governs these contracts. Under the agreement and the Individual Water Supply Contract, each agency negotiates an Individual Supply Guarantee (ISG), described further under the *Menlo Park Municipal Water District* section, below.

Section 7.01 of the 1984 MSA states "Supply Assurance continues in effect indefinitely, even after expiration of the MSA in 2009," and this is still the case in the new agreement. The condition is a reflection of case law, which holds that a municipal utility acts in a trust capacity with respect to water supplied to outside communities (*Durant v. City of Beverly Hills*, 39 Cal. App. 2d 133, 102 P.2d 759 (1940)); and *Hansen v. City of San Buenaventura*, 42 Cal. 3d 1172 (1986)). Entire communities have developed a reliance on these water supplies. Consequently, the Supply Assurance of up to 184 mgd will survive the termination of the agreement and the Individual Water Supply Contracts.

Water Supply Improvements. In order to enhance the availability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, SFPUC has undertaken the Water System Improvement Program (WSIP), approved October 31, 2008. The WSIP includes a total delivery reliability goal of 265 mgd of supply with no greater than 20 percent rationing in any one year of a drought. In approving the Program Environmental Impact Report (PEIR) for the WSIP, SFPUC adopted a Phased WSIP Variant for water supply. This Phased WSIP Variant establishes a mid-term water supply planning milestone in 2018 at which point SFPUC will reevaluate water demands through 2030. Concurrent with the adoption of the Phased WSIP Variant by SFPUC, the Interim Supply Limitation (ISL) was also imposed by SFPUC, that limits the volume of water that member agencies and San Francisco can collectively purchase from RWS to 265 mgd, until at least 2018. According to the WSIP Regional Projects Quarterly Report for the third quarter of 2012–2013, planning, environmental, design, and construction activities are 99.9 percent, 94.7 percent, 95.7 percent, and 68.6 percent complete, respectively.

SFPUC committed to provide fishery flows below Calaveras Dam and Lower Crystal Springs Dam, as well as bypass flows below Alameda Creek Diversion Dam, by adopting project-specific approvals for the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvement Project, which are part of the WSIP. These fishery flows could potentially create a shortfall in meeting the SFPUC demands of 265 mgd and slightly increase SFPUC's dry-year water supply needs. In the last few years, SFPUC has stated that current decreased levels of demand keep this from being an immediate problem. Recent deliveries were: 247.5 mgd in fiscal year (FY) 2006, 257 mgd in FY 2007, 254.1 mgd in FY 2008, 243.3 mgd in FY 2009, and 225.2 mgd in FY 2010. However, in the near future, the SFPUC must resolve these issues. SFPUC is working closely with its staff to develop strategies for meeting the service goal for delivery reliability. In Resolution No. 10-0175 adopted by SFPUC on October 15, 2010, staff was directed to provide information on how SFPUC has the capability to attain its water supply levels of service and contractual obligations. This directive was in response to concerns expressed by SFPUC and the wholesale customers regarding the effect on water supply as a result of the instream flow releases required resulting from the Lower Crystal Springs Dam Improvement Project and the Calaveras Dam Replacement Project.

Various SFPUC activities are underway to resolve the shortfall problem. SFPUC has reported regularly on future water supply and demand balances, most recently in its 2012 Water Supply Development Report (December 3, 2012). In that report, SFPUC documented that it had implemented the Harding

[10] Menlo Park Municipal Water District. 2010 Urban Water Management Plan, 2011, website: http://www.menlopark.org/departments/pwk/MP_2010_UWMP_Final.pdf, accessed June 4, 2013.

Park Recycled Water Project and was nearing completion of its Sharp Park Recycled Water Project, bringing new non-potable water supplies into the service area. The 2012 Water Supply Development Report also documents planning progress made by the Bay Area Water Supply Conservation Agency (BAWSCA). While this report supports the near-term reliability of the system, SFPUC continues to acknowledge the need to develop alternative supply strategies to make up for the instream flow reductions losses and to meet long-term demands beyond the 2018 ISL deadline.[11]

The Interim Supply Allocations (ISA) refers to each individual wholesale customer's share of the ISL. On December 14, 2010, SFPUC established each agency's ISA through 2018. In general, SFPUC based the allocations on the lesser of the projected FY 2017-2018 purchase projections or the ISG for each agency. The ISA's are effective only until December 31, 2018, and do not affect the Supply Assurance or the ISGs. MPMWD's ISA is 4.1, mgd or approximately 4,590 acre-feet per year (AFY). As stated in the agreement, the wholesale customers do not concede the legality of some of the SFPUC's actions, including establishment of the ISA, and expressly retain the right to challenge these provisions, if and when imposed, in a court of competent jurisdiction.

The Agreement includes a Water Shortage Allocation Plan (WSAP) that addresses shortages of up to 20 percent of system-wide use. The Tier One Shortage Plan allocates water from the RWS between San Francisco and the wholesale customers during system-wide shortages of 20 percent or less. The WSAP also anticipated a Tier Two Shortage Plan, adopted by the wholesale customers, which would allocate the available water from the RWS among the wholesale customers.

The Tier One Shortage Plan replaced the prior Interim WSAP, adopted in 2000, which also allocated water for shortages up to 20 percent. The Tier One Plan also allows for voluntary transfers of shortage allocations between SFPUC and any wholesale customer and between wholesale customers themselves. The Tier One Plan will expire in 2034 at the end of the term of the Agreement, unless extended by SFPUC and the wholesale customers.

The Tier Two Plan, the second component of the WSAP, allocates the collective wholesale customer share among each of the 26 wholesale customers (that comprise the BAWSCA). The Tier Two Plan will expire in 2018 unless extended by the wholesale customers. This Tier Two allocation is based on a formula that takes multiple factors into account for each wholesale customer, including the ISG, the seasonal use of all available water supplies, and residential per capita use.

Bay Area Water Supply Conservation Agency. MPMWD is part of BAWSCA, created in 2003 through state legislation (AB 2058) to represent the interests of 24 cities and water districts and two private utilities in Alameda, Santa Clara, and San Mateo Counties that purchase water on a wholesale basis from SFPUC's regional water system.[12] In particular, there are two primary BAWSCA activities that impact MPMWD's water supply and demand projections: the Water Conservation Implementation Plan (WCIP) and the Long Term Reliable Water Supply Strategy.

In September 2009, BAWSCA completed the WCIP, which includes 37 potential demand management activities including 32 existing measures and 5 new measures that were defined and developed as part of the WCIP. It is an implementation plan for BAWSCA and its member agencies to attain the water use efficiency goals that BAWSCA's member agencies committed to in 2004 as part of the PEIR for SFPUC's

[11] GHD, *Water Supply Assessment for the City of Menlo Park Commonwealth Corporate Center Project,* prepared for the Menlo Park Municipal Water District, October 24, 2013.

[12] Bay Area Water Supply & Conservation Agency, "About," website: http://bawsca.org/about/, accessed October 29, 2013.

WSIP. The WCIP also identifies how BAWSCA member agencies can use water conservation as a way to continue to provide reliable water supplies to their customers through 2018 given SFPUC's 265 mgd ISL.

In addition, BAWSCA is developing the Long-Term Reliable Water Supply Strategy to meet the projected water needs of its member agencies and their customers through 2035 and to increase their water supply reliability under normal and drought conditions. Additional information regarding the WCIP and the Long-Term Reliable Water Supply Strategy can be found in the WSA, included in this Draft EIR as Appendix 3.13.

Menlo Park Municipal Water District. As part of the Individual Water Supply Contract that MPMWD holds with SFPUC, MPMWD has an ISG of 4.465 mgd (or approximately 4,993 AFY).[13] Menlo Park purchased 2.95 mgd from SFPUC to meet customer needs in fiscal year 2011–2012, or about 100 percent of its allocation.[14] Table 3.13-2 shows MPMWD's current and future water deliveries by customer sector.

Table 3.13-3 provides a summary of the existing and planned water supply sources for MPMWD. As shown, the current and projected MPMWD water demand (Table 3.13-2) is below MPMWD's projected water supply (Table 3.13-3).

Table 3.13-2. MPMWD Existing and Projected Water Deliveries by Customer Sector (in AFY)

Water Use Sectors	2010	2015	2020	2025	2030	2035
Single Family	1,171.0	1,053.9	959.0	962.4	965.7	969.1
Multi-Family	333.0	299.7	272.7	279.6	286.7	293.9
Commercial, Industrial, and Institutional (CII)	1,366.0	1,867.0	1,680.3	1,742.9	1,808.2	1,876.7
Landscape	436.0	428.0	400.0	400.0	400.0	400.0
Other	85.0	96.3	87.7	86.8	88.6	90.5
Total	3,910.0	3,744.9	3399.7	3,471.7	3,549.2	3,630.2

Source: Menlo Park Municipal Water District, 2011, Urban Water Management Plan 2010.
Notes:
AFY = acre-feet/year; 1 acre foot = 325,850 gallons

[13] Menlo Park Municipal Water District. 2010 Urban Water Management Plan, 2011, website: http://www.menlopark.org/departments/pwk/MP_2010_UWMP_Final.pdf, accessed June 4, 2013.

[14] Bay Area Water Supply and Conservation Agency, *Annual Survey*, *FY 2011-2012*, May 2011.

Table 3.13-3. MPWMD Existing and Planned Sources of Water (in AFY)

Wholesale Sources	Contracted Volume	2015	2020	2025	2030	2035
San Francisco Public Utilities Commission	4,993	4,993	4,993	4,993	4,993	4,993
BAWSCA Long Term Strategy	-	-	-	-	-	-
Groundwater Supplies	-	-	-	-	-	-
Totals	4,993	4,993	4,993	4,993	4,993	4,993

Source: Menlo Park Municipal Water District, 2011, Urban Water Management Plan 2010.
Note:
AFY = acre-feet/year; 1 acre foot = 325,850 gallons

Water Treatment. The City purchases 100 percent of its treated water supplies from SFPUC as agreed upon in the Agreement and its ISG. The purchased water is treated at both the Sunol Valley Water Treatment Plant (WTP) and the Harry Tracy WTP. As of 2011, SFPUC is engaged in a variety of water treatment and distribution system improvements projects that comprise its WSIP and evolved out of its earlier Water System Master Plan (2000). The WSIP EIR evaluated the impacts associated with implementation of the WSIP, but individual projects would be subject to project-specific environmental review. In 2013, SFPUC completed construction for the expansion of the Sunol Valley WTP, which has the sustainable capacity[15] to treat up to 160 mgd. The Harry Tracy WTP treats 120 mgd, and there are plans for expansion and upgrades to sustainably treat 180 mgd. As of 2013, the Harry Tracy WTP is forecasted to be completed in February 2015. Therefore, at capacity, SFPUC would be capable of treating up to 340 mgd. In addition, completed in 2012, SFPUC's Tesla Water Treatment Facility in Tracy, California, is the largest ultraviolet disinfection treatment plant in California, capable of producing 315 mgd.[16] Therefore, after 2015, SFPUC would be able to treat up to 655 mgd.

Water Storage and Distribution. MPMWD's water distribution system is split into four different service area zones based on water pressure, as described below.

- The lower zone is located north and east of El Camino Real and serves primarily residential and small commercial land uses. The zone includes the Belle Haven, Bay Road, and Willows neighborhoods.
- The high pressure zone is located in northern Menlo Park between US 101 and the Bayfront Expressway and serves primarily industrial land uses. It includes the Bohannon Industrial Park and Tyco Properties.
- The upper pressure zone is located in western Menlo Park and is geographically and hydraulically disconnected from other zones. It serves primarily the Sharon Heights residential neighborhood, the Sharon Heights Golf Course, and the Stanford Linear Accelerator Lab.
- The Menlo Business Park zone is located along O'Brien Drive between Willow Road and University Avenue. It serves primarily light industrial land uses.

[15] *Sustainable capacity* is the highest flow rate at which a treatment plant can be expected to operate, given normal source water conditions, while meeting regulatory water quality and routine maintenance requirements.

[16] San Francisco Public Utilities Commission, News, "San Francisco, Federal and State Officials to Dedicate California's Largest Ultraviolet Water Treatment Facility," July 19, 2011, website: http://www.sfwater.org/Index.aspx?page=17&recordid=24, accessed October 29, 2013.

The high pressure zone is hydraulically disconnected from the other zones with inter-tie capabilities. The upper pressure zone is hydraulically and geographically separated from the other zones. The Project site is located in the high pressure zone.[17]

Existing Water Demand on Project Site

The Jefferson Site is currently developed with a 20,462-sf warehouse, which would be demolished upon implementation of the Project. The 4-year average annual water use for the Jefferson Site from 2009 through 2012 was 0.00071 mgd, or 0.8 AFY.[18]

The Commonwealth Site is currently developed with a single-story industrial building and associated structures totaling approximately 217,396 sf. The Commonwealth Site includes small areas of irrigated landscaping. The water use for the Commonwealth Site dropped significantly in the years 2011 and 2012 compared to previous years due to site use changes. The water consumption at the Commonwealth Site in 2012, when the NOP was filed, is considered the baseline, and was 6.7 AFY, or 0.006 mgd.[19]

The total existing water demand for the Project site (the Jefferson Site and Commonwealth Site) is 0.00671 mgd or 2.45 million gallon per year (approximately 7.5 AFY). When the Commonwealth Site was under operation by Diageo prior to 2011, the water use was approximately 18.5 million gallons per year (approximately 57 AFY).[20] However, since the Diageo facility was decommissioned at the time that the Project NOP was released (which is considered baseline conditions, as noted above), this information is provided for comparison purposes only and is not considered in the analysis.

Wastewater Collection and Treatment

WBSD collects wastewater from customers within the City (including the Project site), Atherton, and Portola Valley, and areas of East Palo Alto, Woodside, and unincorporated San Mateo and Santa Clara Counties. WBSD transports wastewater via main line trunk sewers to the Menlo Park Pumping Station (MPPS) located at Bayfront Expressway and Marsh Road, west of the Project site. From there, wastewater is transported to the South Bayside System Authority (SBSA) Regional Treatment Plant, located at the eastern end of the Redwood Shores peninsula in Redwood City, approximately 6 miles northwest of the City. WBSD operates a separate sanitary sewer and stormwater conveyance system.

The Project site is served by WBSD's 54-inch gravity sewer main at a manhole along Commonwealth Drive. Wastewater generated at the Project site is conveyed via WBSD's 54-inch trunkline along Commonwealth Drive approximately 0.7 mile to the Menlo Park Pump Station at Bayfront Expressway and Marsh Road, north of the Project site. The wastewater is then conveyed along a force main to the SBSA Regional Treatment Plant.[21] The SBSA Regional Treatment Plant is permitted by the RWQCB to discharge treated wastewater into San Francisco Bay (Bay). The SBSA Regional Treatment Plant is

[17] Menlo Park Municipal Water District. 2010 Urban Water Management Plan, 2011, website: http://www.menlopark.org/departments/pwk/MP_2010_UWMP_Final.pdf, accessed June 4, 2013.

[18] GHD, *Water Supply Assessment for the City of Menlo Park Commonwealth Corporate Center Project,* prepared for the Menlo Park Municipal Water District, October 24, 2013.

[19] GHD, *Water Supply Assessment for the City of Menlo Park Commonwealth Corporate Center Project,* prepared for the Menlo Park Municipal Water District, October 24, 2013.

[20] Fabian Nodal, Engineering Strategy Manager, Diageo Americas. 2012. Electronic communication with Rich Truempler, Sobrato Organization. May 16, 2012.

[21] Bill Kitajima, West Bay Sanitary District, email communication, May 6, 2013.

jointly owned and operated by WBSD and the Cities of Redwood City, Belmont, and San Carlos as a joint powers authority (JPA). Under SBSA's NPDES permit, the regional treatment plan has a permitted dry weather capacity of 27 mgd and peak wet-weather-capacity of 71 mgd. In 2008, SBSA began the implementation of its Conveyance System Master Plan, which is a 10-year capital improvement program (CIP) intended to accommodate projected increases in wastewater flows through 2030. Renovation and refurbishing of SBSA facilities under the CIP will increase treatment capacity to 29 mgd during dry weather and 80 mgd during peak wet weather.[22]

The current water use (baseline conditions) at the Project site is approximately 7.5 AFY. Although a portion of the existing water demand is likely used for landscaping and is discharged into the stormwater system, it is conservatively assumed that all water used at the Project site will enter the wastewater system. The baseline conditions for water use reflect the operational Jefferson Site and the nonoperational Commonwealth Site. For comparison, the wastewater discharge was approximately 32,467 gpd when the Commonwealth Site was under operation by Diageo prior to 2011.[23] However, since this is not considered baseline conditions, this information is not considered in the analysis.

SBSA puts its entire wastewater stream through primary, secondary, and post-secondary treatment in order to comply with RWQCB requirements for discharge to the Bay. SBSA treats some of its effluent to meet recycled water standards for unrestricted beneficial reuse per California Code of Regulations, Title 22. Certain sections of the SBSA's service area, excluding MPMWD's service area, accept highly treated wastewater for reuse. Table 3.13-4 illustrates the existing and planned wastewater flows and recycled water capabilities.

Table 3.13-4. SBSA Existing and Projected Wastewater Collection and Treatment and Recycled Water Delivery Capability (mgd)[a]

Type of Wastewater	2010	2015	2020	2025	2030
SBSA Wastewater Collected & Treated in Service Area	15.09	15.79	16.50	17.20	17.85
SBSA Volume That Meets Recycled Water Standard	100%	100%	100%	100%	100%

Source: Menlo Park Municipal Water District, 2011, Urban Water Management Plan 2010.

Notes:

a. Values were originally in acre-feet (AFY) and were converted using a factor of 1 AFY=0.00089274 million gallons per day (mgd).

During wet weather events, when wastewater flows exceed SBSA's capacity, flows are temporarily diverted to a 10-million-gallon equalization basin near the connection of the WBSD sewer collection system to SBSA's system at the end of Marsh Road near Bayfront Park.[24] This temporary holding pond is owned and maintained by WBSA and can receive excess flows from WBSD or other member agencies of the JPA. WBSD's entitled allocation of the SBSA plant dry weather flow capacity is approximately 7.975 mgd. The WBSD's current average dry weather flow is 3.60 mgd and the daily peak wet weather flow is

[22] South Bayside System Authority (SBSA), SBSA Announces $339 Million, 10-Year Capital Improvement Program, Press Advisory, May 9, 2008.

[23] Bill Kitajima, West Bay Sanitary District, email communication, April 2, 2013.

[24] Bill Kitajima, West Bay Sanitary District, email communication, May 6, 2013.

14.4 mgd.[25] As such, there is available capacity in the WBSD's entitled allocation of wastewater to the SBSA to accommodate growth within the WBSD's service area. Further, as described above, the SBSA is in the process of ensuring that future wastewater treatment demands are met through implementation of the CIP.

Solid Waste Collection and Disposal

The Shoreway Environmental Center (Shoreway), located at 333 Shoreway Road in San Carlos, 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. The South Bayside Waste Management Authority (RethinkWaste), a JPA with 12 member agencies, owns the facility. The members of RethinkWaste include the Cities of Belmont, Burlingame, East Palo Alto, Foster City, Menlo Park, Redwood City, San Carlos, San Mateo; the Towns of Atherton and Hillsborough; the County of San Mateo; and the West Bay Sanitary District. Residential and commercial solid waste and recyclable materials that are collected by the franchise hauler, Recology San Mateo County, and are taken to Shoreway for processing and shipment. The facility is operated by South Bay Recycling (SBR) under a 10-year contract with RethinkWaste as of January 1, 2011.[26]

Shoreway opened in September 2011 with a three-phase improvement project that included traffic improvements, a new state-of-the-art materials recovery facility (MRF), an expanded Transfer Station, a new Environmental Education Center, and a "Green Building" for administrative offices. The site operations are regulated by a number of local and state agencies with regular facility inspections. The facility is separately permitted by the California State Integrated Waste Management Board (CIWMB) to receive 3,000 tons per day of solid waste and recyclables. As of January 1, 2011, Recology provides recycle, compost, and garage collection services for the 93,000 RethinkWaste residences and 10,000 businesses.[27]

Materials are consolidated and loaded into large transfer trailers at Shoreway for shipment offsite to Ox Mountain/Corinda Los Trancos Landfill in Half Moon Bay (Ox Mountain), to other landfills, and to recycling facilities for construction/demolition waste and organics materials. In total, Ox Mountain is permitted to receive 3,588 tons per day with a remaining capacity of over 44 million cubic yards. It is anticipated that Ox Mountain will reach capacity in 2018.[28]

In 2012 (the most recent data available), the City shipped approximately 26,771.71 tons of waste to landfills and disposal facilities.[29] Effective July 1, 2012, AB 341 requires that all businesses that generate 4 or more cubic yards of garbage per week to recycle.

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[25] Bill Kitajima, West Bay Sanitary District, email communication, May 6, 2013.

[26] RethinkWaste, South Bayside Waste Management Authority. 2013. "Shoreway Overview." Available: < http://www.rethinkwaste.org/shoreway-facility > Accessed: November 1, 2013.

[27] RethinkWaste, South Bayside Waste Management Authority. 2013. "Shoreway Overview." Available: < http://www.rethinkwaste.org/about/about-us > Accessed: November 1, 2013.

[28] California Department of Resources Recycling and Recovery (CalRecycle). 2013. "Facility/Site Summary Details: Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002)." Available: <http://www.calrecycle.ca.gov/SWFacilities/Directory/41-AA-0002/Detail/> Accessed: April 22, 2013.

[29] California Department of Resources Recycling and Recovery (CalRecycle). 2012. "Jurisdictional Diversion/Disposal Rate Detail." Available: <http://www.calrecycle.ca.gov/LGCentral/Reports/DiversionProgram/JurisdictionDiversionDetail.aspx?JurisdictionID=299&Year=2012> Accessed: December 10, 2013.

Storm Drainage System

The City's Public Works Department constructs, operates, and maintains the storm drainage system for the City, including the Project area. The storm system drainage area is located within the northerly drainage area of the City, and similar to surface runoff, ultimately discharges to the lower Bay. Stormwater from the Project site is collected via the street network at Jefferson Drive and conveyed via an existing 36-inch storm drain leading to the Bay. A small portion of the Jefferson Site discharges directly to Jefferson Drive over two existing driveway aprons. The average stormwater runoff rate from the Commonwealth Site and Jefferson Site combined was calculated and is presented in the stormwater report for the Project (Appendix 3.9). The existing total lot runoff rate for a 10-year storm event (Q_{10}) from these sites, based on an impervious area of 540,577 sf and a pervious area of 37,895 sf, the existing runoff from the Project site is 19.43 cubic feet per second (cfs).[30]

Natural Gas and Electricity

With a relatively mild Mediterranean climate and strict energy efficiency and conservation requirements, California has lower energy consumption rates than other parts of the country. According to the Department of Energy (DOE), per capita energy use in California is approximately 70 percent of the national average, the third lowest state in the nation.[31] California has the lowest annual electrical consumption rates per person of any state and uses 20 percent less natural gas per person. Per capita, transportation energy use in the state is near the national average. Nevertheless, with a population of approximately 35 million residents, the state is the tenth largest consumer of energy in the world.

The City is located in a coastal climate zone (Climate Zone 3 in the Title 24 Climate Zone designation mapping), and with the moderating influence of the Bay, requires less energy for heating and cooling than other parts of the State. Pacific Gas and Electric (PG&E) delivered 4,535 million kilowatt hours (kWh) to customers in San Mateo County in 2011. Approximately 64 percent of this power, approximately 2,919 million kWh, was sold to non-residential accounts.[32] For the baseline conditions for this analysis, electricity usage at the Jefferson Site was approximately 2,635.83 kWh per year. Because the Commonwealth Site has been unoccupied in recent years, for the purposes of this Draft EIR, existing electricity demand is zero.

In 2011, PG&E delivered 227 million therms of natural gas to San Mateo County, with about 41 percent, approximately 91 million therms of natural gas, sold to non-residential customers.[33] The existing development at the Project site is served by a natural gas pipeline. The occupants of the Jefferson Site used approximately 120 therms of natural gas in 2012. As identified above, the existing buildings at the Commonwealth Site have not been occupied in recent years. Under existing conditions, the Commonwealth Site buildings are currently not using natural gas, although natural gas infrastructure is in place.

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[30] Kier & Wright Civil Engineers & Surveyors. 2013. Stormwater Report for 151 Commonwealth Drive and 164 Jefferson Drive, Menlo Park, California. Project No. A11089-2. April 12. Santa Clara, California.

[31] US Department of Energy. US Energy Information Administration. "State Profile and Energy Estimates – California". 2012. Available: < http://www.eia.gov/state/?sid=CA> Accessed November 1, 2013.

[32] California Energy Commission (CEC), Electricity Consumption by County, 2011, website: <http://www.ecdms.energy.ca.gov/elecbycounty.aspx>, Accessed July 1, 2013.

[33] California Energy Commission (CEC), Electricity Consumption by County, 2011, website: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>, Accessed July 2, 2013.

PG&E provides natural gas and electric service within 70,000 square miles of northern and central California, including the City and Project site. PG&E's service area extends from Eureka to Bakersfield (north to south), and from the Sierra Nevada to the Pacific Ocean (east to west). PG&E purchases both gas and electrical power from a variety of sources, including other utility companies. PG&E obtains its energy supplies from power plants and natural gas fields in northern California and from energy purchased outside its service area and delivered through high voltage transmission lines. PG&E operates a grid distribution system that channels all power produced at the various generation sources into one large energy pool for distribution throughout the service territory.

The baseline conditions for the Project include the existing energy demand for the Jefferson Site. The Commonwealth Site is currently unoccupied. The Jefferson Site is currently operational and has an existing electricity use of 2,635.83 kWh per year and gas use of 120 therms per year. When the Commonwealth Site was under operation by Diageo prior to 2011, the electricity use was approximately 4.5 million kWh per year and the gas use was 138,000 therms per year.[34] As discussed above, since the Diageo facility was no longer operational at the time of the NOP release for the Project, this information will not be included in further analysis.

Environmental Impacts

This section describes the impacts relating to utilities and service systems associated with the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion. As discussed above, the former utilities usage at the Commonwealth Site when the Diageo facility was in operation is not included further in this analysis. For informational purposes only, refer to the above sections for the former utilities usage at the Commonwealth Site.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (Regional Water Board),.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed.
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

[34] Fabian Nodal, Engineering Strategy Manager, Diageo Americas. 2012. Electronic communication with Rich Truempler, Sobrato Organization. May 16, 2012.

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Violate federal, state, and local statutes and regulations related to solid waste.

Methods for Analysis

Baseline conditions considered in the following analysis differ between the Commonwealth Site and the Jefferson Site. Because the Commonwealth Site has not been operational since July 2011, it is considered vacant with utilities usage at zero. However, the exception is that there is an existing (2012) water demand due to continued irrigation at the site; this demand was generated as recently as 2012 (6.7 AFY, or 0.006 mgd). The baseline for which water demand impacts are measured at the Commonwealth Site assumes this existing water use. However, the Jefferson Site is occupied; therefore, it demands water and energy and generates wastewater, stormwater, and solid waste. Refer to Section 3.0, *Environmental Impact Analysis*, for further details regarding baseline conditions.

Water Supply. The analysis in this section focuses on the nature and magnitude of the change in levels of water use compared with existing and projected water use in the MPWMD service area. To determine potential impacts, future water consumption was estimated from demand projection calculations and quantitative evaluation of data for existing land uses, approved projects, and proposed development, including that proposed for the Project area. The primary resources used for this analysis include the WSA for the Project (October 2013), the City's 2010 UWMP (adopted June 2011), the SFPUC 2010 UWMP (adopted June 2011), and the SFPUC WSIP (established in 2002). In order to estimate the water use in the buildings, separate methodologies were used for the office, cafeteria, and shower areas and the areas proposed for R&D and uses. For the office, cafeteria, and shower areas, water use estimates have been developed based on building occupancy and fixture use. This methodology follows the methodology presented in the 2010 California Green Building Standards Codes (Cal Green), which the City adopted effective January 1, 2012. The Cal Green codes are the adopted standard for equating building occupancy to water use, using a formula that includes occupancy, fixture flow rates, frequency of fixture use, and duration of fixture use. For the portion of the first floors that are anticipated to be developed in R&D uses, water use may be more intensive than that predicted by the Cal Green methodology. In order to take this into account, indoor water use for these areas has been calculated using a square footage factor of 0.155 gallons per sf per day, which reflects the historical water use pattern for this type of facility in the City. Additionally, compliance with the City's Water Efficient Landscape Ordinance will be analyzed.

Wastewater. It is assumed that 100 percent of the water consumed indoors at the Project site would become wastewater conveyed to the SBSA Regional Treatment Plant. The wastewater demands of the Project are compared to the available capacity of WBSD sanitary sewer system and the SBSA Regional Treatment Plant to assess the potential for significant environmental impacts.

Solid Waste. Solid waste generation information for the Project is based on standard solid waste generation rates from CalRecycle. The Project's solid waste generation is then compared to available capacity at solid waste facilities that serve the Project area (Shoreway and Ox Mountain).

Stormwater. Analysis of potential impacts on the City's storm drainage system is based on information provided by Kier & Wright Civil Engineers and is included as relevant stormwater technical information in Appendix 3.9 of this Draft EIR. Refer to Section 3.9, *Hydrology and Water Quality*, for further information regarding the Project's impact on stormwater runoff.

Energy Services. Energy services were assessed based on information provided by the Sobrato Organization (Project Sponsor).

Impacts and Mitigation Measures

Impact UT-1: Water Supply. The Project would not exceed water supplies available under normal year conditions to serve the Project from existing entitlements. (LTS)

The Project's water demand has been calculated assuming office uses on floors two through four of both buildings and R&D uses on the first floors of both buildings. The water demand associated with this mix of uses at the Project site presents a conservative scenario of the types of tenants that could occupy the buildings, since water demand factors associated with R&D is typically higher than that of general office uses.

The Project's total demand for indoor and outdoor water use combined is estimated to be 28.5 AFY, including 23.0 AFY for indoor uses and 5.5 AFY for landscape use. Assuming the 0.8 AFY of existing water use on the Jefferson Site and 6.7 AFY of existing water use at the Commonwealth Site, the total new (net) demand on MPMWD's supply is 21 AFY or approximately 0.02 mgd. Table 3.13-5 provides the existing and proposed water demand for the Project.

Table 3.13-5. Existing and Proposed Water Demand

	Gallons Per Year	AFY	mgd
Proposed Total Indoor Water Use	7,478,839	23.0	0.020
Proposed Landscape Water Use	1,783,602[a]	5.5	0.005
Existing Water Use, Commonwealth Site	-2,171,444	-6.7	-0.006
Existing Water Use, Jefferson Site	-259,182	-0.8	-0.001
Total Demand	6,825,815	21.0	0.019

Source: GHD, *Water Supply Assessment for the City of Menlo Park Commonwealth Corporate Center Project,* prepared for the Menlo Park Municipal Water District, October 24, 2013.
Notes:
[a.] In compliance with the City's Water Efficient Landscape Ordinance.

The WSA concluded that, under normal and single dry year conditions, MPMWD's supplies are sufficient to meet the Project demands together with the demands of the previously proposed projects with approved WSAs. Under multiple dry year scenarios, supply slightly exceeds demand in the first year of a multiple dry year scenario. In the second and third years of the multiple dry year scenario, demand exceeds supply by 4 to 6 percent over the course of a 20-year planning period. MPMWD has a water shortage contingency plan in place that allows it to achieve demand reductions of up 50 percent. Therefore, any reductions that could be required to manage supply restrictions in multiple year droughts can be achieved by MPMWD. Therefore, operation of the Project would have a ***less-than-significant*** impact on the existing water supplies and would not require the expansion of existing entitlements.

Impact UT-2: Impacts on Water Treatment Facilities. The Project would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (LTS)

As described above, MPMWD purchases 100 percent of its treated water supplies from SFPUC. The purchased water is treated at the Sunol Valley WTP and the Harry Tracy WTP. The Harry Tracy WTP has a peak capacity of 140 mgd and sustainable capacity of 120 mgd. As part of the WSIP, the Harry Tracy WTP would be expanded to sustainably treat 180 mgd and the Sunol Valley WTP was recently expanded to sustainably treat 160 mgd. When the Harry Tracy WTP is operating at capacity, along with the Sunol Valley WTP, SFPUC would be capable of supplying up to 340 mgd. Furthermore, the newly constructed SFPUC Tesla Water Treatment Facility in Tracy, California, (part of the WSIP) will be the largest ultraviolet disinfection treatment plant in California, capable of producing 315 mgd. Therefore, after 2015, SFPUC would be able to deliver up to 655 mgd of treated water.

The Project would acquire its water supply from MPMWD. Implementation of the Project would result in approximately 21 AFY, or 0.019 mgd, of additional water demand from the MPMWD. As described in Impact UT-1, MPMWD has capacity within its ISG of 4,993 AFY, or 4.465 mgd, to accommodate the additional water demand that would result from operation of the Project. Operation of the Project would not require MPMWD to purchase additional water supplies from SFPUC and, therefore, would not require SFPUC to deliver additional water supplies over its normal-year system-wide target of 265 mgd. As of 2011, the SFPUC's RWS has sufficient capacity in its water treatment facilities to meet its daily system-wide demands (BAWSCA and City of San Francisco). Furthermore, at the time the Project is operational, the water treatment facility improvement projects described previously would all be complete and SFPUC would be capable of treating up to 655 mgd. Therefore, implementation of the Project would not require the expansion of existing water treatment facilities or the construction of new facilities. The Project would have a ***less-than-significant*** impact with regard to existing water treatment facilities.

Impact UT-3: Wastewater Generation. The Project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Board, require or result in the construction of new wastewater treatment facilities or the expansion of new facilities, or result in a determination by the South Bayside System Authority that it has inadequate capacity to serve the Project's expected demand and existing entitlements. (LTS)

It is estimated that 100 percent of indoor water demand at the Project would become wastewater conveyed to the SBSA Regional Treatment Plant. Implementation of the Project would result in the generation of approximately 0.020 mgd of wastewater associated with indoor uses. As previously described, the existing 54-inch diameter trunkline that runs along Commonwealth Drive serves the Project site. WBSD currently has the capacity to accommodate the increase in wastewater generation that would result from the Project.[35]

As discussed above in *Methods for Analysis*, it is assumed that 100 percent of the water consumed indoors at the Project site would become wastewater conveyed to the SBSA Regional Treatment Plant. Therefore, the baseline wastewater rate for this analysis is approximately 7.5 AFY. As described above, WBSD's average daily flow during dry weather is approximately 3.60 mgd, compared to WBSD's dry weather allocation of approximately 7.975 mgd. Wastewater discharge from the Project site would

[35] Bill Kitajima, West Bay Sanitary District, email communication, May 6, 2013.

constitute less than 1 percent of WBSD's remaining available capacity entitlements from SBSA.[36] Therefore, WBSD's available capacity entitlements from SBSA would be sufficient to accommodate the projected wastewater flow that would result from implementation of the Project. Because the SBSA Regional Treatment Plant would have adequate capacity to process the wastewater generated from the Project, implementation of the Project would not exceed the wastewater treatment requirements of the RWQCB, and the impact is ***less than significant***.

Impact UT-4: Solid Waste Generation. The Project would comply with federal, state, and local statutes and regulations related to solid waste and would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs. (LTS)

Operation of the Project would increase the number of existing employees at the Project site by an additional 1,300 employees, thereby increasing the generation of solid waste. According to the City's current disposal rates as reported to CalRecycle, employees in the City generate approximately 5.6 pounds per employee per day.[37] Using this rate, the Project would generate approximately 6,890 pounds of solid waste per day or approximately 813 tons per year.[38] Table 3.13-6 shows existing and projected solid waste generation rates for the Project site.

Table 3.13-6. Existing and Projected Solid Waste Generation Rates for the Project Site (tons/yr)

	Existing Solid Waste Generation	Projected Solid Waste Generation	Net New Solid Waste Generation
Jefferson Site	8.4	--	-8.4
Commonwealth Site	--	813	813
Total (Project)	8.4	813	804.6

Source: *CalRecycle, Jurisdiction Diversion/Disposal Rate Detail.*
Note: Generation rates are based on a per employee solid waste generation rate of 5.3 pounds/employee/day.

As described under *Existing Conditions* above, waste generated at the Project site would be collected by Recology San Mateo and hauled to the Shoreway Environmental Center. Shoreway is permitted to receive 3,000 tons of refuse per day and currently receives approximately 1,500 tons per day. Once collected and sorted at Shoreway, solid waste is transported to the Ox Mountain Sanitary Landfill. The landfill is permitted to receive 3,588 tons per day, or approximately 1.3 million tons per year, and has a remaining capacity of over 44 million cubic yards. Solid waste generated by operation of the Project would represent less than 1 percent of the permitted capacity of Shoreway and Ox Mountain. As such, Shoreway and the Ox Mountain would have sufficient capacity to serve the Project, resulting in a ***less-than-significant*** impact.

[36] 7.975 mgd dry weather allocation – 3.60 mgd average daily flow = 4.375 mgd of remaining capacity. (0.020 mgd generated by Project / 4.375 mgd)* 100 = 0.46 percent

[37] CalRecycle. Jurisdiction Diversion/Disposal Rate Detail. Menlo Park, 2012. http://www.calrecycle.ca.gov/LGCentral/Reports/DiversionProgram/JurisdictionDiversionDetail.aspx?JurisdictionID=299&Year=2012. Accessed December 18, 2013.

[38] Assumes 260 working days per year.

Impact UT-5: Stormwater Generation. The Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. (LTS)

Surface runoff from the Project Site is collected via the street network at Jefferson Drive and conveyed via an existing 36-inch storm drain leading to the lower Bay. A small portion of the Jefferson Site discharges directly to Jefferson Drive over two existing driveway aprons. The new development would have a larger landscaped area relative to existing conditions, and biotreatment measures would be incorporated. These features would result in a net decrease in the amount of runoff and associated pollution leaving the Project site. Specifically, as discussed in Section 3.9, *Hydrology and Water Quality*, there would be a 20 percent reduction in impervious surfaces relative to existing conditions (from 540,577 sf to 430,278 sf). There would be an approximate 291 percent increase in pervious surfaces (from 37,895 sf to 148,194 sf) following Project implementation. The overall effect of these changes would be an approximate 13.3 percent reduction in the total volume of stormwater runoff at the Project site.[39] Because of the decrease in stormwater runoff, the Project site would not exceed the capacity of existing or planned stormwater drainage systems, and the impact is ***less than significant***. Refer to Section 3.9, *Hydrology and Water Quality*, for more information regarding stormwater runoff.

Impact UT-6: Energy Demand. The Project would not exceed existing gas and electric supplies. (LTS)

Gas and electric service to the Project site would be provided to meet the needs of the Project site as required by California Public Utilities Commission (CPUC), which obligates PG&E to provide service to its existing and potential customers. Since development at the Project site would meet Title 24 conservation standards and would be served by PG&E, the Project site would not directly require the construction of new energy generation or supply facilities. Further, the Project site is currently zoned M-2 and designated Limited Industry. Development of the Project site would comply with the City's programmed land use designation; however, the two proposed buildings would exceed the 35-foot maximum height limit in the M-2 Zoning District. In order to comply with the M-2 zoning, the increase in height from 35 feet (allowed) to 61.3 feet (proposed) would require rezoning the Project site to M-2(X). In designating a particular land use, the City anticipates a corresponding demand on energy services. Because the Project would comply with the existing land use designation, the associated energy demand would be within the City's forecasts as well. Therefore, development of the Project site would not result in adverse environmental impacts related to energy demand; the impact would be ***less than significant***.

Cumulative Impacts

The geographic context for a discussion of cumulative impacts on utilities is the service area of the utility provider. The geographic context for cumulative impacts on wastewater treatment is the WBSD and SBSA service area. The geographic context for cumulative impacts on water supply is MPMWD's service area. The geographic context for cumulative impacts on solid waste is the Ox Mountain Landfill and Shoreway Environmental Center service areas. With regard to storm drainage, the geographic context would be the City, which oversees the City's storm drain system. Additionally, the geographic context for cumulative impacts on electricity and natural gas is PG&E's service area in northern California.

[39] Kier & Wright Civil Engineers & Surveyors. 2013. Stormwater Report for 151 Commonwealth Drive and 164 Jefferson Drive, Menlo Park, California. Project No. A11089-2. April 12. Santa Clara, California.

Impact C-UT-1: Cumulative Water Demand. The Project, in combination with other development within the City, would not require or result in the construction of new water treatment facilities or the expansion of existing facilities. (LTS)

Tier 1

Tier 1 cumulative projects within the MPMWD's service area consist of the Menlo Gateway Project, the Facebook Campus Project, the 1283 Willow Road Project, and the 2484 Sand Hill Road Project. Together, these projects could develop up to 1,392,724 sf of office/retail/commercial uses. This growth would increase the demand for water supplied by MPMWD. MPMWD's 2010 UWMP provides water use projections through 2035 for its service area. As noted, above, MPMWD will not only meet but exceed its 2015 reduction target.

According to the WSA, in the City's 2010 UWMP, MPMWD projected that demands in the commercial, industrial, and institutional (CII) sector would increase from 1,366.0 AFY (1.219 mgd) in 2010 to 1,876.7 AFY (1.675 mgd) in 2035, an increase of 510.7 AFY, or 0.456 mgd. These projections were made before the approval of the Project, the Tier 1 Menlo Gateway Project, and the Tier 1 Facebook Campus Project. The proposed Project would result in a net increase of 21 AFY (0.02 mgd). The Menlo Gateway Project will add a demand of 153 AFY (0.137 mgd). The Facebook Campus Project will add a demand of 119.4 AFY (0.107 mgd). Together these three projects add a total of 293.4 AFY (0.26 mgd), which is within the CII sector's projected growth as described in the 2010 UWMP.

Because the other development projects (single-family residential, multi-family residential, and non-residential) are primarily infill development projects, and over 90 percent of these projects are either completed, under construction or approved, it is assumed that these cumulative development projects are encompassed by the growth factors used in the City's UWMP to estimate future water demand. Further, it is assumed that these projects would be constructed by 2035 (the end date for the WSA and UWMP projections). The SBx7-7 water demand targets described above equate to a service area demand of approximately 3.3 mgd in 2015, 3.0 mgd in 2020, and 3.2 mgd in 2035. The Project would demand a net of 18,780 gpd, which represents less than 1 percent of the projected citywide 2035 demand. Therefore, the Project, in combination with other development within the MPMWD service area, would have sufficient water supplies available during normal year conditions under its ISG of 4.465 mgd. During multiple dry years, the Water Shortage Contingency Plan would ensure that the water supply from SFPUC would be adequate in the second and third year of multiple year droughts. Therefore, there is no significant cumulative impact from Tier 1 projects combined with the Project.

As described under Impact UT-1, MPMWD has sufficient capacity in its ISG to accommodate the water demand of the Project under normal year and single dry year conditions. As described under Impact UT-2, the Project would not result in the need for the expansion of existing water treatment facilities. According to the WSA, the City's total water demand in the year 2035 is approximately 3.241 mgd (3,630.2 AFY), at which point it is assumed that the cumulative projects considered in this analysis would be constructed and would be contributing to overall water demand at that time. Completion of the Tesla Water Treatment Facility and expansion of the Sunol Valley WTP and Harry Tracy WTP would allow the SFPUC to deliver up to 655 mgd. The MPMWD's projected demand in 2035 is well within the capacity of its ISG and the MPMWD could serve the cumulative projects with its existing entitlements. The Project, in combination with other development within the City, would increase water demand, but there are sufficient water supplies available to serve the cumulative projects from existing entitlements under normal, dry and multiple dry years, and the increased demand would not require or result in the

construction of new water treatment facilities or the expansion of existing facilities. Therefore, the Project's cumulative impact on water supply and treatment would be ***less than significant***.

Tier 2

The Tier 2 projects illustrated in Figure 3.0-1 in Section 3.0 consist of programmatic land use plans or large development projects that are either outside the City, somewhat speculative, or in the early stages of project planning. As shown in Table 3.0-2 in Section 3.0, Tier 2 projects could result in more than 5,000 residential units and over 2.7 million sf of non-residential uses. Future development is programmed through a large-scale planning document, and when buildout may occur is not necessarily reasonably foreseeable. Although these projects are speculative, it is expected that any future development will increase the demand for water supply and treatment. If the development exceeds MPMWD's existing entitlements and water treatment capacity, this could be a significant cumulative impact. The Project would demand 18,780 gpd, which represents less than 1 percent of the projected citywide 2035 demand. This incrementally small increase in demand would not be cumulatively considerable, and the Project's cumulative impact with respect to water treatment and demand with the Tier 2 projects would be ***less than significant***.

Impact C-UT-2: Cumulative Wastewater Generation. The Project, in combination with other development within the West Bay Sanitary District service area, would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, or exceed expected demand and existing entitlements. (LTS)

Tier 1

As of 2013, WBSD uses about 45 percent of its dry weather capacity entitlement from SBSA, with a remaining available allocation of approximately 4.375 mgd of average daily dry weather wastewater flows. The Project is forecasted to generate an average daily demand of approximately 0.10 mgd of wastewater, which is about 1 percent of the City's current allocation at SBSA. Existing wastewater flows from WBSD on an annual average basis total approximately 3.60 mgd.

In order to comply with SBx7-7, the City must reach a 10 percent reduction in water use by 2015 and a 20 percent reduction by 2020. As previously mentioned, for the purposes of this analysis, a 1:1 ratio of water use to wastewater generation is assumed. As of 2010, residential water demand totaled 1.342 mgd, and CII sector demand totaled 1.219 mgd. By 2035, the UWMP estimates that residential water demand would decrease by 0.351 mgd, and the CII sector demand would increase by 0.456 mgd (including water demand associated with the Project), representing an overall increase of 0.105 mgd over 2010 conditions. Assuming a 1:1 water use to wastewater generation ratio, Tier 1 cumulative growth within the City would represent approximately 1 percent of WBSD's remaining wastewater flow allocation from SBSA. Therefore, WBSD's current wastewater entitlement from SBSA would be sufficient to accommodate wastewater generated by Tier 1 cumulative development projects. Because cumulative wastewater flows would be within the WBSD's existing wastewater entitlement, the Project in combination with cumulative development would not cause the SBSA Regional Treatment Plant to process more than its RWQCB permitted treatment capacity.

The Project, in combination with other development within the WBSD service area, would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, or result in a determination by the South Bayside System Authority that it has inadequate capacity to serve the Project's expected demand and existing

entitlements. Consequently, the Project's contribution to wastewater generation would not be substantial and the cumulative impact would be ***less than significant***.

Tier 2

The Tier 2 projects illustrated in Figure 3.0-1 in Section 3.0 consist of programmatic land use plans or large development projects that are either outside the City, somewhat speculative, or in the early stages of project planning. Future development is programmed through a large-scale planning document and buildout is not necessarily reasonably foreseeable. Although these projects are speculative, it is expected that any future development will increase the demand for wastewater treatment and conveyance capacity. If the development exceeds the provider's existing entitlements and wastewater treatment capacity, this could be a significant cumulative impact. The Project's incrementally small, approximately 1 percent increase in wastewater generation would not be cumulatively considerable, and the Project's cumulative impact with respect to wastewater treatment with the Tier 2 projects would be ***less than significant***.

Impact C-UT-3: Cumulative Solid Waste Generation. The Project, combined with other development within the RethinkWaste's service area, would not exceed service area solid waste disposal capacity and would be expected to comply with federal, state, and local statutes and regulations related to solid waste. (LTS)

Tier 1

Data presented in the 5-Year Countywide Integrated Waste Management Plan for San Mateo County shows that solid waste disposal for Menlo Park decreased from 58,927 tons in 1998 to 32,653 tons in 2008, representing a 45 percent decrease. Similarly, solid waste disposal at Ox Mountain Landfill decreased from 925,158 tons in 1998 to 665,924 in 2008, representing a 27 percent decrease. As of 2013, Ox Mountain has a remaining capacity of about 44.6 million cubic yards and is anticipated to close in 2018. This estimate is based on current disposal and diversion rates and assumptions about future development within the landfill service area. It is assumed that the Tier 1 cumulative projects fit within the future solid waste disposal projections used to estimate the remaining lifespan of Ox Mountain, as they are consistent with ABAG growth projections. Further, according to the City's Climate Action Plan, expanded recycling services began in January 2011. It is expected that the expanded recycling services will increase the diversion of bottles, cans, paper, and plastic by approximately 15 percent. In addition, Chapter 12.48 of the City's Municipal Code requires that commercial development projects of 5,000 sf or greater divert at least 60 percent of a given project's anticipated debris. This ordinance would apply to the cumulative projects that would result in development of 5,000 sf or more. In light of these considerations, there would be sufficient landfill capacity to accommodate solid waste until the landfill's approximated closing date of 2018, and there would be no significant cumulative impact. The City would continue to require the Project and other foreseeable development to minimize solid waste disposal to Ox Mountain through recycling and other diversion practices, as well as enforce compliance with the State Model Ordinance California Solid Waste Reuse and Recycling Access Act of 1991 and California AB 341. The Project would generate approximately 804.6 tons of solid waste per year, or approximately 3.1 tons per day[40]. This solid waste generation represents less than one percent of the remaining, available daily capacity at the Shoreway Environmental Center and less than one percent of the available daily capacity at Ox Mountain. Therefore, the Project would have a ***less-than-significant*** cumulative impact on solid waste disposal services.

[40] Assumes 260 working days per year.

Tier 2

The Tier 2 projects illustrated in Figure 3.0-1, Section 3.0, consist of programmatic land use plans or large development projects that are either outside the City, somewhat speculative, or in the early stages of project planning. Future development is programmed through a large-scale planning document and buildout is not necessarily reasonably foreseeable. Although these projects are speculative, it is expected that any future development will increase the demand for solid waste disposal capacity. If the development generates solid waste that exceeds the available capacity of the servicing landfills, this could be a significant cumulative impact. The Project's incrementally small contribution to solid waste would not be cumulatively considerable, and the Project's cumulative impact with respect to solid waste with the Tier 2 projects would be ***less than significant***.

Impact C-UT-4: Cumulative Stormwater Generation. The Project, in combination with cumulative development in the City, would not require the construction or expansion of stormwater facilities. (LTS)

Tier 1

Cumulative development of the Tier 1 projects in the City would primarily consist of infill and redevelopment, which would not substantially increase impervious surfaces in the City. Therefore, there would be no significant cumulative impact on the storm drain system. The Project would neither increase demand on the City's storm drainage system nor would it result in the construction of new facilities or expansion of existing facilities because the Project area is expected to result in less stormwater runoff than under existing conditions. As described in Section 3.9, Hydrology and Water Quality, the Project would be subject to the provisions contained in the San Mateo Countywide Municipal NPDES Permit (Municipal Stormwater NPDES Permit). Provision C.3 of the Municipal Stormwater NPDES Permit requires that the Project implement a Stormwater Management Plan that includes limitations on increases in peak runoff discharge rates in addition. Further, as described under Impact UT-5 above, implementation of the Project would reduce the amount of impervious cover at the Project site, thereby increasing stormwater retention and reducing peak discharges to the City's storm drain system. Tier 1 projects that would include 10,000 sf or more would also have to comply with the Municipal Stormwater NPDES Permit and the provisions therein. Therefore, the Project's cumulative impact would be ***less than significant***.

Tier 2

The Tier 2 projects illustrated in Figure 3.0-1, Section 3.0, consist of programmatic land use plans or large development projects that are either outside the City, somewhat speculative, or in the early stages of project planning. Future development is programmed through a large-scale planning document and buildout is not necessarily reasonably foreseeable. Although these projects are speculative, it is expected that any future development will not substantially increase the amount of impervious surfaces in the region, since the region is primarily built out. The Project's cumulative impact combined with Tier 2 projects would be ***less than significant***.

Impact C-UT-5: Cumulative Energy Demand. The Project, in combination with other development served by PG&E, would not exceed existing gas and electric supply capacity. (LTS)

Tier 1

All cumulative development would be required to comply with California's Title 24 energy conservation standards for new construction. Consequently, the Project, in combination with other cumulative development in the City, would not be expected to wastefully use gas and electricity. Existing and planned gas and electric service would be provided to meet the needs of the cumulative development customers as required by the CPUC, which obligates PG&E to provide service to its existing and potential customers. Since the Project and future cumulative development would comply with Title 24 conservation standards and would be served by PG&E, new development would not directly require the construction of new energy generation or supply facilities directly attributable to growth in the City, and there would be no substantial adverse environmental impacts related to energy demand. Therefore, the Project's cumulative impact would be ***less than significant***.

Tier 2

The Tier 2 projects illustrated in Figure 3.0-1, Section 3.0, consist of programmatic land use plans or large development projects that are either outside the City, somewhat speculative, or in the early stages of project planning. Future development is programmed through a large-scale planning document and buildout is not necessarily reasonably foreseeable. Although these projects are speculative, it is expected that any future development will increase the demand for natural gas and electricity, but would also be expected to comply with Title 24 requirements. As natural gas and electricity providers are on-demand utilities (i.e., they expand their infrastructure to meet growth needs), future expansions of service would be provided or further energy-consumption measures would be implemented. The cumulative impact would not be significant. The Project would reuse existing buildings and construct some new buildings, but would not substantially increase the demand for natural gas and electricity in the PG&E service area. The Project's cumulative impact with respect to natural gas and electricity demand with the Tier 2 projects would be ***less than significant***.

3.14 Biological Resources

This section describes the affected environment and regulatory setting for biological resources in the vicinity of the Commonwealth Corporate Center Project (Project) site. It also describes the impacts on Biological Resources that would result from implementation of the Project, and mitigation measures that would reduce these impacts. This section is based on a biological resources survey conducted on April 19, 2013, and review of lists of special-status plants and wildlife from the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB),[1] the U.S. Fish and Wildlife Service's (USFWS) online species list,[2] and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants.[3] The purpose of the biological resources survey was to determine if the Project site contains any wetlands and/or habitat that could support special-status plant or wildlife species known in the Bay region and to document any occurrences of those species, if observed during the field survey.

Additional information on biological resources is provided in Appendix 3.14. Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified pertain to heritage tree removal, disturbance to nesting migratory birds and roosting bats, impacts of larger buildings on migratory birds, and indirect impacts on wildlife due to the Project's proximity to San Francisco Bay (Bay).

Existing Conditions

Regulatory Setting

Federal

Clean Water Act (Sections 401 and 404). The federal Clean Water Act (CWA) is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations, and establishes permit review mechanisms to enforce them. Most CWA provisions are at least indirectly relevant to the management and protection of biological resources because of the link between water quality and ecosystem health. The portions that are most directly relevant to biological resources management are contained in Section 404, which regulates the discharge of dredged and fill materials into Waters of the United States (comprising wetlands and other Waters of the United States), which include the following water bodies.:

- All areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned.
- Seasonal and perennial wetlands, including coastal wetlands.

[1] California Department of Fish and Wildlife. 2013. California Natural Diversity Database. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp> Accessed April 16, 2013.

[2] U.S. Fish and Wildlife Service. 2013. Quad Finder. Available: <http://www.fws.gov/sacramento/es_species/Lists/es_species-lists_quad-finder.htm> Accessed April 16, 2013.

[3] California Native Plant Society. 2013. Online Inventory of Rare and Endangered Plants. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp> Accessed April 16, 2013.

Section 404 requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into Waters of the United States, including streams, ponds, and wetlands, before proceeding with a proposed activity. CWA Section 401 requires that applicants for a Section 404 permit must first obtain certification from the Regional Water Quality Control Board (Regional Water Board) that the proposed project will comply with state water quality standards.

Endangered Species Act. The federal Endangered Species Act (ESA) was enacted in 1973. Under ESA, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). ESA is administered by both the National Marine Fisheries Service (NMFS) and USFWS. NMFS is accountable for animals that spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish, such as Pacific salmon. USFWS is accountable for all other federally-listed plants and animals.

Pursuant to the requirements of ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project site and determine whether the proposed project would have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under ESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]). Therefore, project-related impacts on these species or their habitats would be considered significant and would require mitigation.

CDFW maintains a list of "species of concern" that receive special attention from federal agencies during environmental review, although they are not otherwise protected under FESA. Project-related impacts on such species would also be considered significant under the California Environmental Quality Act (CEQA) Guidelines Section 15380 and would require mitigation.

Projects that would result in "take" (kill, harm, harass, etc.)of any federally-listed threatened or endangered species are required to obtain authorization from NMFS and/or USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of ESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitats in non-federal activities.

Migratory Bird Treaty Act of 1918. The federal Migratory Bird Treaty Act (MBTA) makes it unlawful to "take" any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many others.

State

California Endangered Species Act. The California Endangered Species Act (CESA) was enacted in 1984. Under CESA, the California Fish and Game Commission (CFGC) has the responsibility for maintaining a list of threatened species and endangered species. CDFW also maintains lists of species of special concern; impacts on these species would be considered significant under CEQA Guidelines Section 15380 and could require mitigation. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project site and determine whether the proposed project

would have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any project which may affect a candidate species. CESA prohibits the take of California listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions.

Fish and Wildlife Code Sections 3503, 3503.5, and 3800. These sections of the Fish and Wildlife Code prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take." Removal of vegetation is the most common action that can lead to a violation of these code sections.

Local

City of Menlo Park Municipal Code Chapter 13.24. The Project would be subject to the City of Menlo Park Municipal Code (Municipal Code) Chapter 13.24,[4] which establishes regulations for the preservation of heritage trees. Chapter 13.24 defines heritage trees as:

> A tree or group of trees of historical significance, special character or community benefit, specifically designated by resolution of the City Council;
>
> An oak tree (*Quercus* sp.) which is native to California and has a trunk with a circumference of 31.4 inches (diameter of ten [10] inches) or more, measured at fifty-four (54) inches above natural grade. Trees with more than one trunk shall be measured at the point where the trunks divide, with the exception of trees that are under twelve (12) feet in height, which will be exempt from this section; and
>
> All trees other than oaks which have a trunk with a circumference of 47.1 inches (diameter of fifteen (15) inches) or more, measured fifty-four (54) inches above natural grade. Trees with more than one trunk shall be measured at the point where the trunks divide, with the exception of trees that are less than twelve (12) feet in height, which will be exempt from this section. (Ord. 928 Section 1 (part), 2004).

As required by the City's Municipal Code, a tree survey shall be conducted by a certified arborist, and a tree report and map shall be prepared showing the locations of all pertinent trees within a project site prior to initiation of construction activities. Any work performed within an area 10 times the diameter of the tree (i.e., the tree protection zone) shall require submittal of a tree protection plan for review and approval by the Community Development Director or his/her designee prior to issuance of any permit for grading or construction, and shall be prepared by a certified arborist. Removal of heritage trees requires obtaining an appropriate permit from the Director of Public Works and payment of a fee. Applicants are required to submit a site plan with the Heritage Tree Removal Application Permit even if they have submitted a site plan to the City for a planning or building permit. The site plan facilitates the review by the City Arborist. For removals of two or more trees, applicants are required to submit a planting plan indicating the species, size, and location of the proposed replacement trees on a site plan. Heritage Tree Permits related to construction will also be charged for City-retained arborist expenses.

City of Menlo Park General Plan. The following policies from the Open Space Element of the General Plan are relevant to the Project.

> *Policy OSC1.1:* Natural Resources Integration with Other Uses. Protect Menlo Park's natural environment and integrate reeks, utility corridors, and other significant natural and scenic features into development plans.

[4] City of Menlo Park. 2010. Menlo Park Municipal Code, Section 16.46.030(7). December 14, 2010

Policy OSC1.3: Sensitive Habitats. Require new development on or near sensitive habitats to provide baseline assessments prepared by qualified biologists, and specify requirements relative to the baseline assessments.

Policy OSC1.4: Habitat Enhancement. Require new development to minimize the disturbance of natural habitats and vegetation, and requires re-vegetation of disturbed natural habitat areas with native or non-invasive naturalized species.

Policy OSC1.15: Heritage Trees. Protect Heritage Trees, including during construction activities through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code).

Environmental Setting

The Project site, which consists of the Commonwealth Site and the Jefferson Site, is located within the Palo Alto United States Geological Survey (USGS) 7.5-minute quadrangle in San Mateo County. The Project site is relatively flat and occurs between 8 and 11 feet above mean sea level (msl). It is located within an urban setting, surrounded by commercial buildings, US 101, and the Dumbarton Rail Corridor. Historically, the shoreline of the Bay used to be near the Project site, but the existing Bay shoreline is now approximately 1.34 miles north of the Project site. Salt and brackish water marshes that border the southern portion of the Bay occur 0.25 mile north of the Project site. The Natural Resource Conservation Service has mapped soils at the Project site as Urban Land–Orthents, which is generally associated with former tidal flats and salt marshes.

Commonwealth Site

The unoccupied 12.1-acre Commonwealth Site consists of three single-story buildings, a tank farm, a water tank, storage and processing areas, and paved parking and landscaped areas. Office parks to the north and west, the Jefferson Site to the north, and US 101 to the south comprise the surrounding area. Approximately 27 tree species are located at the Commonwealth Site, including redwood (*Sequoia sempervirens),* eucalyptus (*Eucalyptus polyanthemos*), Pineapple guava (*Feijoa sellowiana*), juniper (*Juniperus chinensis*), avocado (*Persea americana*), pittosporum (*Pittosporum tobira*), coast live oak (*Quercus agrifolia*), and incense cedar (*Calocedrus decurrens*). Other vegetation observed at the Project site included one coyote bush (*Baccharis pilularis*), ornamental roses and grass, as well as rabbitfoot grass (*Polypogon monspeliensis*) and common sowthisle (*Sonchus oleracus*) growing in the pavement cracks.[5]

Jefferson Site

The 1.17-acre Jefferson Site consists of one, one-story operational building and associated paved parking and landscaping. Office parks and the Commonwealth Site comprise the surrounding area. Approximately 18 tree species were observed at the Jefferson Site, including Blackwood acacia (*Acacia melanoxylon*), American sweet gum (*Liquidamber stryaciflua*), and red ironbark (*Eucalyptus sideroxylon*).

Special-Status Species

A list of special-status plant and wildlife species that have the potential to occur in the vicinity of the Project site was compiled from a 2-mile radius CNDDB query and from USFWS species list databases for the Palo Alto, Woodside, Mountain View, La Honda, Mindego Hill, Cupertino, Redwood Point, and San Mateo 7.5 minute USGS quadrangle maps, as well as a review of the CNPS Online Inventory of Rare and

[5] McClenahan Consulting, LLC. 2012. "Tree Survey." 151 Commonwealth and 164 Jefferson. March 27.

Endangered Plants. The results of these queries are presented in Table 3.14-1, along with a description of each species' habitat requirements, protection status, and a brief discussion of its likelihood to occur within the Project site. Figure 3.14-1 depicts the locations of the listed special-status species occurrences from the 2-mile CNDDB query. For the purposes of this analysis, special-status species include those that fit into any of the following categories.

- Species listed, proposed, or candidate species for listing as Threatened or Endangered by USFWS pursuant to ESA of 1969, as amended.
- Species listed as Rare, Threatened, or Endangered by CDFW pursuant to CESA of 1970, as amended.
- Species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Wildlife Code.
- Species designated by CDFW as California Species of Concern.
- Species not currently protected by statute or regulation but considered rare, threatened, or endangered under CEQA (Section 15380).

Western snowy plover (*Charadrius alexandrinus nivosus*). Western snowy plover is federally listed as threatened, and a CDFW Species of Special Concern. This species occurs in coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. The CNDDB contains one record of western snowy plover within 2 miles of the Project site, and this species is known to nest in the salt flats near the Bay.

Alameda song sparrow (*Melospiza melodia pusillula*). Alameda song sparrow is a CDFW Species of Special Concern. This species is found in brackish marshes associated with pickleweed. Alameda song sparrows are only found in marshes along the southern portion of the Bay. In order for nests to stay dry during high tides, the Alameda song sparrow requires upland marsh vegetation for nesting. The Alameda song sparrow breeds from late February to mid-August. The year-round diet of the song sparrow is roughly 79 percent vegetable and 21 percent animal matter. The CNDDB contains two records of Alameda song sparrow within 2 miles of the Project site.

California clapper rail (*Rallus longirostris obsoletus*). The California clapper rail is both a federally and State endangered bird and it is also CDFW Fully Protected species. This species range is restricted to tidal and brackish marshes in San Francisco, San Pablo, and Suisun Bays, as well as Petaluma and Napa-Sonoma marshes, that are closely associated with pickleweed. Nesting season is from February to August and primarily occurs in the San Francisco estuary. The mated pair builds a cup nest of vegetation in dense cover above or near the water; nests usually include a domed canopy and an entrance ramp. Young leave the nest within hours of hatching. The California clapper rail feeds on aquatic insects, crustaceans, and small fish caught by probing, snatching, or gleaning from the water, ground, or vegetation. The bird may also eat seeds, amphibians, worms, and other small items. The CNDDB contains one record for California clapper rail within 2 miles of the Project sites.

Table 3.14-1. Special-Status Species Known in within 2 Miles of the Project Site

Scientific Name	Common Name	Fed/State/Other	Habitat	Likelihood of Occurrence at Project Site
Plants				
Cirsium praeteriens	Lost thistle	None/None/ 1A	Perennial herb that is native to California. Habitat ranges from 0 to 328 feet.	**None:** Presumed extinct.
Stuckenia filiformis	Slender-leaved pondweed	None/None/ S1S2	Assorted shallow freshwater marshes and swamps ranging from 300 – 2150 meters; blooms May – July.	**None:** No suitable habitat occurs within or adjacent to the Project site.
Amphibians				
Ambystoma californiense	California tiger salamander	FT/ST/ S2S3/CSC	Valley and foothill grasslands and adjacent oak woodlands; shelters in rodent burrows and breeds in seasonal wetlands such as vernal pools.	**None:** No suitable habitat in or adjacent to the Project site.
Reptiles				
Thamnophis sirtalis tetrataenia	San Francisco garter snake	FE/SE/S2	Utilizes a variety of habitats, preferring grasslands or wetlands near ponds, marshes, and sloughs. May overwinter in upland areas away from water.	**Low:** No suitable habitat at the Project site.
Birds				
Charadrius alexandrinus nivosus	Western snowy plover	FT/None/ CSC S2	Found in coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	**Low:** No suitable habitat on the Project site.
Melospiza melodia pusillula	Alameda song sparrow	None/None/ CSC, S2	Found in marshland within the Bay.	**Low:** No suitable habitat at the Project site.
Rallus longirostris obsoletus	California clapper rail	None/None/ CSC, S2	Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of the Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	**Low:** No suitable habitat on at the Project site.
Sternula antillarum browni	California least tern	FE/SE/S2S3	Nests are situated on barren to sparsely vegetated places near water, normally on sandy or gravelly substrates. In the Bay region, breeding typically takes place on	**Low:** No suitable habitat at the Project site.

Table 3.14-1. Special-Status Species Known in within 2 Miles of the Project Site

Scientific Name	Common Name	Fed/State/Other	Habitat	Likelihood of Occurrence at Project Site
			abandoned salt flats.	
Mammals				
Dipodomys venustus venustus	Santa Cruz kangaroo rat	None/None/ S1	Chamise-redshank chaparral, coastal scrub, mixed chaparral.	**None:** No suitable habitat at the Project site.
Lasiurus cinereus	Hoary bat	None/None/S4	Solitary, foliage roosting species that is infrequently observed. Roosts are typically outside of urban areas. Forages in open areas or along habitat edges.	**Low:** Trees within the Project site could provide suitable roosting habitat.
Reithrodontomys raviventris	Salt-marsh harvest mouse	FE/SE/CSC, S1S2	Occurs only in the saline emergent wetlands of the Bay and its tributaries. Pickleweed is primary habitat.	**Low:** No suitable habitat at the Project site.
Taxidea taxus	American badger	None/None/ CSC, S4	Occurs in dry, open grasslands, fields, and pastures. They are found from high alpine meadows to sea level.	**None:** No suitable habitat at or surrounding the Project site.

Source: California Department of Fish and Wildlife, Natural Diversity Database, Biogeographic Data Branch, "CNDDB Query for the Palo Alto, Woodside, Mountain View, La Honda, Mindego Hill, Cupertino, Redwood Point, and San Mateo 7.5 minute USGS quadrangle maps," April 16, 2013. (Appendix 3.14 of this Draft EIR)

Notes:

Federal

FE Federally listed as Endangered

FT Federally listed as Threatened

State

SE State listed as Endangered

ST State listed as Threatened

CSC California Department of Fish and Wildlife designated "Species of Special Concern"

S1 - Less than 6 Element Occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres

S1.1 - very threatened

S2 - 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S3 - 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,0(acres

S3.1 - very threatened

S4 - Apparently secure within California; this rank is clearly lc

Table 3.14-1. Special-Status Species Known in within 2 Miles of the Project Site

Scientific Name	Common Name	Fed/State/Other	Habitat	Likelihood of Occurrence at Project Site
S2.1 - very threatened				than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.

CNPS

1A Presumed extinct

1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.

2 California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere.

3 Plants about which more information is needed

4 Plants of limited distribution - a watch list

CNPS Threat Code Extension

.1 - Species seriously endangered in California

.2 - Species fairly endangered in California

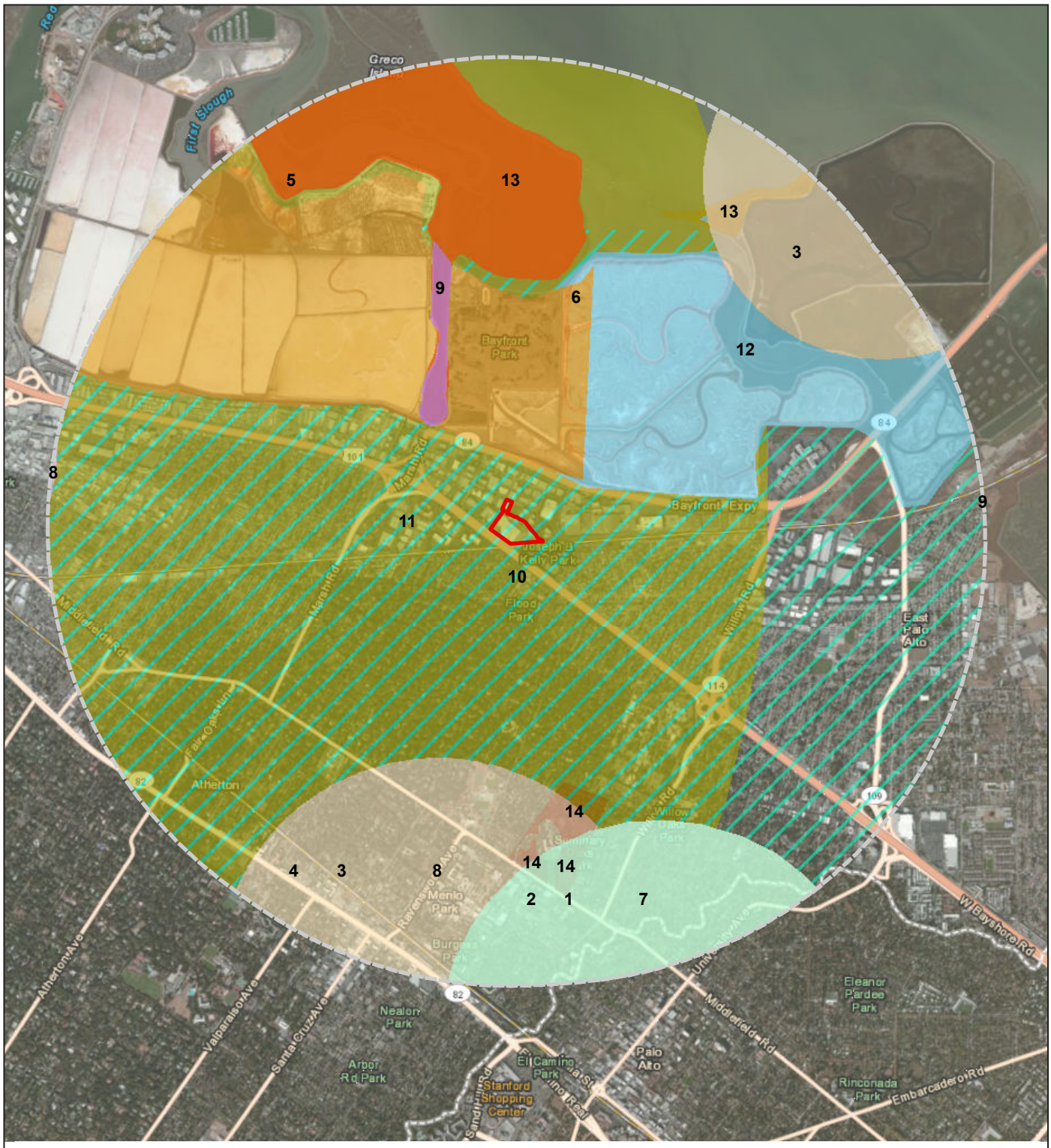
.3 - Species not very endangered in California

Likelihood of occurrence evaluations:

A rating of "Moderate" indicates that it is not known if the species is present, but suitable habitat exists on-site.

A rating of "Low" indicates that species was not found during biological surveys conducted to date on the site and may not be expected given the species' known regional distribution or the quality of habitats located on the site.

A rating of "None" indicates that the taxa would not be expected to occur on the Project site because the site does not include the known range or does not support suitable habitat.



ProjectArea

2 mile Buffer

CNDDB Occurence

Plants

1. lost thistle
2. slender-leaved pondweed

Wildlife

3. Alameda song sparrow
4. American badger
5. California clapper rail
6. California least tern
7. California tiger salamander
8. hoary bat
9. salt-marsh harvest mouse
10. San Francisco garter snake
11. Santa Cruz kangaroo rat
12. western snowy plover

Terrestrial Community

13. Northern Coastal Salt Marsh
14. Valley Oak Woodland

0 0.5 1.0
Mile

N

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Figure 3.14-1
Special-Status Species

California least tern (*Sternula antillarum browni*). California least tern is a federal and state Endangered and a CDFW Fully Protected species. As its name implies, the least tern is the smallest of North American terns. It is approximately 8.25 to 9 inches long, and its wingspan is approximately 19 to 21 inches. The breeding season begins in May. They are single brooded but replace lost clutches. They nest in colonies on relatively open beaches kept free of vegetation by natural scouring from tidal action. Nests are situated on barren to sparsely vegetated places near water, normally on sandy or gravelly substrates. In the Bay region, breeding typically takes place on abandoned salt flats. The nest is a shallow, hollow, usually unlined, or sparingly lined with nearby plant material or small pebbles or shell fragments. The birds mainly eat small fishes but also eat shrimp and sometimes other invertebrates. The CNDDB contains one record for California least tern within 2 miles of the Project site.

Pallid bat (*Antrozous pallidus*). Pallid bat is a CDFW Species Of Special Concern but has no federal status. This species uses hollow trees, caves, and rock crevices for roosting but also uses human-made structures, such as mines, old buildings, and bridges, if suitable structure and seclusion are available. Threats include loss of roosting habitat, loss of maternity roosts, and illegal extermination during pest control. The CNDDB contains no records for pallid bat within 2 miles of the Project site.

Hoary bat (*Lasiurus cinereus*). Hoary bat has no state or federal status; however maternal roosting sites are protected during the breeding season. This species is solitary, typically roosting in foliage of riparian trees such as cottonwoods and sycamores, though eucalyptus are also known to be used as well. Roosting trees can occur at the edge of clearings, heavy forests, open wooded glades, and shade trees along urban streets and in city parks. Threats include loss of roosting habitat, loss of maternity roosts, and illegal extermination during pest control. The CNDDB contains two records for hoary bat within 2 miles of the Project site.

Salt marsh harvest mouse (*Reithrodontomys raviventris*). Salt marsh harvest mouse is both a federal Endangered Species and a California Endangered Species. This species is typically found in and adjacent to emergent salt marsh habitats dominated by dense growths of pickleweed. Salt marsh harvest mouse requires adjacent, upland areas for escape during high tides. Threats include loss of habitat due to conversion to urban development. The CNDDB contains two records for salt marsh harvest mouse within 2 miles of the Project site.

Environmental Impacts

This section describes the impact analysis related to effects from the Project on biological resources. It describes the methods used to determine the impacts of the Project and lists the thresholds used to measure whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Methods for Analysis

The environmental setting of the Project was established by reviewing available information on special-status species known to occur in the Project vicinity. The information review included:

- A query of the CNDDB and USFWS species list databases for the Palo Alto, Woodside, Mountain View, La Honda, Mindego Hill, Cupertino, Redwood Point, and San Mateo 7.5 minute USGS quadrangle maps.
- A review of the CNPS Online Inventory of Rare and Endangered Plants.
- A review of the habitat requirements of the special-status species determined to have potential to occur in the Project site through the above queries.

This review was supplemented with a field survey on April 19, 2013 to determine which of these species actually occurs or whether potential habitat for these species is present on the Project site. Information from the sources noted above and the subsequent field review are presented in Table 3.14-1, along with a description of each species' habitat requirements, protection status, and a brief discussion of its likelihood to occur within the Project site. Figure 3.14-1 depicts the locations of the listed special-status species occurrences from the 2-mile CNDDB query.

Impacts Not Evaluated in Detail

Conflicts with Adopted Habitat Conservation Plans. The entire Project site is developed, with approximately half occupied by buildings and the remainder covered with scattered ornamental landscaping or concrete pavement. The entire site is zoned M-2, designated General Industrial, and is not a part of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be ***no impact*** from implementation of the Project on an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plans; therefore, this impact is not discussed further.

Impacts and Mitigation Measures

Impact BIO-1: Impacts on Special-Status Species. The Project could have an impact on species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations. (PS)

Pallid bats, hoary bats, and other potential crevice-roosting bat species are the only mammal species that could occur in the vicinity of the Project site. Pallid bats are listed as California species of special concern and hoary bats are not listed, but maternal breeding colonies are protected. Pallid bats, which have a moderate likelihood of occurrence, could roost in crevices on the exterior of the unoccupied existing buildings on the Commonwealth Site and in hollow trees. Hoary bats, which have a low likelihood of occurrence, could roost in the foliage of trees at the Commonwealth Site and Jefferson Site. With implementation of the Project, the existing buildings on the Commonwealth Site would be demolished and replaced with two four-story buildings. Several existing shrubs and approximately 44 of 45 trees (23 of which are heritage trees[6]) would be removed prior to redevelopment. However, approximately 474 trees would be planted to offset the heritage tree removal. This would result in an overall net gain in roosting habitat for potential bat species.

Removal of trees and removal of or modification to buildings containing active bat roots, particularly during the nesting season (typically April through August), could result in the loss of individual bats, bat colonies, or their habitat. While adult hoary and pallid bats may be able to escape during tree removal, if tree and shrub removal is to occur during the maternity season (May 1st through October 1st), young bats that cannot yet fly are likely to be killed or injured during vegetation removal. This would result in take of these species. Loss of individual bats and disruption of maternity roosting bats resulting in the abandonment of young or the loss of young through vegetation removal would be a ***potentially significant*** impact.

MITIGATION MEASURE. Implementation of Mitigation Measure BIO-1.1 would reduce potential roosting and breeding bat impacts from the Project to a *less-than-significant level*.

BIO-1.1: Identify and protect roosting and breeding bats on the Project site and provide alternative roosting habitat. The Sobrato Organization (Project Sponsor) shall implement the following measures to protect roosting and breeding bats found in a tree or structure to be removed with the implementation of the Project.

Prior to tree removal or demolition activities, the Project Sponsor shall retain a qualified biologist to conduct a focused survey for bats and potential roosting sites within buildings to be demolished or trees to be removed. The surveys can be conducted by visual identification and can assume presence of hoary and/or pallid bats or the bats can be identified to a species-level with the use of a bat echolocation detector such as an "Anabat" unit. If no roosting sites or bats are found, a letter report confirming absence shall be sent to the California Department of Fish and Wildlife (CDFW) and no further mitigation is required. If roosting sites or hoary bats are found, then the following monitoring and exclusion, and habitat replacement measures shall be implemented. The letter or surveys and supplemental documents shall be provided to the City of Menlo Park (City) prior to demolition permit issuance.

a. If bats are found roosting outside of nursery season (May 1st through October 1st), then they shall be evicted as described under (b) below. If bats are found roosting

[6] McClenahan Consulting, LLC. 2012. "Arborist Survey." 151 Commonwealth and 164 Jefferson. March 27, 2012.

during the nursery season, then they shall be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats shall be evicted as described under (b). Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. A 250-foot (or as determined in consultation with CDFW) buffer zone shall be established around the roosting site within which no construction or tree removal shall occur.

b. Eviction of bats shall be conducted using bat exclusion techniques, developed by Bat Conservation International (BCI) and in consultation with CDFW that allow the bats to exit the roosting site but prevent re-entry to the site. This would include, but not be limited to, the installation of one-way exclusion devices. The devices shall remain in place for seven days and then the exclusion points and any other potential entrances shall be sealed. This work shall be completed by a BCI-recommended exclusion professional. The exclusion of bats shall be timed and carried concurrently with any scheduled bird exclusion activities.

c. Each roost lost (if any) will be replaced in consultation with the Department of Fish and Game and may include construction and installation of BCI-approved bat boxes suitable to the bat species and colony size excluded from the original roosting site. Roost replacement will be implemented before bats are excluded from the original roost sites. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site, the structures may be removed or sealed.

Impact BIO-2: Impacts on Wildlife Corridors or Nursery Sites. The removal of trees, shrubs, or woody vegetation during Project construction could have an impact on the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. In addition, the proposed buildings and lighting would have the potential to injure or cause death to birds from collision and other factors. (PS)

Existing shrubs and trees on the Project site could provide nesting habitat for a variety of native migratory birds. The existing buildings at the Project site would be demolished, existing landscaping removed, and the site would be developed with new buildings and landscaping. Therefore, most or all of the existing shrubs along the perimeter of the property, along with those associated with the landscaping around the existing buildings on the Project site, would be removed. As discussed in BIO-1, 474 trees would be planted, resulting in an overall net gain in migratory bird nesting habitat at the Project site.

If during the nesting period (February 15 to August 31), nesting migratory birds are present (i.e., nests containing eggs or young), tree and shrub removal associated with the redevelopment of the Project site could result in the loss of those birds caused by the direct mortality of adult or young birds, nest destruction, or disturbance of nesting native migratory bird species resulting in nest abandonment and/or the loss of reproductive effort. Native migratory bird species are protected by both state (CDFW Code Sections 3503 and 3513) and federal (MBTA of 1918) laws. Disruption of nesting birds, resulting in the abandonment of active nests, or the loss of active nests through structure removal would be a ***potentially significant*** impact.

Further, injury or death to birds could result from collisions with buildings and from improper lighting at the Project site that could misdirect or confuse birds. The potential for these types of impacts could be heightened due to the Project being located near areas where birds are present. Impacts on birds from Project buildings and improper lighting would be a ***potentially significant*** impact.

MITIGATION MEASURE. Implementation of Mitigation Measures BIO-2.1 and BIO-2.2 would reduce potential nesting migratory bird impacts from the Project to a *less-than-significant level*.

BIO-2.1: *Conduct pre-construction surveys for nesting migratory birds.* The Sobrato Organization (Project Sponsor) shall implement the following measures to reduce impacts to nesting migratory birds.

a. To facilitate compliance with state and federal law (CDFW Code and the MBTA) and prevent impacts on nesting birds, the Project Sponsor shall avoid the removal of trees, shrubs, or weedy vegetation February 15 through August 31 during the bird nesting period. If no vegetation or tree removal is proposed during the nesting period, no surveys are required. If it is not feasible to avoid the nesting period, a survey for nesting birds shall be conducted by a qualified wildlife biologist no earlier than seven days prior to the removal of trees, shrubs, weedy vegetation, buildings, or other construction activity.

b. Survey results shall be valid for the tree removals for 21 days following the survey. If the trees are not removed within the 21-day period, then a new survey shall be conducted. The area surveyed shall include all construction areas as well as areas within 150 feet outside the boundaries of the areas to be cleared or as otherwise determined by the biologist.

In the event that an active nest for a protected species of bird is discovered in the areas to be cleared or in other habitats within 150 feet of construction boundaries, clearing and construction shall be postponed for at least 2 weeks or until the biologist has determined that the young have fledged (left the nest), the nest is vacated, and there is no evidence of second nesting attempts.

BIO-2.2: *Implement Bird-Safe Design Standards into Project Buildings and Lighting Design.* All new buildings and lighting features constructed or installed at the Project site shall be implemented to at least a level of "Select Bird-Safe Building" standards as defined in the City of San Francisco Planning Department's "Standards for Bird-Safe Buildings," adopted July 14, 2011. These design features shall include minimization of bird hazards as defined in the standards. With respect to lighting, the Project site shall adhere to the following standards.

- Be designed to minimize light pollution, including light trespass, over-illumination, glare, light clutter, and skyglow, while using bird-friendly lighting colors when possible.
- Avoid uplighting, light spillage, event search lights, and use green and blue lights when possible.
- Turn off unneeded interior and exterior lighting from dusk to dawn during migrations: February 15 through May 31 and August 15 through November 30.
- Include window coverings on rooms where interior lighting is used at night that adequately block light transmission and motion sensors or controls to extinguish lights in unoccupied spaces.

Impact BIO-3: Indirect Impacts on Special-Status Species Inhabiting the Nearby Salt Marshes. The Project would not impact the special-status bird and mammal species inhabiting the nearby salt and brackish water marshes. (LTS)

As discussed above in Impact BIO-1, the existing facilities and majority of the vegetation at the Project site would be removed and redeveloped. As part of the Project, two new buildings would be constructed and 474 trees would be planted. The number of trees at the Project site would increase from 45 to approximately 474 upon Project implementation. The new buildings and additional trees could serve as perching or nesting opportunities for raptors and other predatory birds and increase predation on special-status species in the nearby salt marshes, such as western snowy plover, California clapper rail, and salt marsh harvest mouse. Raptors perch in trees and hunt by watching movement on the ground. However, raptors and other predatory birds would have no direct line of sight from which to prey on special-status species in the nearby salt marshes. The salt marshes are 0.25 miles east of the Project site and numerous buildings and SR 84 block them from direct view. As hunting perches, these trees would have no impact on special-status species in the salt marshes. In addition, existing conditions of the Project site and surrounding area already provide numerous trees and buildings that can be used as nesting sites for raptors and other predatory birds. Additional nesting sites in an urban landscape with existing trees and in a project site that is developed and previously contained these habitat constituents is not an impact. Therefore, Project implementation is not expected to contribute to increased predation of the species occupying salt marsh habitat. Indirect impacts as a result of increased predation by raptors or other predatory birds would be a ***less-than-significant*** impact.

Impact BIO-4: Loss of Riparian, Wetlands, and Other Habitats. The Project would not affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife, US. Fish and Wildlife Service, or as defined by Section 404 of the Clean Water Act. (LTS)

Based upon the April 19, 2013 field survey, no riparian habitat or natural plant communities are present within the boundaries of the Project site. Salt marshes, which are a category of federally protected wetland, occur 0.25 mile to the north of the Project along the edge of the Bay; however, the Project is separated from the marshes by a network of streets and buildings. Project activities at the Project site occur within the boundaries of an existing developed area. All of the existing buildings would be demolished, existing pavement and landscaping would be removed, new buildings and parking lots would be constructed, and trees would be planted. Based on the field survey, no wetlands or other Waters of the United States are present on or adjacent to the site. Since there are no riparian habitats, salt marsh habitats, state or federally protected wetlands, or other Waters of the United States in any portion of the Project site, impacts on federally protected wetland as defined by Section 404 of the Clean Water Act are considered **less than significant**.

Impact BIO-5: Conflicts with any Local Policies or Ordinances Protecting Biological Resources. The Project would not result in conflicts with Chapter 13.24 of the Municipal Code (Heritage Tree Ordinance). (LTS)

There are currently 24 trees at the Project site that qualify as heritage trees[7] under the City's Heritage Tree Ordinance.[8] These trees consist of both native and nonnative ornamental species such as coast live oak, redwood, incense cedar, pittosporum, pineapple guava, eucalyptus, juniper, avocado, and

[7] McClenahan Consulting, LLC. 2012. "Arborist Survey." 151 Commonwealth and 164 Jefferson. March 27, 2012.
[8] City of Menlo Park. 2010. Menlo Park Municipal Code, Section 16.46.030(7). December 14, 2010

blackwood acacia. Project designs indicate that all but one of these trees (23 trees) would be removed during clearing of the Project site for redevelopment. Removal of heritage trees without first obtaining an appropriate permit from the Director of Public Works and payment of a fee is prohibited. As a part of obtaining a tree removal permit, the Project Sponsor must be in compliance with the Heritage Tree Ordinance,[9] as described in more detail below. Since compliance with the tree ordinance is mandatory, this impact would be considered ***less than significant***.

The Project would be required to adhere to Chapter 13.24 of the City's Municipal Code, as follows.

- For trees to be retained near construction activities, concurrent with each demolition permit submittal, the Project Sponsor shall submit a heritage tree preservation plan for any trees to be retained, detailing the location of and methods for all tree protection measures, as described in the arborist report (Appendix 3.2). The Project arborist shall submit a letter confirming adequate installation of the tree protection measures. The Project Sponsor shall retain an arborist throughout the term of the Project (demolition through approval of final building permit inspection for the building shells), and the Project arborist shall submit periodic inspection reports to the Building Division. The heritage tree preservation plan shall be subject to review and approval by the Planning Division prior to demolition permit issuance.
- For those heritage trees to be removed, the Project Sponsor shall submit a site plan with the Heritage Tree Removal Application Permit even if they have submitted a site plan to the City for a planning or building permit. The site plan facilitates the review by the City Arborist. For removals of two or more trees, the Project Sponsor shall be required to submit a planting plan indicating the species, size, and location of the proposed replacement trees on a site plan. Heritage Tree Permits related to construction shall also be charged for City-retained arborist expenses.
- The heritage tree replacement ratio in the City is determined by the Community Development Director. In general, all commercial applicants who are granted approval to remove a heritage tree are required to replace the lost trees at a ratio of 2 to 1. However, City staff may exercise discretion on the size and number of trees an applicant may be required to install. Consequently, 23 heritage trees would be removed from the Project site and replaced with approximately 474 trees of various species, which is a replacement ratio of approximately 7:1. Replacement trees must be installed within 30 days after the heritage tree is removed, must be planted at least 10 feet away from any structures, must not be planted under overhead utility wires, and must not be planted over underground utilities.[10]

Cumulative Impacts

Unless otherwise identified below, the geographic context for the analysis of cumulative biological impacts includes the Bay Area. The analysis accounts for all anticipated cumulative growth within this geographic area as represented by full implementation of the San Mateo County and City General Plans, including the Tier 1 and Tier 2 projects identified in Section 3.0, *Environmental Impact Analysis*.

[9] City of Menlo Park. 2010. Menlo Park Municipal Code, Section 16.46.030(7). December 14, 2010

[10] City of Menlo Park, Community Development. "Heritage Tree Replacement Procedures." Available: <www.menlopark.org/departments/pln/htree/Htree_Replacement_Pro.pdf> Accessed September 9, 2013.

Impact C-BIO-1: Cumulative Impacts on Roosting Bats. Removal of buildings, tees, shrubs, or other woody vegetation associated with construction of the Project and other cumulative development would result in impacts to roosting bats. (LTS)

Tier 1 and Tier 2

As described above under Impact BIO-1, activities that result in the removal of existing buildings, trees, shrubs, or other woody vegetation could adversely affect roosting bats, either by causing the loss of bats or the abandonment of an active roosting area. With future development in the Bay Area, it is reasonable to expect that there would be a loss of buildings, trees, and other woody vegetation that provide nesting and roosting habitat. Disturbance to these habitats, in combination with the potential loss of similar habitat in the Bay Area, would result in a potentially significant cumulative impact. Pallid bats and other crevice-roosting bat species, if present in the vicinity of the Project, could roost in crevices on the exterior of the existing buildings. Hoary bats roost in the foliage of trees, usually away from urban areas and along woodland edges and riparian corridors.

The Project would result in the removal of approximately 44 trees out of a total of 45 trees. Removal of trees and removal of or modification to buildings containing active bat roosts, particularly during the nesting season (typically April through August), could result in the loss of individual bats, bat colonies, or their habitat. Mitigation Measure BIO-1.1 would reduce the Project's contribution to this potentially significant cumulative impact to less than cumulatively considerable because they would identify and protect breeding roosting bats on the Project site. In addition, the Project would plant 474 trees at the Project site, resulting in a net gain in potential roosts and offsetting the impacts of potential tree removal in surrounding areas over time. The Project's cumulative impact would be ***less than significant.***

Impact C-BIO-2: Cumulative Impact on Wildlife Corridors or Native Migratory Nesting Birds. Removal of buildings, trees, shrubs, or other woody vegetation associated with the construction of the Project and other cumulative development could result in impacts to movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or nesting birds. In addition, the proposed buildings and lighting would have the potential to injure or cause death to birds from collision and other factors. (LTS)

Tier 1 and Tier 2

As described above under Impact BIO-2, activities that result in the removal of existing buildings, trees, shrubs, or other woody vegetation could adversely affect nesting birds, either by causing the loss of young birds or the abandonment of an active nest. With future cumulative development in the Bay Area, it is reasonable to expect there would be a loss of buildings, trees, and other woody vegetation that provide nesting habitat. Disturbance to these habitats, in combination with the potential loss of similar habitat in the Project site, would result in a potentially significant cumulative impact. Native migratory bird species are protected by both state (CDFW Code Sections 3503 and 3513) and federal (MBTA of 1918) laws, and it is assumed that all cumulative development would comply with these regulations, reducing the cumulative impact to less than significant. Approximately 44 trees would be removed by the Project and replaced with approximately 474 trees, resulting in net gain in potential nesting habitat and reducing cumulative impacts associated with habitat loss in the surrounding area. In addition, Mitigation Measure BIO-2.1 requires identification and protection of nesting migratory birds, reducing the potential impact to less than significant. Mitigation Measure BIO-2.2 requires implementation of bird-safe design standards in Project buildings and lighting design. Therefore, the cumulative impact is ***less than significant***.

Impact C-BIO-3: Cumulative Indirect Impact on Special-Status Species Inhabiting Nearby Salt Marsh. Construction of new multi-story buildings associated with the Project and other cumulative development would result in indirect effects on special-status bird and mammal species inhabiting the adjacent salt and brackish water marshes due to increased raptor predation. (LTS)

Tier 1 and Tier 2

As described under Impact BIO-3, development activities that result in taller buildings and a net increase in trees could serve as new or additional perching or nesting opportunities for birds of prey. However there is no direct line of sight from the Project to the salt marsh habitat, so it is unlikely these features would provide raptors or other predatory birds a vantage point from which to prey on special-status species in the adjacent salt marshes. In addition, the Project is located in an urban setting with numerous existing building and trees that already provide potential habitat for birds of prey. Cumulative development near salt marsh in the Bay could result in significant impacts on individual western snowy plover, salt marsh harvest mouse, or other special-status bird or mammal species as a result of increased predation by raptors or other predatory birds. However, development of the Project site is not expected to result in increased injury or mortality of these species; therefore, the project's contribution to any indirect cumulative impact would be considered ***less than significant***.

Impact C-BIO-4: Cumulative Loss of Riparian Habitat and Other Sensitive Natural Communities. The Project, in combination with other cumulative development, would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local, regional, State, or federal plans or policies. (LTS)

Tier 1 and Tier 2

As described above under Impact BIO-4, riparian habitat and other natural communities are not present on the Project site. While salt marshes, which are considered a sensitive habitat, occur 0.25 mile to the north, the Project is separated from the marshes by urban development. With future cumulative development in the Bay Area, it is reasonable to expect that there could be impacts on riparian habitats and wetlands. Cumulative impacts could be significant. However, since there are no riparian habitats, wetlands, or other sensitive natural community identified in any portion of the Project site, the Project's contribution to any cumulative impact would be considered ***less than significant***.

Impact C-BIO-5: Cumulative Conflicts with any Local Policies or Ordinances Protecting Biological Resources. The Project, in combination with other reasonably foreseeable projects, would not conflict with local policies or ordinances protecting biological resources. (LTS)

Tier 1 and Tier 2

The cumulative context for an analysis of cumulative impacts regarding conflicts with local policies or ordinances protecting biological resources is the City, as individual jurisdictions have differing criteria to evaluate loss of protected resources. As described above under Impact BIO-5, activities that result in the removal of heritage trees could result in conflicts with the City's Heritage Tree Ordinance.[11] With future development in the City, it is reasonable to expect there would be an additional loss of heritage trees. However, compliance with the measures in Chapter 13.24 of the City's Municipal Code would be required by all future development in the City. On the Project site, compliance with Chapter 13.24 would

[11] City of Menlo Park. 2010. Menlo Park Municipal Code, Section 16.46.030(7). December 14, 2010

minimize the loss of heritage trees by requiring a certain replacement ratio and requiring tree species best suited to survive and thrive. Therefore, in combination with other potential projects, the cumulative impact would be ***less than significant***.

Chapter 4
Alternatives Analysis

4.1 Introduction

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.) require that an Environmental Impact Report (EIR) "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (State CEQA Guidelines Section 15126.6(a)). If mitigation measures or a feasible project alternative that would meet most of the basic project objectives would substantially lessen the significant environmental effects of a proposed project, then the lead agency should not approve the proposed project unless it determines that specific technological, economic, social, or other considerations make the mitigation measures and the project alternative infeasible (PRC Section 21002, State CEQA Guidelines Section 15091(a)(3)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (State CEQA Guidelines Section 15126.6(c)).

One of the alternatives that must be analyzed is the "No Project" Alternative. The No Project analysis must discuss the existing conditions at the time the Notice of Preparation (NOP) is published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved and development continued to occur in accordance with existing plans and consistent with available infrastructure and community services (State CEQA Guidelines Section 15126.6(e)(2)). Therefore, pursuant with the State CEQA Guidelines, this section discusses and analyzes a No Project Alternative.

In addition to the No Project Alternative, this section provides an additional alternative (Reduced Intensity Alternative) to the Commonwealth Corporate Center Project (Project) and analyzes the impacts of each. This section later provides a description of the alternatives and compares the significant impacts of the alternatives to the significant environmental impacts of the Project as proposed.

4.2 Description of Alternatives Considered

As discussed in Chapter 2, *Project Description*, the Sobrato Organization (Project Sponsor) has identified the following Project objectives that are relevant to the physical impacts considered in this Draft EIR.

- Redevelop an underutilized property in the City of Menlo Park (City) that is visible from US 101 into an economically viable, flexible, and adaptable research and development (R&D)/office campus.
- Develop two equivalent-sized buildings within the allowable floor area ratio (FAR) for the M-2 zone.
- Maximize the amount of onsite landscaping.

- Achieve economies of scale and attract significant corporate tenants.
- Maintain convenient access to and from US 101.
- Create jobs and tax revenues for the City.

As stated above, the alternatives to a proposed project are meant to feasibly attain most of the basic project objectives while avoiding or substantially lessening its significant impacts. Significant and unavoidable Project-specific and cumulative impacts from the Project are listed below.

Project-Level Impacts

- **Impacts on Intersections in Near Term 2015 Plus Project Conditions**. Increases in traffic generated by the Project under Near Term 2015 Plus Project Conditions would result in increased delays during AM and PM Peak Hours at the following intersections: Marsh Road/Bayfront Expressway, Marsh Road/US 101 Northbound Off-Ramp, Independence Drive/Constitution Drive, Chrysler Drive/Bayfront Expressway, Chrysler Drive/Jefferson Drive, Chrysler Drive/Independence Drive, Willow Road/Bayfront Expressway, Willow Road/Newbridge Street, and University Avenue/Bayfront Expressway. (Impact TRA-1)
- **Impacts on Roadway Segments in the Near Term 2015 Plus Project Conditions**. Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in increased ADT volumes on the following Project area roadway segments: Marsh Road between Bohannon Drive and Bay Road; Chrysler Drive between Bayfront Expressway and Constitution Drive; Chrysler Drive between Constitution Drive and Jefferson Drive; Chilco Street between Bayfront Expressway and Constitution Drive; Chilco Street between Hamilton Avenue and Ivy Drive; Constitution Drive between Independence Drive and Chrysler Drive; Constitution Drive between Jefferson Drive and Chilco Street; Jefferson Drive between Chrysler Drive and the Project driveway; Jefferson Drive between the Project driveway and Constitution Drive; Independence Drive between Constitution Drive and Chrysler Drive. (Impact TRA-2)
- **Impacts on Routes of Regional Significance in the Near Term Plus Project Conditions**. Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in potentially significant impacts on the following Routes of Regional Significance: SR 84 between Willow Road and University Avenue; SR 84 between University Avenue and the County Line; US 101 between Marsh Road and Willow Road; US 101 between Willow Road and University Avenue; and US 101 south of University Avenue. (Impact TRA-3)
- **Violation of Any Air Quality Standard During Construction**. The Project would result in the violation of a BAAQMD air quality standard or substantial contribution to an existing or projected air quality violation during Project construction. (Impact AQ-2)
- **Substantial Temporary or Periodic Increase in Vibration Levels**. The Project would generate ground-borne vibration levels in excess of 65 VdB at nearby office buildings but would not exceed vibration levels in excess of 80 VdB and noise levels in excess of 43 dBA at nearby residences. (Impact NOI-4)

Cumulative Impacts

- **Impacts on Intersections in the Cumulative 2030 Plus Project Conditions**. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased delays at the following intersections during peak hours: Marsh Road/Bayfront Expressway, Marsh Road/US 101 Northbound Off-Ramp, Marsh Road/US 101 Southbound Off-Ramp, Marsh Road/Middlefield Road, Independence Drive/Constitution Drive, Chrysler Drive/Bayfront Expressway, Chrysler Drive/Jefferson Drive, Willow Road/Bayfront Expressway, Willow Road/Newbridge Street, and University Avenue/Bayfront Expressway. (Impact TRA-6)
- **Impacts on Roadway Segments in the Cumulative 2030 Plus Project Conditions**. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased average daily traffic at the following study roadway segments: Marsh Road between Bohannon Drive and Bay Road; Chrysler Drive between Bayfront Expressway and Constitution Drive; Chrysler Drive between Constitution Drive and Jefferson Drive; Chilco Street between Bayfront Expressway and Constitution Drive; Chilco Street between Hamilton Avenue and Ivy Drive; Constitution Drive between Independence Drive and Chrysler Drive; Constitution Drive between Jefferson Drive and Chilco Street; Jefferson Drive between Chrysler Drive and Project driveway; Jefferson Drive between Project driveway and Constitution Drive; and Independence Drive between Constitution Drive and Chrysler Drive. (Impact TRA-7)
- **Impacts on Routes of Regional Significance in the Cumulative 2030 Plus Project Conditions**. Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in impacts on the following Routes of Regional Significance: SR 84 between Willow Road and University Avenue; SR 84 between US 101 and Bayfront Expressway; US 101 between Marsh Road and Willow Road; US 101 between Willow Road and University Avenue; and US 101 south of University Avenue. (Impact TRA-8)
- **Violation of a BAAQMD Air Quality Standards or Substantial Contribution to an Existing or Projected Air Quality Violation during Project Construction.** Construction activities associated with the Project, in combination with other construction activities in the City, could generate substantial oxides of nitrogen (NO_X) emissions in excess of BAAQMD threshold. (Impact C-AQ-2)

Based on the goal of reducing these significant and unavoidable impacts, two Project alternatives have been developed for evaluation in this Draft EIR: the No Project Alternative and Reduced Intensity Alternative. Table 4-1 provides a summary of key features of the Project and each alternative. Further details regarding each alternative are provided below.

Table 4-1. Comparative Description of the Project Alternatives

	Project	No Project Alternative	Reduced Intensity Alternative
Total Square Feet	259,920	237,858[a]	194,940
Site Coverage	11.9%	41%	11.9%
Max Building Heights	61’4”	~27’	~46’
Total Employees	1,300	30	975

Source: City of Menlo Park, 2013; Arc Tech, 2013
Notes:
[a.] Includes 217,396 sf at the Commonwealth Site and 20,462 sf at the Jefferson Site.

It has been determined that, in order to minimize significant and unavoidable impacts relative to transportation, air quality, and noise, an approximately 25 percent reduction in daily trips would be necessary. The 25 percent reduction was chosen because it allows for an increase in occupancy and development over existing conditions at the Project site, while decreasing the overall number of trips associated with the Project. It also allows for the attainment of the majority of the Project objectives. For these reasons, the Reduced Intensity Alternative reducing daily trips by 25 percent was chosen as the most feasible alternative.

No Project Alternative

Under the No Project Alternative, the existing Project site would remain as-is. The three buildings at the Commonwealth Site that include 217,396 sf would remain. The one building at the Jefferson Site that includes 20,462 sf would also remain. Approximately 30 employees would occupy the Jefferson Site. No construction would occur under the No Project Alternative.

Reduced Intensity Alternative

The Reduced Intensity Alternative would include a 25 percent reduction in the amount of floor area and number of employees compared to the Project. This would equate to approximately 194,940 sf of building area, for a FAR of 0.34, and accommodate approximately 975 employees. As with the Project, the Reduced Intensity Alternative would include either office or R&D uses. The Reduced Intensity Alternative would result in an equivalent decrease in daily trips, which would equate to approximately 3,057 daily trips.

The site plan of the Reduced Intensity Alternative would be similar to the Project with the same building footprints. Since the building footprints would not change, all footprint-based impacts would be identical to the Project. However, the two buildings would be three stories tall, rather than four stories, with building heights at approximately 46 feet. As such, the Reduced Intensity Alternative would still require rezoning of the Project site to M-2(X) (Conditional Development Overlay) zoning district with a corresponding Conditional Development Permit (CDP) in order to increase the permitted building heights from 35 feet to 46 feet.

Similar landscaping and bicycle and pedestrian amenities would be installed. Walkways would traverse the Project site, and bicycle lockers and racks would be provided. As with the Project, the Reduced Intensity Alternative would be accessible from two driveways: the main access point at Commonwealth Drive in the southwest corner of the Project site and the secondary access point at Jefferson Drive in the northern portion of the Project site. A two-lane boulevard would be located along the western boundary of the Project site and would connect the Commonwealth Drive entrance, the Jefferson Drive entrance, and the surface parking lot. However, since the Reduced Intensity Alternative would result in less building area and fewer employees, the amount of parking would be reduced. The M-2 zoning requires one parking stall per 300 sf of building space. As such, this alternative would provide 650 parking stalls, compared to 867 stalls under the Project. It is assumed that the reduction in parking spaces would result in increased landscape areas.

4.3 Attainment of Project Objectives

An evaluation of how each alternative meets or does not meet the basic Project objectives is provided below. Pursuant to State CEQA Guidelines Section 15126.6(a), this analysis compares the alternatives to the objectives of the Project. As described in detail above, there are two alternatives for the Project: No Project Alternative and Reduced Intensity Alternative. The following analysis describes the extent to which these alternatives meet or do not meet the Project Sponsor's objectives as described in Chapter 2, *Project Description*, and discussed above.

No Project Alternative

The No Project Alternative would not meet the primary objectives of redeveloping an underutilized property in City into an economically viable, flexible, and adaptable office/R&D campus. Instead, the Commonwealth Site would remain unused and the Jefferson Site would continue to serve as warehouses and offices for storage and light industrial uses. The No Project Alternative would not demolish the existing unused buildings and would not construct office/R&D space within two equivalent-sized buildings. Given the specialized nature of the existing buildings, virtually any reuse of the Commonwealth Site would involve a discretionary City approval with CEQA review.

Since the proposed buildings would not be constructed, the No Project Alternative would not achieve economies of scale and would not be able to attract significant corporate tenants to the Project site. Although the Project site would maintain convenient access to and from US 101, no new employees would benefit from this access. The No Project Alternative would not create jobs; instead of approximately 1,300 jobs under the Project, the No Project Alternative would continue to provide jobs for approximately 30 employees. The tax revenues for the City would stay the same rather than increase with implementation of the Project. As such, the No Project Alternative would not meet the Project objectives.

Reduced Intensity Alternative

The Reduced Intensity Alternative would meet some of the Project Sponsor's objectives. This alternative would redevelop the underutilized parcels into a new office/R&D campus with two buildings of equivalent sizes, which would still be visible from US 101. A reduction in 25 percent of building space and employees would still allow the Project site to be occupied at a greater level than existing conditions, but at a lower level than under the Project. The Reduced Intensity Alternative would translate to approximately 975 new employees instead of the Project's approximate 1,300 employees. Although to a lesser extent than the Project, this alternative would still create jobs, achieve economies of scale, and attract corporate tenants. Since the Reduced Intensity Alternative would be in the same location, the Project would still be in a prominent location proximate to major transportation corridors such as US 101. In addition, the Reduced Intensity Alternative would create increased tax revenues for the City.

However, the Reduced Intensity Alternative would not maximize development at the Project site. The buildings would be approximately 194,940 sf, or a FAR of 0.34, which is significantly below the goal of a FAR of 0.45. While the Reduced Intensity Alternative would meet the majority of the Project objectives, this alternative would be smaller in size than what is preferred by the Project Sponsor.

4.4 Alternatives Considered but Rejected

State CEQA Guidelines Section 15126.6(f)(2) states that a Draft EIR must consider offsite alternatives if such alternatives are deemed to be feasible by the lead agency. As stated in State CEQA Guidelines, Section 15126.6(f)(1), factors that may be considered when a lead agency is assessing the feasibility of an alternative include:

> site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).

Alternative Locations

An offsite alternative was considered for this analysis but rejected from further review because it would be infeasible, would not attain most of the basic Project objectives, and would not sufficiently reduce the Project impacts. Alternative locations for the Project are not feasible because the Project Sponsor owns this site; an alternate location for the office/R&D uses would require additional land acquisition, which is not included in the Project Sponsor plans or objectives. The Project Sponsor currently owns and manages 75 office and R&D projects comprising over 7.5 million sf of space in the Silicon Valley. The Project Sponsor owns several buildings that average similar square footage as the Project that have space available for rent. However, none of the buildings that are currently available are within Menlo Park or neighboring cities.[1] Therefore, the proposed uses could not be accommodated within existing properties owned by the Project Sponsor.

Although the Project could be constructed on other similar-sized parcels near the San Francisco Bay (Bay) (for example, Redwood City, East Palo Alto, or Mountain View), there are currently not alternative sites in these areas that could accommodate the development intensity proposed given existing land use designations and zoning and scarcity of available land in the Project vicinity. In addition, the significant and unavoidable impacts of the Project would likely occur regardless of location, meaning that an offsite alternative would not further reduce these impacts. Therefore, this Draft EIR does not analyze an offsite location alternative.

Alternative Development Scenario

Alternatives that would consist of a permanent use other than office/R&D were not considered because they would not be consistent with applicable City zoning and General Plan land use designations and policies. For example, residential uses at the Project Site were considered, but rejected, since the site is not zoned for single-family residential or mixed uses with residential units. In addition, an alternative that would consist of hotel uses was considered but rejected for two reasons: first a hotel is not allowed in the M-2 zone, and second, a hotel that could efficiently occupy 13.27 acres at the Project site would be larger than what the Peninsula hotel market could economically absorb given the approved hotel development at Menlo Gateway near the Marsh Road interchange, approximately 0.3 mile west of the Project site.

[1] The Sobrato Organization. 2013. "List of Currently-Available Buildings." Available: <http://www.sobrato.com/real-estate-development/available-properties/buildings/>. Accessed December 13, 2013.

4.5 Impact Assessment

This section evaluates whether the alternatives would reduce the significant impacts of the Project to less-than-significant levels and/or would generate impacts other than those identified for the Project. Summarized lists of recommended mitigation measures for each alternative are provided in the analysis below; however, these mitigation measures are fully described in each resource section within Chapter 3, *Environmental Impact Analysis*, of this document. In addition, a summary comparative analysis of the Project and its alternatives is provided in Table 4-3, at the end of this section.

No Project Alternative

As described above, under the No Project Alternative, the redevelopment of the Project site would not occur and all existing buildings would remain. No new land uses or rezoning would occur under this alternative.

Land Use

In order to develop the Project to the desired height, the Project would require a rezoning to the M-2(X) zoning district with a corresponding CDP. The No Project Alternative would not require a change in zoning and a CDP since no new buildings would be constructed. Similar to the Project, the No Project Alternative would result in no impact on an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plans, nor would it conflict with the existing land use designation. In addition, since the No Project Alternative would not increase operational traffic or vibration impacts during construction, the No Project Alternative would not result in the policy conflicts with respect to the Noise Ordinance that could potentially occur with the Project. Consistency with land use plans and policies is inherently a project-specific issue, and each jurisdiction would decide on project consistency on the project level. As such, there would be a less-than-significant cumulative impact as a result of cumulative development in the Association of Bay Area Governments (ABAG) region and under the No Project Alternative, as with the Project.

The No Project Alternative would result in several other General Plan policy conflicts that would not occur with the Project. For example, the Project would enhance the Project site by adding extensive landscaping, outdoor seating, pedestrian paving, and bicycle facilities, which would support policies I-G-10, OSC1.12, and OSC1.13. However, the No Project Alternative would not provide these amenities and the unoccupied distillery facility would remain resulting in potential conflicts with other General Plan policies. Nonetheless, since this is an existing condition and no changes would be made under the No Project Alternative, this alternative would be generally consistent with the applicable goals, policies, and actions, resulting in a less-than-significant impact. (LTS)

Aesthetics

The No Project Alternative would not alter existing conditions and, therefore, would not change the existing visual character. The proposed development with implementation of the Project would increase massing, height, and bulk over existing conditions and views of the Project site. While the aesthetic impacts would be less than significant under the Project, no impact would occur under the No Project Alternative. The Project site would remain unoccupied and its landscaping unimproved. Over time, the non-use of the site could result in blight conditions with associated community problems.

The Project would replace the vacant Commonwealth Site with new buildings, enhanced landscaping, and bicycle and pedestrian amenities that would complement the surrounding existing office development and other nearby commercial uses. These improvements to the area's visual quality would not occur with the No Project Alternative. Since no new structures would be built under the No Project Alternative, no new source of light and glare would be created compared to the potentially significant, but mitigable, light and glare impacts that would result from the Project. No impact on visual quality would result with the No Project Alternative. (NI)

Transportation

The No Project Alternative would retain existing conditions at the Project site and would not generate additional traffic or parking demand. This alternative would result in the same daily vehicle trips and affected intersections as the baseline since no new uses would be added at the Project site. No transportation-related impacts would result with the No Project Alternative. (NI)

Air Quality

The No Project Alternative would not construct new uses at the Project site and would not generate air emissions above the baseline. Since no development would occur under the No Project Alternative existing uses would remain consistent with the Transportation Control Measures (TCMs) identified in the 2005 Ozone Strategy as critical to attaining the California Clean Air Act (CAA) ozone standard. In addition, no construction or operational emissions would exceed the Bay Area Air Quality District's (BAAQMD's) significance thresholds. No impacts on air quality would result with the No Project Alternative. (NI)

Greenhouse Gas Emissions

The No Project Alternative would result in no new direct greenhouse gas (GHG) emissions from area and mobile sources or indirect emissions from electricity generation and solid waste that would occur with intensification of use. Since this alternative would not construct new buildings, and no new uses would operate at the Project site, there would be no increase in GHG emissions over the baseline, resulting in no impact. (NI)

Noise

Since no construction would occur under the No Project Alternative, no construction noise would be generated. Unlike the Project, the No Project Alternative would not result in significant and unavoidable construction vibration impacts on vibration-sensitive equipment in adjacent buildings. In addition, the operational noise at the Project site would remain the same because vehicle trips and employment would not increase. No noise-related impacts would result with the No Project Alternative. (NI)

Cultural Resources

The No Project Alternative would not demolish the existing buildings at the Project site. Because these existing structures are not historically significant, neither the Project nor the No Project Alternative would result in impacts on historic buildings. Because no ground-disturbing construction would occur at the Project site, unlike the Project, the No Project Alternative would result in no impacts on archeological and paleontological resources or human remains. (NI)

Geology and Soils

There are no faults that cross the Project site, and the site is not within an Alquist-Priolo Earthquake Fault Zone. There would be no impact from the No Project Alternative related to fault rupture. The Project site is primarily flat and not adjacent to any hillsides where seismically induced landslides or other downslope movement of rock or soil material that could pose a hazard. The No Project Alternative would not include any septic tanks or leach field systems. Consequently, the existence of soils incapable of supporting septic systems is not considered an impact associated with the Project, and this impact is not evaluated. Thus, similar to the Project, the No Project Alternative would have no impact relative to fault rupture, landslide hazards, loss of topsoil, or septic systems.

Since no construction would occur at the Project site under the No Project Alternative, there would be no topographic changes that could alter the erosion potential. In addition, construction activities, such as excavation, would not introduce instability and cause slopes to collapse. Therefore, the No Project Alternative would result in no soil erosion or other soil hazards, whereas these impacts would be less than significant under the Project.

Development of the Project site would involve the occupancy of buildings in a location where strong seismic groundshaking and liquefaction, as well as expansive soils, can be expected to occur over the life of the Project. The No Project Alternative would not construct new buildings or increase the amount of employees at the Project site over existing conditions. Therefore, the No Project Alternative would not expose additional people to groundshaking, liquefaction, or expansive soils. Consequently, there would be no impact, unlike the less-than-significant impact of the Project. (NI)

Hydrology and Water Quality

The No Project Alternative would not develop the Project site and would not add employees over existing conditions. Since no additional employees would be included with the No Project Alternative, additional people would not be exposed to the 100-year floodplain or potential sea level rise; as a result, there would be no impact. Existing groundwater recharge potential within the Project area is minimal because portions of the site contain impervious surfaces. The No Project Alternative would result in a similar less-than-significant impact on groundwater recharge potential. The potential for tsunami or seiche inundation is low, and the Project site is not subject to dam failure inundation. The No Project Alternative would not modify the existing conditions at the Project site, which would remain primarily covered with impervious surfaces. The No Project Alternative would not include planned stormwater quality features, such as bioretention areas, to temporarily store stormwater runoff and settle out pollutants. Therefore, the No Project Alternative would have a greater impact on stormwater runoff and potential pollutants than the Project. Nonetheless, since the groundwater recharge potential and impervious surface area is an existing condition, the No Project Alternative would result in no impact. (NI)

Hazards and Hazardous Materials

As with the Project, the No Project Alternative would not expose employees or structures to wildland fires, airport hazards, or onsite hazardous materials that are pursuant to Government Code Section 65062.5. However, unlike the Project, the No Project Alternative would not demolish any structures or disturb the soil and, therefore, would result in no impact relative to the potential release of hazardous materials. Under the No Project Alternative, construction workers would not be exposed to potential risks from contaminated soil or groundwater, andecological receptors would not be exposed to residual

contaminants in soil and/or groundwater. Operation at the Project site would include routine hazardous materials use and maintenance activities standard for office uses or R&D uses; however, compliance with applicable federal, state, and local regulations would ensure that the impacts would not be significant. In addition, the No Project Alternative would not add traffic to the area and, therefore, would not impair emergency access and emergency plans. (NI)

Population and Housing

The No Project Alternative would result in no change in housing or employment levels over existing conditions. The existing 30 employees at the Jefferson Site would remain. As such, the No Project Alternative would not result in a demand for new housing units within the City or proximate local jurisdictions. The Project would result in population growth that is less than significant, though the No Project Alternative would avoid this population growth altogether. The No Project Alternative would have no potential to contribute to cumulative impacts on population, housing, or employment growth. (NI)

Public Services

There would be no increase in employees on the site over existing conditions that could result in increased demand for police, fire protection, emergency services, and recreational facilities. In addition, as discussed above, the No Project Alternative would not increase the population and housing demand within the City. As such, the No Project Alternative would not increase the demand for schools or library services. The No Project Alternative would have no potential to contribute to cumulative impacts related to public services. (NI)

Utilities and Service Systems

The No Project Alternative would not change the existing use at the Project site; the Jefferson Site would continue to serve approximately 30 employees, and the Commonwealth Site would remain vacant. Therefore, the No Project Alternative would have similar water, sewer, storm drainage, energy, and operational solid waste demands as under existing conditions. The No Project Alternative would have no potential to contribute to cumulative impacts related to utilities. (NI)

Biological Resources

The No Project Alternative would not include the demolition of existing buildings, the construction of new buildings, or the removal of vegetation. As such, pallid bats and other potential crevice-roosting bat species would not be affected. Migratory birds would not be affected under the No Project Alternative because no trees would be removed and there would be no disruption of nesting habitat. As with the Project, since there is no riparian habitat, salt marsh, state or federally protected wetlands, and/or other sensitive natural community present in any portion of the site, there would be no impact on these resources. Therefore, no project or cumulative impacts would occur under the No Project Alternative and there would be no conflicts with local policies adopted to protect biological resources. No impacts on biological resources would result from the No Project Alternative. (NI)

Reduced Intensity Alternative

As described above, the Reduced Intensity Alternative would include a 25 percent reduction in the amount of floor area and number of employees. This would equate to approximately 194,940 sf of building area and approximately 975 employees. As with the Project, the Reduced Intensity Alternative would include either office or R&D uses. The site plan of the Reduced Intensity Alternative would be similar to the Project, with the same building footprints. Since the building footprints would not change, all footprint-based impacts would be identical to the Project, as explained below.

Land Use

Conflicts with Adopted Land Use Plans and Policies. Similar to the Project, the Reduced Intensity Alternative would require a CDP and rezoning to establish a new height limit. While the proposed building heights under this alternative would be less than under the Project, the heights of approximately 46 feet would exceed the allowed maximum height in an M-2 zone of 35 feet. The proposed new CDP and rezoning to M-2(X) would allow the Reduced Intensity Alternative to be consistent with the Zoning Ordinance, resulting in less-than-significant impacts. In addition, the Reduced Intensity Alternative would be generally consistent with the General Plan. As with the Project, the Reduced Intensity Alternative would enhance the Project site by installing landscaping, outdoor seating, pedestrian paving, onsite parking, and bicycle and pedestrian amenities and would protect employees from potential hazards. In general, the Reduced Intensity Alternative would be consistent with the General Plan. (LTS)

Cumulative Impacts. Consistency with land use plans and policies is inherently a project-specific issue, and each jurisdiction would decide on project consistency on the project level. As such, there would be a less-than-significant cumulative impact as a result of cumulative development in the ABAG region under the Reduced Intensity Alternative, as with the Project. (LTS)

Aesthetics

Degradation of Visual Character or Quality. The Reduced Intensity Alternative would result in approximately 194,940 sf of building space compared to 237,858 sf under existing conditions. As such, there would be a net decrease in overall building area. However, the buildings would be taller under this Alternative with two buildings at approximately 46 feet instead of the existing 27-foot-tall buildings. Therefore, the buildings would be more visible to surrounding uses, similar to the Project but more consistent with the adjacent office buildings. The existing visual character and quality does not support the recent and future trend of developing the area into an updated office park setting. Similar to the Project, the Reduced Intensity Alternative would promote the transition of the area to office campuses and increase unity with it surroundings by creating contiguous landscape areas, bicycle and pedestrian connections, and buildings that reflect a similar architectural design. In addition, the Project Sponsor would be required to adhere to the City's architectural review, as outlined in Section 16.68.020 of the Municipal Code.

Compared to the Project, the Reduced Intensity Alternative would reduce building height (46 feet compared to 61 feet). Regardless, visual impacts would be relatively similar since the site would be altered from an existing vacant distillery to a medium-scale office campus. While the Reduced Intensity Alternative would increase onsite building height over existing conditions, this alternative would not alter or degrade the visual character or quality of the Project site and its surroundings or the public view corridors in the area to the same degree as the Project, resulting in a less-than-significant impact. (LTS)

New Sources of Light and Glare. The Reduced Intensity Alternative would add exterior lighting to an area where there currently is little to no lighting. The Project site is visible from US 101 and could be a nuisance or distraction to the motorists if substantial light sources were introduced to the area. Similar to the Project, the Reduced Intensity Alternative would result in nighttime lighting from employee vehicles, the onsite boulevard, the parking lots, buildings, and security features. The increase of building heights from existing conditions would make the building lights more visible to surrounding areas, though less visible than the Project. The lighting performance standards set by Leadership in Energy and Environmental Design (LEED) would be followed through lighting specifications, shielding techniques, automatic lighting controls, and light pollution considerations. Regardless, Mitigation Measure AES-2.1 would require lighting design to meet minimum safety and security standards, reducing the potentially significant lighting impact to less than significant.

As with the Project, the No Project Alternative could also result in highly reflective surfaces at the Project site. Glare from these surfaces could create hazards to motorists along US 101. However, since the buildings would be slightly smaller in height than the Project (46 feet compared to the Project height of over 61 feet), there would be less building surface for glare to occur. Regardless, it is conservatively assumed that the Reduced Intensity Alternative would result in potentially significant impacts. Mitigation Measure AES-2.2, which is required for the Project, would treat reflective surfaces, resulting in less-than-significant impacts. (PS/LTS)

Cumulative Impacts. As described above, the Project area is transitioning from industrial and warehousing uses to corporate campuses. The Reduced Intensity Alternative and the Menlo Gateway Project would develop these respective sites into office developments. Combined, these two projects would provide increased unity with the existing and planned surroundings by creating contiguous landscape areas and buildings that reflect a similar architectural design. Therefore, the Reduced Intensity Alternative, together with Menlo Gateway, would not result in a substantial degradation of visual character or quality of the surroundings. In addition, implementation of Mitigation Measures AES-2.1 and AES-2.2 would reduce the Reduced Intensity Alternative's contribution to cumulative light and glare impacts to less than significant, similar to the Project. (LTS)

Transportation

Although the Reduced Intensity Alternative would reduce employees and building square footage by 25 percent, the resulting trip generation would be slightly less than 25 percent. The estimated trip generation for the office use is based on the trip generation rate using a fitted curve equation. This trip generation methodology that uses employee count rather than square footage is the most conservative estimate. Since the generation rate is a fitted curve and is not linear, a certain percent reduction in square feet would not necessarily correlate with the same reduction in trips. As shown in Table 4-2, the Reduced Intensity Alternative increment would result in 465 trips (414 inbound and 51 outbound trips) for the AM peak hour, 415 trips (69 inbound and 346 outbound trips) for the PM peak hour, and 3,057 daily trips. This would represent a 22 percent reduction in the AM peak hour, a 23 percent reduction in the PM peak hour, and an 18 percent reduction in daily trips, as compared to the Project.

Table 4-2. Reduced Intensity Alternative Trip Generation

	AM Peak Hour			PM Peak Hour			
Proposed Use	In	Out	Total	In	Out	Total	Daily
Existing Office Use	-2	-6	-8	-3	-3	-6	-126
Proposed Office Use (25% Reduction in employees)	416	57	473	72	349	421	3,183
Total Net New Increment Trips	**414**	**51**	**465**	**69**	**346**	**415**	**3,057**
Source: DKS Associates, 2013.							

On a daily basis, 3,057 vehicle trips would be generated for the Reduced Intensity Alternative. With the trip generation detailed in Table 4-2, the same number of intersection, roadway segment, and Routes of Regional Significance impacts would occur when compared to the Cumulative 2030 Condition.

A 25 percent reduction in the Project increment would result in two fewer intersection potential impacts. At the intersection of Marsh Road and Bayfront Expressway, the reduction would decrease the delay for the southbound approach below the 0.8 second significance threshold, eliminating the impact. At the intersection of Chilco Street and Constitution Drive, the reduction would improve the operation to LOS C, eliminating the impact. There would, however, continue to be significant and unavoidable impacts on other intersections, roadway segments, Routes of Regional Significance, and cumulative impacts with the Reduced Intensity Alternative, as with the Project. (SU)

Air Quality

Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. The proposed development under both the Project and the Reduced Intensity Alternative is consistent with and supportive of the Transportation Control Measures (TCMs) identified in the 2005 Ozone Strategy and the 2010 Clean Air Plan as critical to attaining the CCAA ozone standard. Therefore, impacts are considered less than significant. (LTS)

Violation of Any Air Quality Standard During Construction. This alternative would result in 25 percent of the Project building area, which would likely result in a shorter construction period. However, in order to maintain a shorter construction period, it is likely that the daily construction activities under the Reduced Intensity Alternative would be similar to the Project. Therefore, daily construction emissions generated by the alternative would likely be similar to the Project.

The daily construction emissions from operation of onsite construction equipment and onroad vehicles under the Project would be well below the BAAQMD's significance thresholds for reactive organic gas (ROG), carbon monoxide (CO), and particulate matter (PM10 or PM2.5). As such, the Reduced Intensity Alternative would also not exceed the thresholds. Regardless, as required by the BAAQMD, Mitigation Measure AQ-2.2, as proposed for the Project, would be implemented to reduced PM10 and PM2.5 fugitive dust emissions.

The construction of the Project would generate daily exhaust emissions of nitrogen oxides (NO_X) in exceedance of the BAAQMD's significance threshold during the demolition, excavation and grading, and building construction phases. The Reduced Intensity Alternative would also likely generate similar level of daily NO_X emissions in exceedance of the BAAQMD NO_X threshold. Similar to the Project, implementation of Mitigation Measure AQ-2.1 would reduce the impact and could potentially bring daily NO_X emissions below the BAAQMD threshold during demolition phase. However, daily NO_X emissions

during the excavation and grading and building construction phases would still exceed the threshold. Therefore, this impact would remain significant and unavoidable. (SU)

Violation of Any Air Quality Standard During Operation. Project operation has the potential to create air quality impacts primarily associated with mobile and area sources. Motor vehicle traffic would include daily employee trips, visitor trips, vender delivery trucks, and waste management trucks. Since the Reduced Intensity Alternative would result in fewer vehicle trips due to the reduction in building space and employees, the operational air quality impacts would be reduced. Operation of the Project is expected to result in an increase in all criteria pollutant emissions, relative to existing conditions. However, these increases would all be below applicable BAAQMD significance thresholds. Therefore, since the Reduced Intensity Alternative would result in a 25 percent reduction, this alternative would also be below the BAAQMD significance thresholds for criteria air pollutants. Impacts would be less than significant, similar to the Project. (LTS)

Exposure to Diesel Particulate Matter Concentrations. Diesel-fueled engines, which generate diesel particulate matter (DPM), would be used during construction and operation of the Reduced Intensity Alternative, similar to the Project. Multiple sensitive receptors are located within 1,000 feet of the Project site, including single-family residences to the south of US 101, and Kelly Park and the Beechwood School, both to the east of the Project site. Project construction and operation would not result in significant increases of the non-cancer hazard index levels, cancer risk, or annual PM 2.5 concentrations at sensitive receptors within 1,000 feet of the Project site. Since the Reduced Intensity Alternative would result in a reduction of building area compared to the Project, these impacts would be less than under the Project. Exposure to DPM concentrations with implementation of the Reduced Intensity Alternative would be less than significant. (LTS)

Exposure to CO Concentrations. Traffic generated by the Project would have the potential to create CO hotspots at nearby roadways and intersections. However, since the Reduced Intensity Alternative would generate less traffic than the Project, the CO emissions would not be as significant. Regardless, for both the Project and the Reduced Intensity Alternative, CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards, resulting in less-than-significant impacts. (LTS)

Exposure to Objectionable Odors. Potential odor sources during construction include diesel exhaust from heavy-duty equipment. Construction-related operations near existing receptors would be temporary in nature, and construction activities would not be likely to result in nuisance odors that would violate BAAQMD Regulation 7 (Odorous Substances). Potential odor sources from operation of both the Project and the Reduced Intensity Alternative would include diesel exhaust from landscaping equipment and emergency generators during routine maintenance. The odor impacts during operation would be limited and infrequent. Since there would be no change in land use under the Reduced Intensity Alternative compared to the Project, the same less-than-significant impacts would occur. (LTS)

Cumulative Impacts. Implementation of the Project or the Reduced Intensity Alternative, in combination with other cumulative development in the City, would not conflict with or obstruct implementation of the applicable air quality plan, resulting in a cumulatively significant impact. Additionally, the Project and the Reduced Intensity Alternative, in combination with other development within the City, would be consistent with the Ozone Attainment Plan and the Clean Air Plan. This would be a less-than-significant cumulative impact.

However, similar to the Project, the Reduced Intensity Alternative, in combination with the Tier 1 and Tier 2 Projects within the City, would result in a cumulatively significant impact for NO_X. This is considered cumulatively significant according to BAAQMD's significance thresholds when a project exceeds the BAAQMD's project mass emission threshold for criteria air pollutants. Because no feasible mitigation has been identified for the Project or for the Reduced Intensity Alternative, the impact for NO_X emissions is therefore significant and unavoidable. (SU)

Greenhouse Gas Emissions

GHG Emissions during Project Construction. Construction of the Reduced Intensity Alternative would generate emissions of carbon dioxide (CO_2), methane (CH_4), and nitrogen oxides (NOx) from mobile and stationary construction equipment exhaust, and employee and haul truck vehicle exhaust. Although the construction period could be shorter for this alternative due to less building area, the intensity of construction activities at a given time would be similar to the Project. BAAQMD's CEQA Guidelines do not recommend a GHG emission threshold for construction-related emissions; therefore, construction of the Reduced Intensity Alternative would not exceed thresholds. However, the Guidelines recommend implementation of BMPs to help control and reduce GHG emissions. Therefore, as with the Project, the construction of the Reduced Intensity Alternative is considered less than significant with implementation of Mitigation Measure GHG-1.1. (PS/LTS)

GHG Emissions during Project Operation. Operation of the Reduced Intensity Alternative would generate fewer direct and indirect GHG emissions than the Project due to a decrease in building area and employees. As a result, this alternative would result in fewer vehicle trips, and less electricity generation and consumption, waste and wastewater generation, and water use. However, the Reduced Intensity Alternative would still generate an increase in direct and indirect GHG emissions over existing conditions. Sources of direct emissions include mobile vehicle trips, natural gas combustion, and landscaping activities. Regardless, since the Project would not generate GHG emissions above the BAAQMD threshold, the Reduced Intensity Alternative would also result in less-than-significant impacts. (LTS)

Conflicts with Applicable GHG Emission Plans, Policies, and Regulations. As with the Project, the Reduced Intensity Alternative would not pose any explicit conflict with the applicable list of Air Resources Board (ARB) GHG reduction strategies outlined in the Climate Change Scoping Plan designed to meet the objectives of AB 32 to reduce GHG emissions to 1990 levels by 2020. Since the Reduced Intensity Alternative would be developed to a lesser extent than the Project, this alternative would also be consistent with and would not conflict with a variety of General Plan policies or strategies in the City's Climate Action Plan. The Reduced Intensity Alternative, similar to the Project, would also implement several GHG reduction measures and comply to with 2013 Energy Codes. Therefore, the Reduced Intensity Alternative's impact relative to conflicts with applicable Plans and Policies would be less than significant. (LTS)

Exposure of Property and People to Climate Change. The northern portion of the Jefferson Site would be potentially subject to inundation by mid-century sea level rise. However, the buildings at the Commonwealth Site are outside the mid-century sea level rise inundation zone. Moreover, the Reduced Intensity Alternative, like the Project, would incorporate designs to reduce exposure of property or persons to the potential effects of climate change. Consequently, the impact of climate change on the Reduced Intensity Alternative and the Project is considered less than significant. (LTS)

Noise

Substantial Temporary or Periodic Increase in Noise Levels. Construction would require the use of heavy equipment that would temporarily increase noise levels at properties near the work sites. Although the Reduced Intensity Alternative would result in less building area and, therefore, potentially shorter construction periods, noise levels at a given time during construction would be similar to the levels expected under the Project. Due to distance, construction noise impacts on nearby sensitive receptors such as residences to the south of US 101 and the Beechwood School, would be less than significant. However, demolition of the existing buildings, which would occur with both the Project and the Reduced Intensity Alternative, would exceed the Noise Ordinance limit, resulting in potentially significant impacts on the adjacent commercial and office uses. Implementation of Mitigation Measure NOI-1.1, as required for the Project, would reduce construction noise impacts of the Reduced Intensity Alternative to less than significant. (PS/LTS)

Exposure of Onsite Users to Excessive Noise Levels. Vehicular traffic on US 101 is the primary source of noise at the Project site. Although the proposed buildings under the Reduced Intensity Alternative would be three stories compared to four stories under the Project, these buildings would still provide acoustical shielding of the proposed outdoor buildings. In addition to building and open space setbacks, the resulting noise conditions would be quieter than existing conditions. Therefore, traffic noise levels at the Project site under the Reduced Intensity Alternative would be less than significant, similar to under the Project. (LTS)

Exposure of Sensitive Receptors to Excessive Noise Levels. Operation of the Reduced Intensity Alternative would consist of typical office operations, such as stationary mechanical equipment, parking lot activities, truck loading activities, and traffic noise from building reflection. Since this alternative would result in less building space, employment, parking, and vehicle trips than the Project, it is expected that the operational noise would be slightly less than under the Project. Additionally, the buildings would not be as tall as the Project buildings (46 feet compared to 61 feet), resulting in less noise reflection from the proposed buildings. Since the Project would result in less-than-significant operational noise impacts, and the Reduced Intensity Alternative would result in a reduction of operational activities, this impact would also be less than significant. (LTS)

Substantial Temporary or Periodic Increase in Vibration Levels. The operation of heavy construction equipment can generate localized ground-borne vibration and noise at buildings adjacent to the construction site. Since the Reduced Intensity Alternative, like the Project, would not involve pile driving activities, no damage to surrounding buildings is expected. However, because of the nature of the businesses that are present in the vicinity, these uses may include vibration-sensitive equipment. As mentioned above, although the construction period could be shorter for this alternative due to less building area, the intensity of construction activities at a given time would be similar to the Project. Therefore, the ground-borne vibration levels from operation of heavy construction equipment could also exceed the threshold, resulting in a potentially significant impact. Implementation of Mitigation Measures NOI-4.1 and NOI-4.2, as required for the Project, would help reduce impacts on buildings with vibration-sensitive equipment. However, although implementation of these measures would reduce ground-borne vibration impacts during construction of the Reduced Intensity Alternative, vibration-sensitive equipment at adjacent office buildings could still be exposed to excessive construction-generated vibration levels. Therefore, as with the Project, this impact is considered to be significant and unavoidable. (SU)

Cumulative Impacts. Cumulative noise impacts would be similar under this alternative as compared to the Project. None of the cumulative projects, with the exception of the Dumbarton Rail Corridor Project, are located within 300 feet of the Project site. However, the Dumbarton Rail Corridor Project is in the preliminary stages of planning and would not be constructed at the same time as the Project. Therefore, operational and construction noise generated by the Reduced Intensity Alternative and the Project would not result in a cumulatively considerable impact. (LTS)

Cultural Resources

Impacts on Historic Resources. The Reduced Intensity Alternative would demolish the existing structures at the Project site. However, as with the Project, the Reduced Intensity Alternative would not cause a substantial adverse change in the significance of a historic resource because none of the existing buildings are considered historic. Therefore, like the Project, the Reduced Intensity Alternative would result in a less-than-significant impact on historic resources. (LTS)

Impacts on Archaeological Resources. Although no archaeological resources were identified in or adjacent to the Project site, three prehistoric sites have been recorded within 0.5 mile of the Project site. As such, due to ground-disturbing activities during construction, the Reduced Intensity Alternative has the potential to encounter previously undiscovered archaeological resources during construction. However, as with the Project, implementation of Mitigation measure CUL-2.1 would reduce the impact to less than significant. (PS/LTS)

Impacts on Paleontological Resources. The Reduced Intensity Alternative has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Impacts on paleontological resources would depend on the depth, extent, and type of soil-disturbing activities that may occur as a result of construction, as well as the paleontological sensitivity of the materials underlying the site. Construction activities under the Reduced Intensity Alternative would be similar to the Project. As such, this alternative could expose undisturbed deposits that may contain fossils, resulting in a potentially significant impact. However, Mitigation Measure CUL-3.1, as required for the Project, would reduce this impact to less than significant. (PS/LTS)

Impacts on Human Remains. Although the Northwest Information Center background records search did not identify any human remains in or adjacent to the Project site, at least one human burial has been identified within 0.5 mile of the Project site. Therefore, the potential may exist for previously undiscovered human remains to be encountered during construction of the Reduced Intensity Alternative. However, Mitigation Measure CUL-4.1 would reduce the impact to less than significant. (PS/LTS)

Cumulative Impacts. Because all historical resources are unique and nonrenewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. For this reason, the cumulative effects of development in the region on historical resources are considered significant. However, since the existing buildings at the Project site are not considered historic, the Reduced Intensity Alternative would not contribute to any potential cumulative impact on historical resources. Given that known prehistoric resources have been identified within 0.5 mile of the Project site, there is the possibility that previously undiscovered archaeological resources, paleontological resources, and human remains, could be encountered during construction. All significant archaeological resources, paleontological resources, and human remains are unique and nonrenewable resources. For this reason, the cumulative effects of all development on these resources are considered potentially significant. However, compliance with Mitigation Measures CUL-2.1, CUL-3.1, and CUL-4.1 would reduce the

Reduced Intensity Alternative's contribution to the cumulative impact to less than cumulatively considerable and would reduce the potentially significant cumulative impacts associated with the loss of archaeological and paleontological resources and the disturbance of human remains to a less-than-significant level, similar to the impacts Project. (PS/LTS)

Geology and Soils

Strong Seismic Groundshaking and Seismic-Related Ground Failure. The Reduced Intensity Alternative would construct two buildings totaling approximately 194,940 sf. This new development would expose approximately 975 new workers to groundshaking. The risks to public safety from seismic hazards can be mitigated to the extent required by law with implementation of the proper design and construction methods, which would be within the responsibility of the City and the Project Sponsor to monitor and enforce through its building permit process. In addition, the City, along with other Bay Area jurisdictions, participates in a coordinated planning and emergency response program, and has its own Emergency Operation Plan to respond to natural disasters. Consequently, the Reduced Intensity Alternative, as with the Project, would not have a significant adverse impact with regard to exposure of people or structures to damage resulting from seismic groundshaking or liquefaction-related hazards. Therefore, impacts are considered less than significant. (LTS)

Soil Erosion. The Project site is nearly level and would not involve development on hillsides that would involve cut-and-fill. Thus, there would be no topographic changes that could alter erosion potential. However, development of the Project site under the Reduced Intensity Alternative would involve grading to construct building foundations and trenching for utility installations. Some minor modifications to allow additional roadway access points would also be implemented. These construction activities could temporarily expose soils to erosive effects from stormwater runoff. Similar to the Project, compliance with City requirements and the CBC, which are within the authority of the City to enforce and monitor, would ensure that erosion impacts resulting from Project construction would be less than significant. (LTS)

Soil Hazards. The preliminary geotechnical investigation anticipates differential settlement at the Project site resulting from seismically induced liquefaction. If the two buildings proposed with the Reduced Intensity Alternative are improperly designed and constructed, differential settlement could undermine structural foundations, potentially exposing people onsite to increased safety risks. Adherence to the soil and foundation support parameters of the City Building Code, as required by City and State law, would ensure the maximum practicable protection available from soil failures under static or dynamic conditions for structures and their associated trenches and foundations. With implementation of the Reduced Intensity Alternative although fewer people would be exposed to soil related hazards than with the Project the Project Sponsor would be required to incorporate these recommendations into Project design. Therefore, as with the Project, hazards related to unstable geologic or soil units are considered less than significant. (LTS)

Expansive Soil. The preliminary geotechnical investigation for the Project site indicates that soils are expected to have a moderate to high shrink-swell potential. Structural damage, warping, and cracking of roads, driveways, parking areas, and sidewalks, and rupture of utility lines may occur if the potential for expansive soils and the nature of the imported fill are not considered during design and construction of the Reduced Intensity Alternative. As with the Project, adherence to the soil and foundation support parameters of the City Building Code, as required by City and state law, would ensure the maximum practicable protection available from soil failures under static or dynamic conditions for structures and

their associated trenches and foundations. Therefore, similar to the Project, the Reduced Intensity Alternative would result in less-than-significant impacts related to expansive soils. (LTS)

Cumulative Impacts. Soil and geologic conditions are site-specific and there is little, if any, cumulative relationship between the Project site and other areas in the City. As such, the potential for cumulative impacts to occur is geographically limited for many geology and soils impact analyses. The Reduced Intensity Alternative would have a less-than-significant potential to cause cumulatively substantial erosion or siltation. Construction and operational activities embodied in the Reduced Intensity Alternative would be subject to the same regulations as the Project. Consequently, cumulative impacts would be less than significant. (LTS)

Hydrology and Water Quality

Violation of Water Quality Standards or Waste Discharge Requirements. Implementation of the Reduced Intensity Alternative, like the Project, would include construction activities, which would disturb land and place stockpiles within proximity to storm drain inlets. This could result a temporary increase in sediment loads to the Lower San Francisco Bay. Sediment transport to local drainage facilities could also result in reduced storm flow capacity, resulting in localized ponding or flooding during storm events. All Project construction activities would be subject to existing regulatory requirements. All construction activities would comply with the General Construction Permit from the San Francisco Bay Regional Water Board, which contains standards to ensure that water quality is not degraded. Because the Reduced Intensity Alternative, similar to the Project would be in compliance with the General Construction Permit, local stormwater ordinances, and other related requirements, potential water quality impacts during construction would be less than significant.

As with the Project, up to eight stormwater treatment areas would be located throughout the Project site in order to limit stormwater runoff and provide for biotreatment of contaminants. In addition, the Reduced Intensity Alternative would result in increased pervious surfaces over existing conditions and the Project. Since less parking would be required with this alternative compared to the Project due to a decrease in building area, these paved surfaces under the Project would instead consist of pervious landscaped areas. As such, the Reduced Intensity Alternative would result in a net decrease in the amount of runoff leaving the Project site and thus, a reduced volume of potential contaminated runoff. The Reduced Intensity Alternative, as with the Project, would be in compliance with the San Francisco Bay Region MS4 Permit, San Mateo Countywide Stormwater Pollution Prevention Program, and local stormwater ordinances. Therefore, potential water quality impacts would be less than significant. (LTS)

Effects on Groundwater Supplies and Recharge. The majority of the water supplied to the Project site is from surface water sources and this would not change during or following implementation of the Reduced Intensity Alternative. Construction of this alternative, similar to the Project, would not require dewatering activities, resulting in no potential for reducing the volume of water in the local aquifer table. As with the Project, the Reduced Intensity Alternative would increase pervious service area; therefore, an increase in groundwater recharge would occur. However, the Reduced Intensity Alternative would include slightly more pervious surfaces than the Project since less parking would be required, furthering the groundwater recharge potential. Therefore, effects of the Reduced Intensity Alternative on groundwater supplies and recharge would result in a less-than-significant impact like the Project. (LTS)

Changes to the Existing Drainage Patterns. Construction activities under the Reduced Intensity Alternative would alter existing drainage patterns and could result in local (onsite) and temporary erosion and siltation. However, although drainage patterns on the Project site would be altered, drainage would ultimately be improved because implementation of the Reduced Intensity Alternative would result in increased pervious area over existing conditions and Project conditions that would further minimize runoff volumes and the potential for ponding and other drainage issues onsite. In addition to increased pervious area, surface runoff from the Project site would be collected into a combination of new and existing storm drain inlets and pipes and a portion required for stormwater treatment would be directed to pumps, which would ultimately be pumped to the biotreatment areas located throughout the site. Therefore, similar to the Project, the Reduced Intensity Alternative would not result in flooding onsite or offsite due to altered existing drainage patterns. Impacts would be less than significant. (LTS)

Changes to Stormwater Runoff. As with the Project, the Reduced Intensity Alternative would result in the reduction of the total stormwater runoff rate for a 10-year storm event compared to existing conditions. This alternative would have larger landscaped areas relative to existing conditions and the Project and biotreatment measures would be incorporated. Therefore, runoff water from the Project site would not exceed the capacity of existing or planned stormwater drainage systems. Further, the Reduced Intensity Alternative would adhere to all applicable federal, state, and local requirements associated with stormwater runoff. Impact would be less than significant, similar to the Project. (LTS)

Degradation of Water Quality. The groundwater table is relatively shallow at the Project site, and pollutants associated with construction activities (e.g., fuel, petroleum products) could migrate or percolate into the groundwater and contribute to degradation of the local groundwater aquifer. However, implementation of construction Best Management Practices (BMPs) such as spill prevention and good housekeeping (e.g., proper storage, handling and disposal of construction-related materials) would be included in the Stormwater Pollution Prevention Plan (SWPPP) and would prevent significant impacts on groundwater quality during construction. Reduced Intensity Alternative, as with the Project, would not violate any water quality standards or waste discharge requirements as a result of construction or operation and maintenance. Therefore, this alternative would not substantially degrade water quality, resulting in a less-significant impact. (LTS)

Impacts from Flooding. The Reduced Intensity Alternative would add approximately 975 employees to the Project site, which has the potential to expose additional people to flooding. However, the Project site is not within a Federal Emergency Management Agency (FEMA)-designated special flood hazard area for a 100-year flood. The majority of the Project site (the portion that is currently the Commonwealth Site) is in an area designated as one of minimal flood risk with a portion of the Jefferson Site in an area of moderate flood risk. The Reduced Intensity Alternative would result in a decrease in impervious surface area compared to existing conditions and Project conditions. As such, this would ultimately reduce the potential for moderate flood risks associated with low flood elevations and ponding throughout the Project site. Similar to the Project, impacts related to flooding would be less than significant. (LTS)

Cumulative Impacts. The Reduced Intensity Alternative would result in the same hydrology, or slightly fewer, impacts as the Project. Cumulative impacts under the Project, including storm drain impacts, flooding and sea level rise, water quality, and groundwater supplies and recharge would result in less than cumulatively considerable impacts. As such, the Reduced Intensity Alternative would result in the same less than cumulatively considerable impacts as the Project. (LTS)

Hazards and Hazardous Materials

Routine Hazardous Materials Use. As with the Project, the Reduced Intensity Alternative would be required to comply with mandatory hazardous materials regulations and SWPPP requirements. Project construction would involve routine transport, use, and disposal of hazardous materials such as solvents, paints, oils, grease, and caulking. Compliance with applicable regulations would ensure that potential releases from the transport and use or disposal of hazardous materials during Reduced Intensity Alternative construction activities would be reduced to a less-than-significant level, similar to the Project.

During operation, it is anticipated that the Reduced Intensity Alternative would involve use of hazardous materials typical of office uses (solvents, cleaning agents, paints, petroleum fuels, propane, batteries, etc.). Project operation may also involve use of hazardous materials typical of biotech and other research and development facilities. Use, storage, and disposal of these materials would be regulated according to federal and state regulations and guidelines, the intent of which is to minimize the risk of upset. Therefore, the risk of accidental explosion or release of hazardous materials that could create a health hazard with the implementation of the Reduced Intensity Alternative is low, and impacts would be less than significant, as with the Project. (LTS)

Accidental Release of Hazardous Materials. The Reduced Intensity Alternative would result in the same accidental release potential of hazardous materials as the Project. Implementation of the Reduced Intensity Alternative could expose people and the environment to residual contaminants in soil and/or groundwater if measures are not implemented to control unintentional or inadvertent releases. The Commonwealth Site is known to contain soil contaminated with petroleum hydrocarbons from a diesel release. Both the Commonwealth Site and the Jefferson Site are sited on fill materials that may contain naturally occurring asbestos. As with the Project, the Reduced Intensity Alternative would develop the Project site and would disturb soil during construction, which could generate dust containing residual soil contaminates. In addition, demolition of the buildings could disturb the existing hazardous building materials, such as asbestos and polychlorinated biphenyls (PCB) ballasts in fluorescent lights. This could cause adverse health or safety effects on construction workers, the public, and/or the environment if appropriate hazardous materials surveys and safety precautions are not taken.

Soil movement during construction of the Reduced Intensity Alternative could also expose ecological receptors to residual contaminants in soil and/or groundwater if measures are not implemented to control contaminants. Because residual hydrocarbon contaminants remain in soil, onsite soil movement during construction could provide a new potential pathway through which wildlife species could be exposed to contaminants in soil or fill material, resulting in a potentially significant impact. However, as with the Project, implementation of Mitigation Measures HAZ-2.1 and HAZ-2.2 would reduce the impacts on human populations and ecological systems to a less-than-significant level. (PS/LTS)

Exposure to Schools. The Reduced Intensity Alternative, like the Project, could emit hazardous emissions or involve the handling of hazardous materials within 0.25 mile of existing schools. The closest school is Beechwood School, located approximately 0.12 mile from the Project site. Construction of this alternative would disturb and release hazardous materials, resulting in a potentially significant impact on the sensitive receptors at the school. However, as with the Project, implementation of Mitigation Measures HAZ-2.1 and HAZ-2.2would reduce the impact to less than significant. (PS/LTS)

Impairment of Emergency Access or Emergency Plans. As discussed in Section 3.3, Transportation and Traffic, the Project would increase traffic in the vicinity of the Project site. The Reduced Intensity Alternative would also increase traffic, but to a lesser extent than the Project due to the associated 25

percent reduction in daily trips. Emergency access to the Project site would be provided from both access points at Commonwealth Drive and Jefferson Drive. Implementation of the Reduced Intensity Alternative would not impede emergency access routes and would continue to maintain the existing City grid system. As such, implementation of the Reduced Intensity Alternative would not physically interfere with the City's 2011 Emergency Operation Plan. Therefore, a less-than-significant impact would occur, similar to the Project. (LTS)

Cumulative Impacts. All cumulative impacts of the Project would be less than cumulatively considerable with implementation of the mitigation measures for the Project. Since the Reduced Intensity Alternative would develop the Project site similar to the Project and would disturb the same amount of soil, this alternative would have the same cumulative impacts. Development of the Project Site and other cumulative development could expose people or the environment to residual contaminants in soil and/or groundwater if measures are not implemented to control unintentional or inadvertent releases. Development of the Reduced Intensity Alternative and other cumulative development could also expose people to asbestos, lead, PCBs, or other hazardous materials in existing buildings that may be demolished, renovated, or rehabilitated if measures are not implemented to control unintentional or inadvertent releases. However, implementation of the mitigation measures proposed for the Project, and compliance with current regulatory standards, would reduce the cumulative impacts to less than significant. (LTS)

Population and Housing

Population Increases. The Reduced Intensity Alternative would not include development of new housing units. However, as with the Project, there would be a population increase associated with new employment during operation this alternative. Approximately 975 new employees would be employed at the Project site as a result of the Reduced Intensity Alternative. This would be an increase compared to the 30 workers currently employed at the site but would be less than the anticipated 1,300 employees under the Project.

The increase in employment would result in a demand for new housing units and an indirect increase in the residential population. Assuming that 7.8 percent of employees would live in the City, the Reduced Intensity Alternative would result in approximately 76 new households within Menlo Park. With a persons per household (pph) ratio of 2.57, this alternative would result in the increase of approximately 195 new residents compared to the 262 new residents under the Project. Therefore, this alternative represents only a portion of the net population increase expected for the Project, which would have a less-than-significant impact. Similar to the Project, the percentage of regional housing demand resulting from the Reduced Intensity Alternative would be relatively small in comparison with projected housing growth in the region. As such, the impact of the Reduced Intensity Alternative would be less than the Project and would remain less than significant. (LTS)

Cumulative Impacts. This alternative, in combination with other projected growth in the City, would increase population, employment, and housing in the City. The contribution of the Reduced Intensity Alternative to any cumulative increase in employment would not result in direct adverse impact, resulting in a less than cumulatively considerable impact, as with the Project. (LTS)

Public Services

Police Impacts. Like the Project, the Reduced Intensity Alternative would require an increased level of police services due to increased employment and onsite activity. With more onsite activity, there could be more incidents requiring police response. However, the increased level of police services would not be large enough to trigger the need for construction of new or expanded facilities that could adversely affect the physical environment or affect human health and safety. This alternative's impacts regarding police services would be less than the Project, but would remain less than significant. (LTS)

Fire Impacts. Similar to the Project, the Reduced Intensity Alternative would require an increased level of fire services due to increased employment and onsite activities over existing conditions. With more onsite activity there could be more incidents requiring fire department response. As with the Project, this alternative would require additional staff to serve the increased activity at the Project Site. However, the increased level of fire services would not be large enough to trigger the need for construction of new or expanded facilities that could adversely affect the physical environment or affect health and safety. This alternative's impacts on fire services would be less than the Project, but would remain less than significant. (LTS)

School Impacts. This alternative would not involve the construction of new residential units in the City and, therefore, would not directly generate students. Nonetheless, this alternative would generate student demand from the induced housing demand caused by increased employment at the Project site. Approximately 76 new households could live in the City as a result of the Reduced Intensity Alternative. However, as with the Project, impacts from the indirectly generated students would be mitigated by the payment of the school impact fees established by SB 50 by the Project Sponsor and any subsequent residential projects as a result of this alternative. The Reduced Intensity Alternative's impacts regarding schools would be less than the Project, but would remain less than significant. (LTS)

Recreational Impacts. As with the Project, the Reduced Intensity Alternative would provide onsite amenities to the employees such as a lawn, active recreation space, and picnic tables. These proposed features would reduce the likelihood of employees utilizing or overburdening City facilities. This alternative would add approximately 975 new employees to the area. Although the number of employees would increase, it is likely that these employees would mainly use the onsite facilities during work hours rather than the neighboring City parks. Although the residential population in the City would increase as a result of the Reduced Intensity Alternative, there are no capacity issues and the existing facilities would be able to accommodate the increase in residents. In addition, the Project would be subject to the City's property taxes that finance the maintenance of City parks. The Project would not trigger the need for the construction or expansion of parks or other recreational facilities. This alternative's impacts regarding recreation would be less than the Project, but would remain less than significant. (LTS)

Library Impacts. The Reduced Intensity Alternative would add employees to the Project site who could use the City's libraries. However, it is expected that the existing libraries in the City would be able to accommodate an increase in employment at the Project site and the associated increase in residents. This alternative's impacts regarding libraries would be less than the Project, but would remain less than significant. (LTS)

Cumulative Impacts. As discussed in Section 3.12, *Public Services*, cumulative impacts with respect to police, fire protection, schools, recreational facilities, and libraries would be less than significant. Because this alternative would involve fewer employees compared to the Project, cumulative impacts would also be less than significant. (LTS)

Utilities and Service Systems

Water Supply. Implementation of the Reduced Intensity Alternative would result in approximately 325 fewer employees than the Project. As such, the water demand with implementation of the Reduced Intensity Alternative would be less than the approximately 21 acre-feet per year (AFY) of water demand at full buildout of the Project. Under the Project, the Menlo Park Municipal Water District (MPMWD) would have an adequate supply to meet its projected demands in normal and single dry years. As such, since the Reduced Intensity Alternative would demand less water than the Project, implementation of this alternative would have a less-than-significant impact on water supplies in MPMWD's service area and expansion of existing facilities or entitlements would not be necessary. (LTS)

Impacts on Water Treatment Facilities. As described above, implementation of the Reduced Intensity Alternative would not require expansion of the existing water treatment facilities serving MPMWD. Further, MPMWD has sufficient capacity under normal year conditions to accommodate the water demands of the Project within its Individual Supply Guarantee (ISG). As such, since the Reduced Intensity Alternative would include fewer employees at the Project site than the Project, this alternative would not require MPMWD to acquire additional water supplies. The San Francisco Public Utilities Commission (SFPUC) has sufficient capacity in its water treatment facilities to deliver treated water to its customers. Therefore, implementation of the Reduced Intensity Alternative would not require the expansion of existing water treatment facilities or the construction of new facilities, similar to the Project. This alternative would have a less-than-significant impact related to water treatment facilities. (LTS)

Wastewater Generation. It is estimated that 100 percent of indoor Project water demand would become wastewater conveyed to the South Bayside System Authority (SBSA) Regional Treatment Plant. Implementation of the Project would result in the generation of approximately 21 AFY of wastewater associated with indoor uses. Although the Reduced Intensity Alternative would include fewer employees at the Project site compared to the Project, wastewater generation would still increase over existing conditions, just to a lesser extent than the Project. Wastewater discharge from the Project site would constitute less than one percent of West Bay Sanitary District (WBSD) current capacity. Therefore, WBSD's available capacity entitlements from SBSA would be sufficient to accommodate the projected wastewater flow that would result from implementation of the Project. Because the SBSA Regional Treatment Plant would have adequate capacity to process the wastewater generated from the Project, implementation of the Project would not exceed the wastewater treatment requirements of the San Francisco Bay Regional Water Board. The Reduced Intensity Alternative would not require the expansion or construction of new wastewater facilities. As such, similar to the Project, the Reduced Intensity Alternative would result in less-than-significant impacts. (LTS)

Solid Waste Generation. At full buildout and occupancy, the Project would generate approximately 355.6 tons of solid waste per year, or approximately 0.97 tons per day. Since the Reduced Intensity Alternative would include approximately 325 fewer employees than the Project, solid waste generation would be less under this alternative. The solid waste facilities that would serve the Project have sufficient remaining capacity to accommodate the Project. Therefore, the solid waste facilities that would serve the Project site would be sufficient to accommodate the Reduced Intensity Alternative. This alternative would not contribute to the need to expand existing or construct new solid waste disposal facilities. Since the Reduced Intensity Alternative would involve less development than the Project, this alternative would also result in less-than-significant impacts related to solid waste generation. (LTS)

Stormwater Generation. With implementation of the Reduced Intensity Alternative, the increased employee density and Project site development, compared to existing conditions, would not result in adverse impacts on the City's storm drain system. Further, implementation of this alternative would adhere to provisions included in the Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit and the City's grading and drainage policies, which regulate the quantity of stormwater runoff from new development, specifically prohibiting a net increase in the rate of runoff from new development. No new facilities would be required. Therefore, as with the Project, implementation of the Reduced Intensity Alternative would have a less-than-significant impact on the City's storm drain system. (LTS)

Energy Demand. The Reduced Intensity Alternative would use slightly less energy than the Project due to the decrease in the number of employees at the Project site. Implementation of the Project would result in less-than-significant impacts on existing electricity and natural gas supply and associated infrastructure. Since the Reduced Intensity Alternative would demand fewer gas and electric services due to fewer employees and less building area, this alternative would result in an even greater reduction. Because the Reduced Intensity Alternative would be served by Pacific Gas and Electric (PG&E) and would result in substantial per capita energy reductions, impacts related to electricity and natural gas supply would be less than significant, similar to the Project. (LTS)

Cumulative Impacts. As discussed in Section 3.13, Utilities, the City's water, stormwater drainage, and solid waste facilities have sufficient capacity to serve the cumulative development of the City. The City and its service providers would have adequate supplies to meet customer demand until 2035, including the demand of the Project combined with existing and planned future uses. Since the Reduced Intensity Alternative would use less water and energy and generate less wastewater, stormwater, and solid waste than the Project, which would not be cumulatively considerable. (LTS)

Biological Resources

Impacts on Special-Status Species. Pallid bats, hoary bats, and other potential crevice-roosting bat species are the only mammal species that could occur in the vicinity of the Project site. Since the Reduced Intensity Alternative would have the same building footprint as the Project, the same amount of trees would be removed (approximately 44 of the 45 existing trees). In addition, the Reduced Intensity Alternative would demolish all existing buildings. Removal of trees and removal of or modification to buildings containing active bat roots, particularly during the nesting season (typically April through August), could result in the loss of individual bats, bat colonies, or their habitat. However, implementation of Mitigation Measure BIO-1.1 would identify and protect roosting and breeding bats on the Project Site, reducing the potentially significant impact to less than significant. The same impacts would occur with implementation of the Reduced Intensity Alternative as under the Project. (PS/LTS)

Impacts on Nursery Sites. Existing shrubs and trees on the Project site could provide nesting habitat for a variety of native migratory birds. With implementation of the Reduced Intensity Alternative, as with the Project, the existing buildings at the Project site would be demolished, existing landscaping removed, and the site would be developed with new buildings and landscaping. If nesting migratory birds are present (i.e., nests containing eggs or youths), tree and shrub removal associated with the redevelopment of the Project site could result in the loss of those birds caused by the direct mortality of adult or young birds, nest destruction, or disturbance of nesting native migratory bird species. However, implementation of Mitigation Measure BIO-2.1 would require pre-construction surveys for nesting migratory birds. As with the Project, the Reduced Intensity Alternative would result in less-than-significant impacts with implementation of this mitigation measure. (PS/LTS)

Indirect Impacts on Special-Status Species Inhabiting Nearby Salt Marshes. The buildings and trees added as a result of the Reduced Intensity Alternative could serve as new or additional perching or nesting opportunities that could increase predation by raptors or other predatory birds on special-status species in the nearby salt marshes. However, raptors or other predatory birds would have no direct line of sight from which to prey on special-status species in the nearby salt marshes. Therefore, like the Project, the Reduced Intensity Alternative would result in less-than-significant impacts on special-status species in nearby salt marshes. (LTS)

Loss of Riparian, Wetlands, and Other Habitats. Based a field survey and existing conditions, no riparian habitat or natural plant communities are present within the boundaries of the Project site. Although salt marshes occur within 0.25 miles to the north, the Project site is separated from these marshes by developed land. Since all construction and operational activities would occur with the Project site boundaries, the Reduced Intensity Alternative, as with the Project, would result in less-than-significant impacts. (LTS)

Conflicts with any Local Policies or Ordinances. The Reduced Intensity Alternative would remove 44 of the existing 45 trees, like the Project. Removal of these trees would be required to adhere to the City's Municipal Code and the Heritage Tree Ordinance. Therefore, the Reduced Intensity Alternative would not conflict with any local policies protecting biological resources and would result in the same less-than-significant impacts as the Project. (LTS)

Cumulative Impacts. As discussed in Section 3.14, *Biological Resources*, cumulative impacts with respect to biological resources would be less than significant with the implementation of Mitigation Measures BIO-1.1 and BIO-2.1. Because this alternative would involve the same amount of tree removal, building demolition, and building footprint impacts as the Project, the same less than cumulatively considerable impacts would occur. (LTS)

4.6 Comparison of Impacts

Table 4-3. Comparison of Impacts among Project Alternatives

Environmental Issue	Project	No Project Alternative	Reduced Intensity Alternative
Land Use			
Conflicts with Adopted Land Use Plans and Policies	LTS	LTS	LTS
Cumulative Impacts	LTS	LTS	LTS
Aesthetics			
Degradation of Visual Character or Quality	LTS	NI	LTS
New Sources of Light and Glare	PS/LTS	NI	PS/LTS
Cumulative Impacts	LTS	NI	LTS
Transportation			
Impacts on Intersections	SU	NI	SU
Impacts on Roadway Segments	SU	NI	SU
Impacts on Routes of Regional Significance	SU	NI	SU
Impacts on Local Transit Systems	LTS	NI	LTS
Impacts on Local Bicycle and Pedestrian Facilities	LTS	NI	LTS

Table 4-3. Comparison of Impacts among Project Alternatives

Environmental Issue	Project	No Project Alternative	Reduced Intensity Alternative
Cumulative Impacts	SU	NI	SU
Air Quality			
Conflict with or Obstruct Implementation of the Applicable Air Quality Plan	LTS	NI	LTS
Violation of Any Air Quality Standard During Construction	SU	NI	SU
Violation of Any Air Quality Standard During Operation	LTS	NI	LTS
Exposure to DPM Concentrations	LTS	NI	LTS
Exposure to CO Concentrations	LTS	NI	LTS
Exposure to Objectionable Odors	LTS	NI	LTS
Cumulative Impacts	SU	NI	SU
Greenhouse Gas Emissions			
GHG Emissions During Project Construction	PS/LTS	NI	PS/LTS
GHG Emissions During Project Operation	LTS	NI	LTS
Conflicts with Applicable GHG Emission Plans, Policies, and Regulations	LTS	NI	LTS
Exposure of Property and People to Climate Change	LTS	NI	LTS
Noise			
Substantial Temporary or Periodic Increase in Noise Levels	PS/LTS	NI	PS/LTS
Exposure of Onsite Users to Excessive Noise Levels	LTS	NI	LTS
Exposure of Sensitive Receptors to Excessive Noise Levels	LTS	NI	LTS
Substantial Temporary or Periodic Increase in Vibration Levels	SU	NI	SU
Cumulative Impacts	LTS	NI	LTS
Cultural Resources			
Impacts on Historic Resources	LTS	NI	LTS
Impacts on Archaeological Resources	PS/LTS	NI	PS/LTS
Impacts on Paleontological Resources	PS/LTS	NI	PS/LTS
Impacts on Human Remains	PS/LTS	NI	PS/LTS
Cumulative Impacts	PS/LTS	NI	PS/LTS
Geology and Soils			
Strong Seismic Groundshaking and Seismic-Related Ground Failure	LTS	NI	LTS
Soil Erosion	LTS	NI	LTS
Soil Hazards	LTS	NI	LTS
Expansive Soil	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS
Hydrology and Water Quality			
Violation of Water Quality Standards or Waste Discharge Requirements	LTS	NI	LTS
Effects on Groundwater Supplies and Recharge	LTS	NI	LTS

Table 4-3. Comparison of Impacts among Project Alternatives

Environmental Issue	Project	No Project Alternative	Reduced Intensity Alternative
Changes to the Existing Drainage Patterns	LTS	NI	LTS
Changes to Stormwater Runoff	LTS	NI	LTS
Degradation of Water Quality	LTS	NI	LTS
Impacts from Flooding	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS
Hazards and Hazardous Materials			
Routine Hazardous Materials Use	LTS	NI	LTS
Accidental Release of Hazardous Materials	PS/LTS	NI	PS/LTS
Exposure to Schools	PS/LTS	NI	PS/LTS
Impairment of Emergency Access or Emergency Plans	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS
Population and Housing			
Population Increase	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS
Public Services			
Police Impacts	LTS	NI	LTS
Fire Impacts	LTS	NI	LTS
School Impacts	LTS	NI	LTS
Recreational Impacts	LTS	NI	LTS
Library Impacts	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS
Utilities and Service Systems			
Water Supply	LTS	NI	LTS
Impacts on Water Treatment Facilities	LTS	NI	LTS
Wastewater Generation	LTS	NI	LTS
Solid Waste Generation	LTS	NI	LTS
Stormwater Generation	LTS	NI	LTS
Energy Demand	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS
Biological Resources			
Impacts on Special-Status Species	PS/LTS	NI	PS/LTS
Impacts on Nursery Sites	PS/LTS	NI	PS/LTS
Indirect Impacts on Special-Status Species Inhabiting Nearby Salt Marshes	LTS	NI	LTS
Loss of Riparian, Wetlands, and Other Habitats	LTS	NI	LTS
Conflicts with Local Policies or Ordinances	LTS	NI	LTS
Cumulative Impacts	LTS	NI	LTS

NI = No Impact LTS = Less-than-Significant PS = Potentially Significant SU = Significant Unavoidable

Source: ICF, 2013.

4.7 Environmentally Superior Alternative

Section 21002 of the State CEQA Guidelines requires lead agencies to adopt feasible mitigation measures or feasible environmentally superior alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific social or other conditions make such mitigation measures or alternatives infeasible. CEQA also requires that an environmentally superior alternative be identified among the alternatives analyzed. In general, the environmentally superior alternative is the project that avoids or substantially lessens some or all of the significant and unavoidable impacts of the proposed project (CEQA Guidelines Section 15126.6).

On the basis of comparing the extent to which the alternatives reduce or avoid the significant impacts of the Project, the No Project Alternative would be the environmentally superior alternative. Since no development would occur at the Project site, there would be no construction or operational impacts. However, legally the No Project Alternative cannot be selected as the environmentally superior alternative.

As previously discussed, the Reduced Intensity Alternative involving a 25 percent reduction in building space and employees is the only other alternative that has been deemed feasible. This alternative would result in a reduction of building area and an associated reduction of employees, vehicle trips, and parking areas. However, since a similar site plan is proposed under the Reduced Intensity Alternative as with the Project, the same construction and building footprint impacts discussed for the Project would occur for the Reduced Intensity Alternative. Only the impacts related to the number of employees, traffic trips, building heights, and amount of impervious surfaces due to a change in parking area would be reduced with this alternative. However, these differences would not be enough to reduce any of the significant and unavoidable impacts identified in the Project analysis.

While the Reduced Intensity Alternative would not eliminate significant and unavoidable impacts, it would nonetheless reduce the severity of some identified impacts. Therefore, the Reduced Intensity Alternative is considered the Environmentally Superior Alternative.

Chapter 5
Other CEQA Considerations

5.1 Significant and Unavoidable Environmental Impacts

Section 21100(b)(2)(A) of the California Environmental Quality Act (CEQA) requires that a Draft Environmental Impact Report (Draft EIR) identify any significant environmental effects that cannot be avoided if a project is implemented. Most impacts identified for the Commonwealth Corporate Center Project (Project) would either be less than significant or could be mitigated to a less-than-significant level. However, the Project would result in some significant impacts that cannot be mitigated to less-than-significant levels; these impacts are listed below.

Project-Level Impacts

- **Impacts on Intersections in Near Term 2015 Plus Project Conditions.** Increases in traffic generated by the Project under Near Term 2015 Plus Project Conditions would result in increased delays during AM and PM Peak Hours at the following intersections: Marsh Road/Bayfront Expressway, Marsh Road/US 101 Northbound Off-Ramp, Independence Drive/Constitution Drive, Chrysler Drive/Bayfront Expressway, Chrysler Drive/Jefferson Drive, Chrysler Drive/Independence Drive, Willow Road/Bayfront Expressway, Willow Road/Newbridge Street, and University Avenue/Bayfront Expressway. (**Impact TRA-1)**
- **Impacts on Roadway Segments in the Near Term 2015 Plus Project Conditions.** Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in increased ADT volumes on the following Project area roadway segments: Marsh Road between Bohannon Drive and Bay Road; Chrysler Drive between Bayfront Expressway and Constitution Drive; Chrysler Drive between Constitution Drive and Jefferson Drive; Chilco Street between Bayfront Expressway and Constitution Drive; Chilco Street between Hamilton Avenue and Ivy Drive; Constitution Drive between Independence Drive and Chrysler Drive; Constitution Drive between Jefferson Drive and Chilco Street; Jefferson Drive between Chrysler Drive and the Project driveway; Jefferson Drive between the Project driveway and Constitution Drive; Independence Drive between Constitution Drive and Chrysler Drive. (Impact TRA-2)
- **Impacts on Routes of Regional Significance in the Near Term Plus Project Conditions.** Increases in traffic associated with the Project under the Near Term 2015 Plus Project Conditions would result in potentially significant impacts on the following Routes of Regional Significance: SR 84 between Willow Road and University Avenue; SR 84 between University Avenue and the County Line; US 101 between Marsh Road and Willow Road; US 101 between Willow Road and University Avenue; and US 101 south of University Avenue. (Impact TRA-3)
- **Violation of Any Air Quality Standard During Construction.** The Project would result in the violation of a BAAQMD air quality standard or substantial contribution to an existing or projected air quality violation during Project construction. (Impact AQ-2)
- **Substantial Temporary or Periodic Increase in Vibration Levels.** The Project would generate ground-borne vibration levels in excess of 65 VdB at nearby office buildings but would

not exceed vibration levels in excess of 80 VdB and noise levels in excess of 43 dBA at nearby residences. (Impact NOI-4)

Cumulative Impacts

- **Impacts on Intersections in the Cumulative 2030 Plus Project Conditions.** Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased delays at the following intersections during peak hours: Marsh Road/Bayfront Expressway, Marsh Road/US 101 Northbound Off-Ramp, Marsh Road/US 101 Southbound Off-Ramp, Marsh Road/Middlefield Road, Independence Drive/Constitution Drive, Chrysler Drive/Bayfront Expressway, Chrysler Drive/Jefferson Drive, Willow Road/Bayfront Expressway, Willow Road/Newbridge Street, and University Avenue/Bayfront Expressway. (Impact TRA-6)
- **Impacts on Roadway Segments in the Cumulative 2030 Plus Project Conditions.** Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in increased average daily traffic at the following study roadway segments: Marsh Road between Bohannon Drive and Bay Road; Chrysler Drive between Bayfront Expressway and Constitution Drive; Chrysler Drive between Constitution Drive and Jefferson Drive; Chilco Street between Bayfront Expressway and Constitution Drive; Chilco Street between Hamilton Avenue and Ivy Drive; Constitution Drive between Independence Drive and Chrysler Drive; Constitution Drive between Jefferson Drive and Chilco Street; Jefferson Drive between Chrysler Drive and Project driveway; Jefferson Drive between Project driveway and Constitution Drive; and Independence Drive between Constitution Drive and Chrysler Drive. (Impact TRA-7)
- **Impacts on Routes of Regional Significance in the Cumulative 2030 Plus Project Conditions.** Increases in traffic associated with the Project under the Cumulative 2030 Plus Project Conditions would result in impacts on the following Routes of Regional Significance: SR 84 between Willow Road and University Avenue; SR 84 between US 101 and Bayfront Expressway; US 101 between Marsh Road and Willow Road; US 101 between Willow Road and University Avenue; and US 101 south of University Avenue. (Impact TRA-8)
- **Violation of a BAAQMD Air Quality Standards or Substantial Contribution to an Existing or Projected Air Quality Violation during Project Construction.** Construction activities associated with the Project, in combination with other construction activities in the City, could generate substantial oxides of nitrogen (NO_X) emissions in excess of BAAQMD threshold. (Impact C-AQ-2)

Due to these significant and unavoidable environmental effects, approval of the Project would require the adoption of a Statement of Overriding Considerations, indicating that the City of Menlo Park (City) is aware of the significant environmental consequences and believes that the benefits of the Project outweigh the impacts.

5.2 Significant and Irreversible Environmental Changes

Section 21100(b)(2)(B) of CEQA requires that a Draft EIR identify any significant effect on the environment that would be irreversible if the Project were implemented. Section 15126.2(c) of the State

CEQA Guidelines identifies irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents.

The Sobrato Organization (Project Sponsor) intends to develop the 13.27-acre Project site (comprised of the properties at 151 Commonwealth Drive and 164 Jefferson Drive) to accommodate approximately 1,300 workers. Existing development at the Project site includes three vacant buildings plus support space totaling approximately 217,396 square feet (sf) (Commonwealth Site) and one occupied building that totals approximately 20,462 sf (Jefferson Site). The existing buildings would be demolished and developed with two office buildings totaling approximately 259,920 sf. Due to the increase in usable floor space, it can be reasonably assumed that the postconstruction commitment of nonrenewable resources would increase from current levels, although the amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of resources. It is also possible that new technologies or systems would emerge or would become more cost-effective or user-friendly and further reduce the reliance upon nonrenewable natural resources during the lifetime of the Project.

Accidents, such as the release of hazardous materials, may trigger irreversible environmental damage. Potential hazardous materials that could be used at the Project site could include cleaning products used for facility maintenance, liquids with polychlorinated biphenyls, mixed oil, and other organic solids. Exposure of site occupants to hazardous materials could occur in the following manner: improper handling or use of hazardous materials or hazardous wastes during occupancy of the Project site, transportation accident, environmentally unsound disposal methods, and/or emergencies, such as fires and explosions. However, safety requirements and the goals and policies adopted by federal, state, and local governments would reduce the public health and safety risks to reasonably prudent levels so that significant irreversible changes from accidental releases would not be anticipated. These regulations are identified in Section 3.10, *Hazards and Hazardous Materials*.

5.3 Growth-Inducing Impacts

Section 15126.2(d) of the State CEQA Guidelines states that an EIR should discuss "the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Growth can be induced in a number of ways, including through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through precedent-setting action. CEQA requires a discussion of how a project could increase population, employment, or housing in the areas surrounding the project as well as an analysis of the infrastructure and planning changes that would be necessary to implement the project. This Draft EIR discusses the manner in which the Project could affect growth in the City and the larger San Francisco Bay Area region (Bay Area).

In accordance with the State CEQA Guidelines, Section 15126.2, this discussion of growth inducement is not intended to characterize the Project as necessarily beneficial, detrimental, or of little significance to the environment. The growth inducement discussion is provided for informational purposes so that the public and local decision makers have an appreciation of the potential long-term growth implications of the Project.

In discussing growth inducement, it is useful to distinguish between direct and indirect growth. *Direct growth* occurs on a project site as a result of new facilities (buildings) being constructed, or an increase in developed space. *Indirect growth* occurs beyond a project site but is stimulated by the project's direct growth. Indirect growth is tied to increased direct and indirect investment and spending associated with

the direct growth. When CEQA refers to induced growth, CEQA means all growth—direct, indirect, or otherwise defined.

Housing Growth. Section 3.11, *Population and Housing*, states that the total Project would not increase population by adding homes or displace housing or residents. However, the Project would indirectly induce housing growth by providing additional jobs. As discussed in Section 3.11, the total Project would result in approximately 1,300 new jobs. The increased employment would indirectly result in the need for additional housing in the City and other jurisdictions within commuting distance. The Project could result in a demand of up to 1,300 housing units by 2020 at full buildout and occupancy. However, this assumes that each new employee would form a household, which is an extremely conservative scenario.

As discussed in Section 3.11, the U. S. Census 2006–2008 American Community Survey (ACS) reports that 7.8 percent of those who work in the City of Menlo Park also live in the City. For this analysis, the existing 7.8 percent share derived from the ACS has been applied to estimate the number of new workers who would seek and find housing in City as a result of the 1,300 jobs generated by the Project. The estimated City share of total housing needs would result in a total of 102 new households. As shown in Table 3.11-3, the indirect housing demand from the Project would represent a small percentage of the Association of Bay Area Governments (ABAG) projected housing growth for most jurisdictions in the Bay Area. Therefore, the Project would not significantly impact the 2020 forecasted household growth within the City and other jurisdictions within the region, and the demand for housing as a result of the total Project would be less than significant.

Job Growth. Aside from direct increases in employment and indirect growth in housing demand, the Project would result in indirect job growth. During Project construction, the direct spending associated with construction materials and labor would stimulate the economy. However, this impact would not be substantial in terms of the local or Bay Area economy due to its temporary nature. Given the limited duration and standard nature of the construction anticipated, the demand for construction employment would likely be met within the existing and future labor market in the City, in San Mateo County, or within the Bay Area. Neither a substantial quantity of specialized labor nor construction workers from outside the region would be expected to relocate temporarily or to commute extraordinarily long distances.

Indirect growth could also be generated through the expenditure patterns of employees associated with the Project. For example, future workers would spend money in the local economy, and the expenditure of that money would result in additional jobs. To estimate this potential "multiplier effect" associated with the indirect and induced employment generated by the Project, ABAG has developed Type I and Type II economic multipliers for the Bay Area based on an input-output model. Type I multipliers measure the direct and indirect effects of a change in economic activity and capture the initial economic change and the effect of local industries buying from each other in response to that initial change. Type II multipliers capture all of the effects in the Type I multiplier plus the impact of the change in income and expenditures by households. The additional Type II effects are commonly referred to as induced effects.[1] The jobs that would be generated by the Project would be classified as Management and Administrative from ABAG's list of industries, with a Type I multiplier of 1.15 and a Type II multiplier of 1.52. This means that for every l job created, there would be 0.15 indirect and induced jobs created locally and 0.52 jobs created regionally.

[1] ABAG, Center for Analysis and Information Services, *2001 Input-Output Model and Economic Multipliers for the San Francisco Bay Region*, Table 5, 1987 Bay Area Employment Multipliers, p. 20, March 2004.

As shown in Table 5-1, applying the local and regional economic multipliers to the 1,300 new jobs directly resulting from the Project would result in about 195 local and 676 regional indirect and induced jobs. Therefore, the combined total local employment growth (direct and indirect employment) with the Project would be about 1,495 new jobs, and the combined regional employment growth would be about 1,976 new jobs. This increase in regional employment represents less than 0.01 percent of the projected 4,040,690 total jobs within the Bay Area by 2020, which is insignificant compared to the rest of the region.[2]

Table 5-1. Direct, Indirect, and Induced Jobs Resulting from the Project

	Direct Jobs	Type I Multiplier[a]	Type II Multiplier[b]	Direct and Indirect Jobs	Direct, Indirect, and Induced Jobs
Project Site	1,300	1.15	1.52	195	676

Source: ABAG, 2004; ICF, 2013.

Notes:

[a] The Type I multiplier measures the direct and indirect jobs created.

[b] The Type II multiplier measures the direct, indirect, and induced jobs created.

Infrastructure Capacity and Land Use Changes. Growth in a geographic area may be induced by removing infrastructure barriers through the provision of new infrastructure (roads, sewers, water supply, storm drainage, energy) and/or improving transportation and circulation systems. Accordingly, the growth-inducing potential of the Project would be significant if the Project had a need for infrastructure improvements that would substantially exceed existing capacity.

Construction of the Project site for office use would augment and reinforce existing office and industrial land uses surrounding the Project site (see Section 3.1, *Land Use*, regarding land uses in the Project area). Redevelopment of the Project site for new office/research and development, and commercial support uses would not directly contribute to an increase in growth outside the City limits. Thus, the total Project would not induce growth by removing infrastructure barriers or by providing new infrastructure, nor would it create new transportation access to a previously inaccessible area.

Utilities and Public Services Demand. To the extent that the Project would increase the employee and resident population, there would be an increase in the demand for the provision of public services. This includes an increased demand for police protection, fire protection and emergency services, school facilities, library services, and recreational areas proportional to the increased intensity of the Project site. As discussed in the Section 3.12, *Public Services*, there would be no significant impacts on public services as a result of the Project. In this regard, the Project would not in and of itself indicate a substantial growth-inducing potential so as to inhibit the reasonable provision of public services. An increase in the demand for new public service facilities could lead to potential significant environmental impacts only if expanding or constructing new facilities were required that adversely affected the physical environment under the impact criteria established. Since the Project would not trigger the need for expanded or new public services facilities, there would be no significant impact.

Planning for the future expansion of utility, transportation, and public service facilities would take into account the proposed population levels. The increase in utility and public service personnel and

[2] ABAG, Projections 2009, December 2009.

equipment required to serve the Project would not be implemented beyond what is required to accommodate the Project, and no significant growth inducements would result.

The Project would be served by existing water entitlements as described in Section 3.13, *Utilities and Service Systems*. Existing electricity and natural gas infrastructure would continue to serve the Project site. Implementation of the Project would result in an increase in energy demand over existing conditions but would not require installation of additional electricity and natural gas infrastructure.

5.4 Cumulative Impacts

State CEQA Guidelines (Section 15355) define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The combination of the Project with other foreseeable projects in the vicinity or region affected by the Project defines the cumulative scenario. The list of Tier 1 and Tier 2 cumulative projects are included in Chapter 3.0, *Environmental Impact Analysis*, and the cumulative impacts and the Project's contribution to the cumulative impacts are addressed in Sections 3.1 through 3.14 of this Draft EIR. These resource sections identify feasible mitigation measures that would reduce the Project's cumulatively considerable contributions to cumulative impacts to less-than-cumulatively-considerable levels. These sections also identify those cumulative impacts that would be significant and unavoidable even with the implementation of feasible mitigation measures.

Chapter 6
Report Preparers

6.1 Lead Agency

City of Menlo Park

- Justin Murphy—Development Services Manager
- David Hogan—Contract Planner
- Bill McClure—City Attorney
- Leigh Prince, Esq.—Counsel to the City of Menlo Park
- Chip Taylor—Public Works Director
- Nicole Nagaya—Senior Transportation Engineer
- Fernando Bravo—Engineering Services Manager
- Roger Storz—Senior Civil Engineer
- Virginia Parks—Associate Engineer
- Rebecca Fotu—Environmental Program Manager
- Ron LaFrance—Building Official
- Dave Bertini—Chief of Police
- Cherise Brandell—Community Services Director
- Susan Holmer—Director of the Library

6.2 Consultants

ICF International

Erin Efner	Project Manager
Kirsten Chapman	Deputy Project Manager
Kirsten Chapman	Land Use and Planning
Kirsten Chapman	Aesthetics
Erin Efner (reviewer)	Transportation and Traffic
Kai-Ling Kuo, Shannon Hatcher	Air Quality
Kai-Ling Kuo, Shannon Hatcher	Greenhouse Gas Emissions
Kai-Ling Kuo, Dave Buehler	Noise
Ed Yarbrough, Joanne Grant	Cultural Resources
Diana Roberts	Geology and Soils
Alexa La Plante, Lesa Erecius	Hydrology and Water Quality
Diana Roberts	Hazards and Hazardous Materials
Kirsten Chapman	Population and Housing
Jillian Burns, Kirsten Chapman	Public Services
Jillian Burns	Utilities
Torrey Edell	Biological Resources
Kirsten Chapman, Erin Efner	Alternatives
Jillian Burns, Kirsten Chapman	Other CEQA Considerations
Stephanie Monzon, Tami Mihm	Editing
Tim Messick	Graphics
Bill Parker	GIS
Corrine Ortega, John Mathias	Document Production

DKS Associates

Responsible for Section 3.3, *Transportation and Traffic*:

- Bill Loudon—Principal
- Joshua Pilachowski, PhD—Associate Transportation Engineer

GHD

Responsible for the Water Supply Assessment:

- Mary Grace Pawson, PE—Principal
- Marc Solomon—Principal
- Cristina Goulart—Water Resources Specialist

Bay Area Economics

Responsible for the Fiscal Impact Assessment:

- Ron Golem, MCP—Principal
- Stephanie Hager, MCP—Associate

PreVision Design

Responsible for the Visual Simulations:

- Adam Phillips—PreVision Design