Public Draft *April 2016*

Environmental Impact Report for the Peery Park Specific Plan

State Clearinghouse Number 2015062013

Prepared for:
City of Sunnyvale
456 West Olive Avenue
Sunnyvale, California 94086

Prepared by:
Amec Foster Wheeler Environment & Infrastructure, Inc.
104 West Anapamu Street, Suite 204A
Santa Barbara, California 93101

STATE CLEARINGHOUSE NUMBER 2015062013

ENVIRONMENTAL IMPACT REPORT FOR THE PEERY PARK SPECIFIC PLAN

PREPARED FOR:

City of Sunnyvale
456 West Olive Avenue
Sunnyvale, California 94086

PREPARED BY:

Amec Foster Wheeler
Environment & Infrastructure, Inc.
104 West Anapamu Street, Suite 204-A
Santa Barbara, CA 93101
Contact: Rita Bright
805.962.0992

April 2016

AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE, INC. 2016.
Peery Park Specific Plan.
Draft Environmental Impact Report. April.
Prepared for the City of Sunnyvale, CA.

EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) evaluates the environmental impacts of the proposed Peery Park Specific Plan (Project) for the City of Sunnyvale, California (City). The EIR was prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) in cooperation with City of Sunnyvale staff.

The purpose of the Project is to provide the City, community, property owners, and businesses with a guide for future development in the approximate 450-acre Project area. The Project proposes a general vision and broad policies to guide development over the next 20 years. Based on the proposed policies, the Project provides the details on the type, location and intensity of uses, defines the capacity and design of needed public improvements and infrastructure, and determines the resources necessary to finance and implement the public improvements and infrastructure needed to support the vision for the Project area.

The intent of the Project is to set development policies, land use regulations, design standards, a capital improvement program, and a financing program concisely within a single document while also providing design standards to give the Project area a unique identity to attract quality developments and businesses. The Project would address market constraints and opportunities for industrial and office uses and evaluate the appropriateness of other uses necessary to create a vibrant business community. The Project also takes into consideration the proximity of the Project area to Moffett Federal Airfield (operated by NASA-Ames), the Downtown Sunnyvale Caltrain station, and Valley Transit Authority (VTA) light rail stops in Mountain View and Sunnyvale.

PROJECT OBJECTIVES

Section 15124(b) of the California Environmental Quality Act (CEQA) Guidelines requires a project description to contain a statement of a project's objectives and Section 15124(b) requires that the statement of objectives includes the underlying purpose of the project. The Project is guided by the following concepts established by the City consistent with the LUTE and with input received through the community outreach process:

- Create a high-tech 21st century employment center within the City of Sunnyvale.
- Improve the visual characteristics of Peery Park through architectural, landscaping, and pedestrian-oriented improvements.
- Support and attract high-profile technology firms.
- Develop activity centers to provide commercial and recreational opportunities for residents and employees, and alleviate over-use of existing commercial and recreational facilities.
- Strengthen and provide opportunities for small-scale technology firms.

- Provide opportunities to develop housing in a small portion of the Project area to create a transition between existing residential neighborhoods and the commercial and industrial uses within Peery Park.
- Improve multi-modal accessibility for parking and transportation to Peery Park, including a more pedestrian and bicycle friendly environment to reduce and improve the circulation of vehicle traffic within Peery Park.

PROJECT OVERVIEW

The Project consists of the proposed adoption of a Specific Plan with associated development standards and programs. The Project would establish a framework to guide future development and redevelopment within the Project area. The Project would provide goals, policies, development regulations and design guidelines to regulate urban form of new development, including building height, mass, and form, within six subdistricts of the Project area, including the Activity Center, Innovation Edge, Mixed Industry Core, Mixed Commercial Edge, Neighborhood Transition, and Public Facility subdistricts.

Consistent with the Project Objectives identified above, the Project would establish:

- Development standards to guide future building and redevelopment projects, including site design, architectural design, and size, bulk, and scale of new development.
- Development standards for building height that would specify varying maximum allowable building heights throughout the Project area ranging from a minimum of 30 feet to a maximum of 88 feet (excluding roof top mechanical equipment).
- Development standards specifying the maximum allowable baseline FAR for development throughout the Project area.
- A community benefits program that would allow a development project within the Project area to exceed the baseline FAR with the provision of related community benefits.
- Up to two Activity Centers to facilitate development of commercial, social and recreational facilities.
- Policies to support and attract the business of high-tech industrial firms.
- Implementation measures and associated development fees.
- A residential transition area that has the potential to include the development of up to 215 housing units.

The proposed land use plan for Peery Park would allow a mix of uses and building types to enhance Peery Park's role as an innovation and high-profile technology district. Development standards would promote a more pedestrian and bicycle friendly environment and encourage mixed-use/transit oriented development in key locations near existing public transportation. Improvements would also include public and private open space, multi-modal connectivity for transit, cyclists, and pedestrians, transitional buffer areas between industrial and residential uses, and industrial growth. Additionally, as part of the regulating plan, the Project would also provide development standards and design guidelines that address building setbacks, parking

requirements, frontage improvements, architectural features, maximum block sizes, and increased open space. The Project designates overall policies that would apply to all new construction, significant additions of greater than 20% of the building's floor area, major exterior renovations, intensification of the use of a building, and some other site improvements. The Project would also require all new development projects to prepare a transportation demand management plan as further described in Section 2.4.2, *Circulation and Mobility* below, and to join the business-sponsored Peery Park Transportation Management Association (TMA).

The Project's primary components and programs are organized into four "Books" within the draft plan and are summarized in Table ES-1.

Table ES-1. Primary Project Components and Programs

Book Number	Book Title	Book Information
Book 1	Community Intent of the Peery Park Specific Plan	Outlines the necessity for the Specific Plan guiding principles, district goals, and community input.
Book 2	Development Code	Governs all private development actions and land uses within the Project area, and would be used to evaluate development projects. Development regulations consist of land use regulations, building scale regulations, façade and roof regulations, open space regulations, parking regulations, and procedures to govern development through 2035.
Book 3	Design Guidelines	Contains the design guidelines for development in the Project area. Includes supplemental information to Book 2 for building massing and articulation, frontage and building orientation, façade and roof design, open space and landscaping, parking, and sustainability.
Book 4	City Actions	Describes the community benefits program, capital improvements, the Sense of Place concepts, and other Peery Park specific fees to be implemented in conjunction with development within the Project area.

Projects proposing higher FARs than the Project's baseline standard may be permitted, but would be required to incorporate a range of community benefits, such as additional open space, structured or underground parking, green building components, public open space or various other benefits.

Implementation of the Project is expected to occur over a 20-year (2035) planning horizon through construction of both private developments and public improvements scheduled by the City. The Project would allow for development of an additional 2.2 million sf of primarily office or R&D industrial uses with limited retail commercial, as well as 215 units of multi-family residential uses limited to the eastern side of the Project area along San Aleso Avenue. This future development would contribute to the 7.5 million sf of existing and approved development for a total of 9.7 million sf within the Project area by 2035. It is anticipated that most of this new development would occur on sites within the Project area that are either vacant, underutilized, or occupied by existing Class

'C' buildings that do not meet the needs of current and future Silicon Valley business needs. Under the proposed Project, future buildings would range from 30 feet to 88 feet in height (2 to 6 stories) with associated frontage improvements (e.g., sidewalk, street trees, etc.). The most prevalent types of development would be office and R&D industrial buildings with pedestrian-friendly streetscapes. However, employee-serving uses, such as restaurants and commercial services, would also be developed and encouraged within two activity center locations, the mixed commercial edge district and within small activity clusters.

ENVIRONMENTAL IMPACT ANALYSIS

Notice of Preparation/Scoping

As a first step in complying with the procedural requirements of CEQA, the City performed a public scoping process consistent with Section 15083 of the CEQA Guidelines. The public was provided an opportunity to comment on the scope of the EIR through a Notice of Preparation (NOP) released on June 9, 2015, which was distributed to federal, state, county, and City agencies, neighborhood groups, and owners and occupants in the Project vicinity. The City also held a public Scoping Hearing on June 25, 2015, and public comments were received until July 9, 2015 (CEQA Guidelines §15082). The scoping process assisted the City in determining if any aspect of the proposed Project may cause a significant effect on the environment and, based on that determination, to narrow the focus (or scope) of the subsequent environmental analysis. Comments received during the NOP comment period were considered during EIR preparation and are included in Appendix B.

Summary of Project Impacts

This EIR examines potential short- and long-term impacts of the proposed Project. These impacts were determined through a rigorous process mandated by CEQA in which existing conditions are compared and contrasted with conditions that would exist once the proposed Project is implemented. For each impact section, thresholds for determining impact significance are identified along with descriptions of methodologies used for conducting the impact analysis. Determinations of impact significance levels in the EIR are made based on City impact significance guidelines and criteria for each impact topic, including Appendix G of the CEQA Guidelines. For some resource areas, such as air quality, transportation, and noise, the analysis of impacts are more quantitative in nature and involve the comparison of effects against a numerical threshold. For other resource areas, such as aesthetics and visual resources and land use, the analyses of impacts are inherently more qualitative, involving the consideration of a variety of factors, such as City policies.

The EIR impact discussions classify impact significance levels as:

- **Significant and Unavoidable** - a significant impact to the environment that remains significant even after mitigation measures are applied;

- **Less Than Significant with Mitigation** - a significant impact that can be avoided or reduced to a less than significant level with mitigation;
- **Less Than Significant** - a potential impact that would not meet or exceed the identified thresholds of significance for the resource area;
- **No Impact** – no impact would occur for the resource area; and
- **Beneficial** – a potential impact that would improve the resource area.

The significance of each impact resulting from implementation of the project has been determined based on impact significance criteria and applicable CEQA Guidelines for each resource area. Table ES-2 presents a summary of the impacts, mitigation measures, and residual impacts from implementation of the proposed Project. In summary, the Project would result in potentially significant and unavoidable adverse impacts to air quality, cultural (historic) resources, greenhouse gases, noise, and transportation/traffic (see Section 3.2 *Air Quality*, Section 3.3 *Cultural* Resources, Section 3.4 *Greenhouse Gas Emissions*, Section 3.7 Noise, and Section 3.10 *Transportation and Circulation*)

The EIR also includes three alternatives, including a No Project Alternative, in compliance with CEQA. These alternatives include:

- Alternative #1 – No Project (Existing Adopted General Plan) Alternative;
- Alternative #2 – Mixed Use Housing Alternative; and
- Alternative #3 – Higher Intensity Buildout Alternative.

Table ES-3 provides a comparison of these alternatives.

SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. The Project would result in significant and unavoidable long-term Project impacts to air quality, cultural (historic) resources, greenhouse gases, noise, and transportation/traffic.

RESOURCE AREAS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines, *Section 15128*, requires a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and, therefore, are not discussed in detail in the EIR. These environmental issue areas were analyzed against the criteria as presented in Appendix G of the State CEQA Guidelines. The resource areas are as follows: Agriculture and Forestry, Biological Resources, Geology and Soils, Hydrology and Water Quality, and Mineral Resources.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6 requires that an EIR identify the Environmentally Superior Alternative to the proposed project from among the alternatives analyzed. If the No Project Alternative is found to be environmentally superior alternative, the EIR also identifies an Environmentally Superior Alternative from among the other alternatives. Per CEQA Guidelines §15126.6(d), "The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project."

None of the alternatives analyzed where found to reduce any significant and unavoidable impact to a less than significant level. The No Project Alternative is eliminated from consideration as the Environmentally Superior Alternative as this alternative would not meet any of the key Project Objectives. The Environmentally Superior Alternative for the proposed Peery Park Specific Plan is identified as the proposed Project. On balance, the proposed Project meets more key Project Objectives than the Mixed Use Housing project, including provisions of 215 residential units, while it results in less impacts to the environment than the Higher Intensity Buildout Alternative. Although, the Higher Intensity Buildout would also meet Project Objectives, it would result in greater impacts to Air Quality, GHG Emissions, Land Use, Population and Housing, Transportation, and Utilities due to greater development densities. The Lead Agency retains the authority to identify the Environmentally Superior Alternative based on the evidence in the EIR, agency and public input, Lead Agency standards and policies, and the Lead Agency's independent decision-making.

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
Aesthetics and Visual Resources		
AES-1: The Project would not block or diminish public views of a scenic vista or views of scenic resources from a designated state scenic highway. Therefore, no impacts would occur.	No mitigation required	Less Than Significant
AES-2: Implementation of the Project would gradually alter the existing visual character of the Project area through increased land use density and the replacement of one- to two-story older Class B and Class C buildings and/or surface parking areas with newer, multi-story Class A buildings. Accordingly, the change in character would result in less than significant impacts to visual character.	No mitigation required	Less Than Significant
AES-3: Construction activities resulting from implementation of the Project would temporarily create impacts to the visual character of the Project area. Due to the temporary nature of construction, impacts would be less than significant.	No mitigation required	Less Than Significant
AES-4: The Project could result in impacts upon visual resources with future development. Existing City design regulations as well as the Project's proposed design standards would ensure that impacts to visual resources would be less than significant.	No mitigation required	Less Than Significant
AES-5: The Project may result in indirect impacts to scenic trees and the urban forest through encouraging redevelopment on existing parcels. This would result in the loss of a visual resource through the removal of trees. With compliance to the City Tree Ordinance, impacts would be less than significant.	No mitigation required	Less Than Significant

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
AES-6: Implementation of Project could result in additional sources of light and glare from new developments, which could increase daytime glare or nighttime lighting in the Project area. Compliance with Sunnyvale Municipal Code standards would make impacts less than significant.	No mitigation required	Less Than Significant
Air Quality		
AQ-1: Implementation of the Project would result in construction emissions that could substantially contribute to air pollution and would result in a projected air quality violation. While this impact would be reduced through construction technologies to control emissions, no additional mitigation measures would be available to reduce this impact to a less than significant level. Therefore, this impact is significant and unavoidable.	MM AQ-1. Fugitive Dust Plan – New development and redevelopment within the Project shall comply with the following construction-related measures to reduce fugitive dust: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material offsite shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	(as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer‘s specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. A publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District‘s phone number shall also be visible to ensure compliance with applicable regulations. BAAQMD recommends that all proposed projects, where construction-related emissions would exceed the applicable thresholds, implement the following additional construction mitigation measures identified below. MM AQ-2. Construction-Related Emissions Reduction Plan -– New development and redevelopment within the Project shall comply with the following construction-related measures to reduce emissions generation: 1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour (mph). 3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. 4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. 5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on 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. 6. All trucks and equipment, including tires, shall be washed prior to the vehicle leaving the site. 7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. 8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. 9. The idling time of diesel powered construction equipment shall be minimized to 2 minutes. 10. The Project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet average of 20 percent NO_X reduction and 45 percent particulate matter reduction compared to the most recent California 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. 11. Low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings) shall be used. 12. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and particulate matter. 13. All contractors shall be required to use equipment that meets California ARB's most recent certification standard for off-road heavy duty diesel engines.	
AQ-2: Project-generated traffic, together with other cumulative traffic in the area, would incrementally increase CO levels in the vicinity of intersections. Therefore, this impact is significant and unavoidable.	Implementation of MM T-6a and MM T-6b.	Significant and Unavoidable
AQ-3: Onsite construction-related emissions would affect sensitive receptors. Implementation of mitigation measures would not reduce this impact to a less-than-significant level. Therefore, this would be a significant and unavoidable impact.	Implementation of MM AQ-1 and MM AQ-2.	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
AQ-4: Implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, this would be a less than significant impact.	No mitigation required	Less Than Significant
AQ-5: Implementation of the Project would result in a considerable net increase of multiple criteria pollutants for which the air basin is currently in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors). This would be a potentially significant impact. Implementation of mitigation measures would not reduce this impact to a less-than-significant level. Therefore, this would be a significant and unavoidable impact.	Implementation of MM AQ-1 and MM AQ-2.	Significant and Unavoidable
AQ-6: Implementation of the Project would not create objectionable odors affecting a substantial number of people. This would be a less than significant impact.	No mitigation required	Less Than Significant
Cultural Resources and Historic Structures		
CR-1: Implementation of the Project would result in potential impacts to the City-designated Local Landmark, Libby Can Water Tower. Compliance with resource protection policies in the City of Sunnyvale Heritage Preservation Guidelines and Sunnyvale Municipal Code would reduce impacts to less than significant.	No mitigation required	Less Than Significant
CR-2: Implementation of the Project would result in impacts to the City-designated Heritage Resource, Mellow's Nursery and Farm. Demolition, redevelopment or alterations to the	MM CR-1. Historical Record of Property - In the event of demolition, redevelopment, or alteration of Mellow's Nursery and Farm, a historical record including photographs and artifacts shall be incorporated into the Sunnyvale Heritage Park	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
property would result in a significant and unavoidable impact.	Museum. A qualified historian shall complete thorough photographic and historic documentation of Mellow's Nursery and Farm to be incorporated into historical records prior to any development. MM CR-2. Preservation and Relocation of the Mellow's Nursery House - Future development of the Mellow's Nursery site shall consider preserving and relocating the historic house on site. If such action is feasible, a subsequent cultural resource evaluation shall be prepared to determine if the relocation and rehabilitation of the historic house on site retains its historic qualities and complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties.	
CR-3: Construction activities anticipated to occur under the proposed Project could potentially uncover paleontological resources in geologic deposits during earthwork activities. If improperly handled, such resources could be adversely impacted. With mitigation, impacts would be reduced to less than significant.	MM CR-3. Paleontological Monitoring. Construction activities involving excavation or other soil disturbance to a depth greater than 6 feet within the Project area shall be required to retain a qualified Paleontological Monitor as defined by the Society for Vertebrate Paleontology (SVP) (2010) equipped with necessary tools and supplies to monitor all excavation, trenching, or other ground disturbance in excess of 6 feet deep. Monitoring will entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected if necessary. The Paleontological Monitor will periodically assess monitoring results in consultation with the Principal Paleontologist. If no (or few) significant fossils have been exposed, the Principal Paleontologist may	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	determine that full-time monitoring is no longer necessary, and periodic spot checks or no further monitoring may be recommended. The City shall review and approve all such recommendations prior to their adoption and implementation. MM CR-4. Inadvertent Discovery of Fossils. If fossils are discovered during excavation, the Paleontological Monitor will make a preliminary taxonomic identification using comparative manuals. The Principal Paleontologist or his/her designated representative will then inspect the discovery, determine whether further action is required, and recommend measures for further evaluation, fossil collection, or protection of the resource in place, as appropriate. Any subsequent work will be completed as quickly as possible to avoid damage to the fossils and delays in construction schedules. If the fossils are determined to be significant under CEQA, but can be avoided such that no further impacts will occur, the fossils and locality will be documented in the appropriate paleontological resource records and no further effort will be required. At a minimum, the paleontological staff will assign a unique field number to each specimen identified; photograph the specimen and its geographic and stratigraphic context along with a scale near the specimen and its field number clearly visible in close-ups; record the location using a global positioning system (GPS) with accuracy greater than 1 foot horizontally and vertically (if such equipment is not available at the site, use horizontal measurements and bearing(s) to nearby permanent features or accurately surveyed benchmarks, and vertical	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	measurements by sighting level to point(s) of known elevation); record the field number and associated specimen data (identification by taxon and element, etc.) and corresponding geologic and geographic site data (location, elevation, etc.) in the field notes and in a daily monitoring report; stabilize and prepare all fossils for identification, and identify to lowest taxonomic level possible by paleontologists, qualified and experienced in the identification of that group of fossils; record on the outside of the container or bag the specimen number and taxonomic identification, if known. Breathable fabric bags will be used in packaging to avoid black mold. Upon completion of fieldwork, all significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to an accredited museum repository for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of the Project proponent. At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the Project. The report will include a summary of the field and laboratory methods, an overview of the Project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	(if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to the designated museum repository.	
CR-4: Construction activities anticipated to occur under the Project could potentially uncover significant prehistoric or historic archaeological deposits during earthwork activities. If improperly handled, such resources could be adversely impacted. With mitigation, impacts would be reduced to less than significant.	MM CR-5. Archaeological Data Recovery: For projects that inadvertently discover buried prehistoric or historic-period archaeological resources, the City shall apply a program that combines resource identification, significance evaluation, and mitigation efforts into a single effort. This approach would combine the discovery of deposits (Phase 1), determination of significance and assessment of the project's impacts on those resources (Phase 2), and implementation of any necessary mitigation (Phase 3) into a single consolidated investigation. This approach must be driven by a Treatment Plan that sets forth explicit criteria for evaluating the significance of resources discovered during construction and identifies appropriate data recovery methods and procedures to mitigate project effects on significant resources. The Treatment Plan shall be prepared prior to issuance of building permits by a Registered Professional Archaeologist (RPA) who is familiar with urban historical resources, and at a minimum shall include: • A review of historic maps, photographs, and other pertinent documents to predict the locations of former buildings, structures, and other historical features and sensitive locations within and adjacent to the specific development area;	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	• A context for evaluating resources that may be encountered during construction; • A research design outlining important prehistoric and historic-period themes and research questions relevant to the known or anticipated sites in the study area; • Specific and well-defined criteria for evaluating the significance of discovered remains; and • Data requirements and the appropriate field and laboratory methods and procedures to be used to treat the effects of the project on significant resources. The Treatment Plan shall also provide for a final technical report on all cultural resource studies and for curation of artifacts and other recovered remains at a qualified curation facility, to be funded by the developer. To ensure compliance with City and state preservation laws, this plan shall be reviewed and approved by the Historic Landmarks Commission and the City of Sunnyvale Planning Division prior to issuance of building permits. MM CR-6: Inadvertent Discoveries: In the event of any inadvertently discovered prehistoric or historic-period archaeological resources during construction, the developer shall immediately cease all work within 50 feet of the discovery. The proponent shall immediately notify the City of Sunnyvale Planning and Community Development Department and shall retain a Registered Professional Archaeologist (RPA) to evaluate the significance of the discovery prior to resuming any activities that could impact the site. If the	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	archaeologist determines that the find may qualify for listing in the California Register of Historic Resources (CRHR), the site shall be avoided or a data recovery plan shall be developed pursuant to MM CR-5. Any required testing or data recovery shall be directed by an RPA prior to construction being resumed in the affected area. Work shall not resume until authorization is received from the City.	
CR-5: Construction activities anticipated to occur under the Project may potentially uncover Native American human remains. In the unlikely event of this occurrence, construction activities would immediately cease in the vicinity of the discovery and remains would be handled in accordance with existing State regulations. Therefore, impacts would be less than significant.	No mitigation required.	Less Than Significant
Greenhouse Gas Emissions		
GHG-1: The Project would generate GHG emissions from both mobile and operational sources, as well as short-term GHG emissions from construction, but emissions would exceed the 1,100 tons CO_2e/year threshold. Therefore, this would be a significant impact.	MM GHG-1. The following measures shall be implemented to reduce impacts from vehicle emissions: • To the greatest extent feasible, ensure new development within the Project area implements City programs to reduce GHG emissions, including requiring preparation of transportation demand management (TDM) plans for new development, which provide incentives to employees to carpool/vanpool, use public transportation, telecommute, walk, bike, as well as other approaches to reduce vehicle trips. Further, priority parking shall be assigned for car- and van-pooling employees, as	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	supported by the City's TDM program requirements. • Limit idling time for commercial vehicles, including delivery and construction vehicles.	
GHG-2: The Project would be inconsistent with Greenhouse Gas Reduction Policy 12. Therefore, impacts would be significant.	No mitigation required	Significant and Unavoidable
Hazards and Hazardous Materials		
HAZ-1: Demolition and construction activities associated with the Project could create hazards to the public and environment through the release of hazardous building materials and hazardous materials within the existing building onsite. However, with mitigation, this impact would be less than significant.	MM HAZ-1. Phase I Environmental Site Assessment (Phase I ESA). Prior to demolition, project applicants in the Project area shall prepare a Phase I ESA. Consistent with local, state and federal regulations, the Phase I ESA shall be subject to City review and address the following: Asbestos-Containing Materials (ACM), Lead-Based Paints (LBP), and polychlorinated biphenyls (PCBs). Prior to the issuance of any demolition permit, the Applicant shall conduct a comprehensive survey of ACM, LBP, and PCBs. If such hazardous materials are found to be present, the Applicant shall follow all applicable local, state, and federal codes and regulations, as well as applicable best management practices, related to the treatment, handling, and disposal of ACM, LBP, and PCBs to ensure public safety. Potential Onsite Hazardous Materials or Conditions. A visual survey and reconnaissance-level investigation of the existing site shall be conducted to determine if there are any structures or features within or near the buildings that are used to store, contain, or dispose of hazardous materials. For any development within the Project	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	area that has not been subject to a Phase I ESA or successful remediation efforts in the past, a Phase I ESA shall be performed to determine the likelihood of contaminants in areas beyond what has already been assessed in accordance with EPA ASTM Practice E 1527-05 as may be amended. If the Phase I ESA finds that contaminated soil or other hazardous materials are suspected to be present within the area, the Applicant shall follow all applicable local, state and federal codes and regulations, as well as applicable best management practices, related to the treatment, handling, and disposal of each hazardous material.	
HAZ-2: Operations associated with implementation of the Project would increase the routine transport, use, and disposal of hazardous materials, but would be less than significant.	No mitigation required	Less Than Significant
HAZ-3: Implementation of the Project would expose additional workers and visitors to aircraft-related safety hazards by locating additional development within the approach path of the Moffett Federal Airfield, but this impact would be less than significant.	No mitigation required	Less Than Significant
Land Use and Planning		
LU-1: Implementation of the Project would not physically divide an established community, nor would it result in substantial land use compatibility issues. Impacts would be less than significant.	No mitigation required	Less Than Significant
LU-2: Implementation of the Project would generally be consistent with adopted plans and	No mitigation required	Less Than Significant

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
policies due to Peery Park Specific Plan goals, policies and development standards which would ensure consistency with relevant plans and policies. Impacts would be less than significant.		
LU-3: No Habitat Conservation Plan or Natural Community Conservation Plan has been adopted within the vicinity of the Project area. Therefore, there would be no potential impact related to conflicts with an applicable habitat conservation plan or natural community conservation plan.	No mitigation required	Less Than Significant
Noise		
NOI-1: Construction of the Project could generate noise that exceeds the City's Noise Ordinance Standards. With implementation of proposed mitigation, impacts resulting from increases in ambient noise would be less than significant with mitigation.	MM NOI-1. Additional Project Review. The Project shall be subject to review by City staff to further assess impacts resulting from increases in ambient noise levels generated by Project construction and operation activities. The City staff shall determine whether additional analysis of noise-related impacts is required to adequately assess impacts resulting from Project construction and operation activities. During this review, City staff may propose additional measures appropriate to reduce potential noise related impacts, with regards to nearby sensitive land uses. To verify that acceptable noise levels are met and/or maintained, the Applicant shall retain a City-approved acoustical consultant to monitor noise during construction activities within close proximity to nearby sensitive receptors. Review of the Project shall be made by City staff prior to the issuance of a development permit.	Less Than Significant with Mitigation
NOI-2: Construction of the Project could generate excessive ground-borne vibration or	Implementation of MM NOI-1.	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
noise. However, with mitigation, this impact would be less than significant.		
NOI-3: Operation of the Project could result in an increase in ambient noise levels within the Project area. However, increases in ambient noise would be temporary and incremental. Impacts would be less than significant.	No mitigation required	Less Than Significant
NOI-4: The Project could temporarily or periodically increase ambient noise levels in the Project area. Implementation of mitigation measures would not reduce impacts to a less than significant level. Therefore, impacts associated with increases in ambient noise would be temporarily significant and unavoidable.	Implementation of MM NOI-1. MM NOI-4a. Construction Noise Control Measures. The applicant shall employ site-specific noise attenuation measures during Project construction to reduce the generation of construction noise. These measures shall be included in a Noise Control Plan that shall be submitted for review and approval by the City of Sunnyvale Building Services Division to ensure that construction noise is consistent with the standards set forth in the City's Noise Ordinance. Measures specified in the Noise Control Plan and implemented during Project construction shall include, at a minimum, the following noise control strategies: • Equipment and trucks used for 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; • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	tools. 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; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used; and • Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures. MM NOI-4b. Pile Driving Noise-Reducing Techniques and Muffling Devices. Noise-reducing pile-driving techniques shall be employed during Project construction. These techniques shall include: • Installing intake and exhaust mufflers on pile-driving equipment; • Vibrating piles into place when feasible, and installing shrouds around the pile-driving hammer where feasible; • Implement “quiet” pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; • Use cushion blocks to dampen impact noise, if feasible based on soil conditions.	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon and micarta (a composite material); and • At least 48 hours prior to pile-driving activities, the applicant shall notify building owners and occupants within 600 feet of the Project area of the dates, hours, and expected duration of such activities.	
NOI-5: The Project would expose onsite uses to noise levels associated with operations at the Moffett Federal Airfield. However, the Project would expose only a small portion of non-noise-sensitive land uses to airfield operational noise and impacts would be less than significant.	No mitigation required	Less Than Significant
NOI-6: The Project would not expose onsite uses to noise levels associated with operations at a private airfield.	No mitigation required	No Impact
NOI-7: Planned development under the proposed Peery Park Specific Plan would contribute to a substantial increase in permanent traffic noise levels on area roadways. Impacts to traffic related noise levels resulting from planned developments would be significant and unavoidable.	No mitigation required	Significant and Unavoidable
NOI-8: Construction of the proposed Near-Term 7 projects could generate noise that exceeds the City's Noise Ordinance Standards. However, these projects would be required to	No mitigation required	Less than Significant

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
comply with the City's Municipal Code and impacts would be less than significant.		
NOI-9: Construction of the proposed Near-Term 7 Projects could generate excessive ground-borne vibration or noise. Impacts for Near-Term 7 Projects would be similar to those anticipated under the Project. Therefore, this impacts would be less than significant.	No mitigation required	Less than Significant
NOI-10: Operation of the proposed Near-Term 7 projects could result in a substantial short-term increase in ambient noise levels within the Project area. Given their temporary nature, these impacts would be less than significant.	No mitigation required	Less than Significant
NOI-11: The Near-Term 7 Projects could temporarily or periodically increase ambient noise levels in the Project area. As increases in ambient noise levels from these projects would be temporary, impacts are considered temporarily significant and unavoidable.	Implementation of MM NOI-4a and 4b	Significant and Unavoidable
NOI-12: The proposed Near-Term 7 projects would not expose onsite uses to noise levels associated with operations at the Moffett Federal Airfield.	No mitigation required	No Impact
NOI-13: The proposed Near-Term 7 projects would not expose onsite uses to noise levels associated with operations at a private airfield.	No mitigation required	No Impact
NOI-14: Planned development under the proposed Near-Term 7 projects would contribute to a substantial increase in permanent traffic noise levels on area roadways. Regardless of implementation of mitigation, impacts resulting from permanent increases in noise levels generated by increase	No mitigation required	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
in traffic would be potentially significant and unavoidable.		
NOI-15: Construction of the Near-Term Irvine project could generate noise that exceeds the City's Noise Ordinance Standards. As this project would be subject to regulations established in the City Municipal Code, impacts would be less than significant.	No mitigation required	Less Than Significant
NOI-16: Construction of the Near-Term Irvine project could generate excessive ground-borne vibration or noise. Impacts for the Near-Term Irvine project would be similar to those anticipated under the Project. Therefore, this impact would be less than significant.	No mitigation required	Less Than Significant
NOI-17: Operation of the Near-Term Irvine project could result in a substantial increase in ambient noise levels within the Project area. As increases in ambient noise levels from this project would be temporary, impacts are considered less than significant.	No mitigation required	Less Than Significant
NOI-18: The proposed Near-Term Irvine project could temporarily or periodically increase ambient noise levels in the Project area. As increase in ambient noise levels from this project would be temporary, impacts are considered temporarily significant and unavoidable.	Implementation of MM NOI-4a and 4b	Significant and Unavoidable
NOI-19: The proposed Near-Term Irvine project would not expose onsite uses to noise levels associated with operations at the Moffett Federal Airfield.	No mitigation required	No Impact

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
NOI-20: The proposed Near-Term Irvine project would not expose onsite uses to noise levels associated with operations at a private airfield.	No mitigation required	No Impact
NOI-21: Planned development under the Near-Term Irvine project would contribute to a substantial increase in permanent traffic noise levels on area roadways. Regardless of implementation of mitigation measures, impacts resulting from permanent increases in noise levels generated by increases in traffic would be potentially significant and unavoidable.	No mitigation required	Significant and Unavoidable
Population and Housing		
PH-1: Implementation of the Project could induce growth resulting from new development. Impacts would be less than significant.	No mitigation required	Less Than Significant
PH-2: Implementation of the Project would not substantially exacerbate the jobs-to-housing ratio imbalance. Impacts would be less than significant.	No mitigation required	Less Than Significant
PH-3: Implementation of the Project would potentially exceed City growth projections. Impacts would be less than significant.	No mitigation required	Less Than Significant
Public Services		
PS-1: Implementation of the proposed Project would substantially increase employee and resident populations within the Project area with associated additional demands for emergency and public safety services and construction of new or physically altered government facilities to maintain acceptable service ratios, response times, or other performance objectives for fire	No mitigation required	Less Than Significant

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
protection and police protection. This impact would be less than significant.		
PS-2: New residential uses occurring under the Peery Park Plan are anticipated to generate students, which would incrementally increase demand for schools; however, pursuant to SB 50, the payment of developer fees to the Sunnyvale School District and Fremont Union High School District would fully mitigate impacts to less than significant.	No mitigation required	Less Than Significant
PS-3: Implementation of the Project would incrementally increase the number of workers and visitors on site, which would increase demand for public parks on and within the Project vicinity. However, this impact would be less than significant	No mitigation required	Less Than Significant
Transportation, Circulation, and Traffic		
T-1: Construction activities anticipated to occur under the proposed Peery Park Specific Plan would potentially create short-term traffic impacts due to congestion from construction vehicles (e.g., construction trucks, construction worker vehicles, equipment, etc.), traffic lane and sidewalk closures, and loss of on-street parking. With implementation of the mitigation measure for construction traffic, construction-traffic impacts would be reduced to less than significant	MM T-1. Future development occurring under the proposed Peery Park Specific Plan shall be required to prepare a Construction Impact Mitigation Plan for review and approval prior to issuance of a grading or building permit to address and manage traffic during construction and shall be designed to: • Prevent traffic impacts on the surrounding roadway network • Minimize parking impacts both to public parking and access to private parking to the greatest extent practicable • Ensure safety for both those constructing the project and the surrounding community • Prevent substantial truck traffic through residential neighborhoods	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	The Construction Impact Mitigation Plan shall be subject to review and approval by the following City departments: Community Development, Public Works, and Public Safety to ensure that the Construction Impact Mitigation Plan has been designed in accordance with this mitigation measure. This review shall occur prior to issuance of grading or building permits. It shall, at a minimum, include the following: Ongoing Requirements throughout the Duration of Construction: • A detailed Construction Impact Mitigation Plan for work zones shall be maintained. At a minimum, this shall include parking and travel lane configurations; warning, regulatory, guide, and directional signage; and area sidewalks, bicycle lanes, and parking lanes. The Construction Impact Mitigation Plan shall include specific information regarding the project's construction activities that may disrupt normal pedestrian and traffic flow and the measures to address these disruptions. Such plans shall be reviewed and approved by the Community Development Department prior to commencement of construction and implemented in accordance with this approval. • Per Sunnyvale Municipal Code Section 16.08.030 work within the public right-of-way shall be performed between 7:00 AM and 6:00 PM Monday through Friday, and 8:00 AM to 5:00 PM on Saturday. With limited exceptions described in Sunnyvale Municipal Code Section 16.08.030, no	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	construction work would be permitted on Sundays and national holidays that City offices are closed. Construction work includes, but is not limited to dirt and demolition material hauling and construction material delivery. Work within the public right-of-way outside of these hours shall only be allowed after the issuance of an after-hours construction permit. • Streets and equipment shall be cleaned in accordance with established Public Works requirements. • Trucks shall only travel on a City-approved construction route. Limited queuing may occur on the construction site itself. • Materials and equipment shall be minimally visible to the public; the preferred location for materials is to be on-site, with a minimum amount of materials within a work area in the public right-of-way, subject to a current Use of Public Property Permit. • Any requests for work before or after normal construction hours within the public right-of-way shall be subject to review and approval through the After Hours Permit process administered by the Building and Safety Division. • Provision of off-street parking for construction workers, which may include the use of a remote location with shuttle transport to the site, if determined necessary by the City.	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	Project Coordination Elements That Shall Be Implemented Prior to Commencement of Construction: • The traveling public shall be advised of impending construction activities which may substantially affect key roadways or other facilities (e.g., information signs, portable message signs, media listing/notification, Hotline number, and implementation of an approved Construction Impact Mitigation Plan). • A Use of Public Property Permit, Excavation Permit, Sewer Permit, or Oversize Load Permit, as well as any Caltrans permits required for any construction work requiring encroachment into public rights-of-way, detours, or any other work within the public right-of-way shall be obtained. • Timely notification of construction schedules shall be provided to all affected agencies (e.g., VTA, Police Department, Fire Department, Public Works Department, and Community Development Department) and to all owners and residential and commercial tenants of property within a radius of 500 feet. • Construction work shall be coordinated with affected agencies in advance of start of work. Approvals may take up to two weeks per each submittal. • Public Works Department approval of any haul routes for earth, concrete, or	

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	construction materials and equipment hauling shall be obtained.	
T-2: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed Peery Park Specific Plan would substantially increase congestion at 4 of the 90 study intersections. While the proposed Peery Park Specific Plan would include improvements to transit, pedestrian, and bike facilities and expand the City's TDM Program to minimize new vehicle trips and vehicle miles traveled, potential peak period congestion would sill exceed existing City vehicular oriented LOS thresholds. This would be a significant and unavoidable impact.	MM T-2a. Third Westbound Left-Turn Lane. At the intersection of Mary Avenue with the Central Expressway a third westbound left-turn lane would mitigate Project-related increases to vehicle delay and V/C ratio. This project is identified as a Tier 3 project as a part of the August 2015 update of the County of Santa Clara Expressway Plan 2040. The third westbound left-turn lane could be feasibly accommodated within the existing right-of-way with minimal secondary impacts to pedestrian and bicycle facilities. Therefore, project applicants within the Project area shall pay a fair share contribution towards the planned third westbound left-turn lane at this intersection. MM T-2b. County of Santa Clara Expressway Plan 2040 Fee. The August 2015 update of the County of Santa Clara Expressway Plan 2040 identifies a number of long-range intersection improvements, including at the intersections of Lawrence Expressway with Cabrillo Avenue, Benton Street, Homestead Road, and Pruneridge Avenue. These planned Tier 3 projects would reduce potentially significant impacts to less than significant levels. Therefore, project applicants within the Project area shall pay a fair share contribution towards the planned County of Santa Clara Expressway Plan 2040 improvements at these intersections.	Significant and Unavoidable
T-3: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed Peery Park Specific Plan would increase congestion at 10 mixed-	MM T-3. VTA VTP 2040 Free. The VTA's VTP 2040 identifies a number of long-term improvement projects, including freeway express lane projects along U.S. 101 between Cochran Road and	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
flow freeway segments and six HOV segments resulting in significant and unavoidable impacts.	Whipple Avenue and along SR 85. The existing HOV lanes along these segments are proposed to be converted to express lanes and a second express lane is proposed to be implemented in each direction. Therefore, project applicants within the Project area shall pay a fair share contribution towards the planned VTA VTP 2040 improvements.	
T-4: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed Peery Park Specific Plan would result in less than significant impacts to freeway ramp capacities.	No mitigation required	Less Than Significant
T-5: Implementation of the Peery Park Specific Plan would have a potentially significant transit vehicle delay impact associated with increased congestion at the intersection of Mary Avenue and Central Expressway, through which Bus Route 32 and the Mary Moffett Caltrain Shuttle both provide services. However, implementation of the Peery Park Specific Plan's aggressive TDM measures would ensure that such congestion would be minimized and that impacts to transit travel times would be less than significant.	No mitigation required	Less Than Significant
T-6: Implementation of the Peery Park Specific Plan would have a potentially significant impact associated with increased demand for the transit, including VTA buses as well as the Caltrain Shuttle. Impacts associated with transit demand would be less than significant with mitigation.	MM T-6a. Transportation Management Agency. The City Public Works and Community Development Department shall require individual property owner's to join a Transportation Management Association (TMA) to help facilitate TDM programs for tenants within the Project area. MM T-6b. Transportation Impact Fee Project applicants in the Project area shall be required to pay a fair share transportation impact fee to the	Less than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	City that funds costs associated with the increased development to the Project area.	
T-7: Implementation of the Peery Park Specific Plan would improve and increase connections along existing pedestrian facilities and bike lanes resulting in overall beneficial impacts.	No mitigation required	Beneficial Impact
T-8: Implementation of the Peery Park Specific Plan would slightly increase vehicle miles traveled within Peery Park resulting in a less than significant impact.	No mitigation required	Less Than Significant
T-9: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed General Plan, including the Peery Park Specific Plan would substantially increase congestion at 5 of the 90 study intersections. This would be a significant and unavoidable impact.	No mitigation required	Significant and Unavoidable
T-10: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed General Plan, including the Peery Park Specific Plan, would increase congestion at 10 mixed-flow freeway segments and nine HOV segments resulting in significant and unavoidable impacts.	No mitigation required	Significant and Unavoidable
T-11: Increased traffic generated by the proposed seven projects would substantially increase congestion at 1 of the 43 study intersections under Existing plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.	The intersection of Lawrence Expressway & Kifer Road is planned to be grade-separated in the draft County Expressway Plan. No other feasible alternative configuration would achieve acceptable operations at this intersection. Implementation of MM T-2b	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
T-12: Increased traffic generated by the proposed seven projects would substantially increase congestion at 2 of the 49 study intersections under Background plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.	The Mathilda Avenue/U.S. 101/SR 237 interchanges are planned for interchange reconfigurations. Additionally, the Lawrence Expressway & Kifer Road intersection is planned to be grade-separated in the August 2015 update of the *County of Santa Clara Expressway Plan 2040*. No other feasible alternative configuration would achieve acceptable operations at this intersection. Implementation of MM T-2b	Less Than Significant with Mitigation
T-13: Increased traffic generated by the proposed seven projects would increase congestion at four mixed-flow freeway segments and two HOV segments. With implementation of the mitigation measure for improvements to U.S. 101, impacts could be reduced; however, impacts to U.S. 101 and SR 237 would remain significant and unavoidable.	No mitigation required	Significant and Unavoidable
T-14: Increased traffic generated by the proposed seven projects would result in less than significant impacts to freeway ramp capacities.	No mitigation required	Less Than Significant
T-15: Implementation of the proposed seven projects would increase demand for the multi-modal transportation facilities. Impacts to transit facilities would be significant and unavoidable.	Implementation of MM T-3 and MM T-6a and -6b.	Significant and Unavoidable
T-16: Under 2025 conditions, the proposed seven projects, would contribute to increased traffic generated by approved projects and background traffic growth through year 2025. This would be a significant and unavoidable impact.	Implementation of MM T-2a and MM T-2b.	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
T-17: Increased traffic generated by the proposed Irvine project would substantially increase congestion at 2 of the 30 study intersections under Existing plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.	The proposed grade separation on Lawrence Expressway at the intersections with Kifer Road and Reed Avenue, which are assumed under the 2035 scenarios, would fully mitigate the intersection impacts caused by the proposed Irvine project. Implementation of MM T-2b	Less Than Significant with Mitigation
T-18: Increased traffic generated by the proposed Irvine project would substantially increase congestion at 2 of the 36 study intersections under Background plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.	The Mathilda Avenue/U.S. 101/SR 237 interchanges are planned for interchange reconfigurations. Additionally, the Lawrence Expressway & Kifer Road intersection is planned to be grade-separated in the August 2015 update of the *County of Santa Clara Expressway Plan 2040*. No other feasible alternative configuration would achieve acceptable operations at this intersection. Implementation of MM T-2b	Less Than Significant with Mitigation
T-19: Increased traffic generated by the proposed Irvine project would increase congestion at four mixed-flow freeway segments and two HOV segments. With implementation of the mitigation measure for improvements to U.S. 101, impacts would be reduced; however, impacts to U.S. 101 and SR 237 would remain significant and unavoidable.	Implementation of MM T-2b	Significant and Unavoidable
T-20: Increased traffic generated by the proposed Irvine project would result in less than significant impacts to freeway ramp capacities.	No mitigation required	Less Than Significant
T-21: Implementation of the proposed Irvine project would increase demand for the multi-modal transportation facilities. Impacts to transit facilities would be significant and unavoidable.	Implementation of MM T-3 and MM T-6a and -6b	Significant and Unavoidable

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
T-22: Under 2025 conditions, the proposed Irvine project, would contribute to increased traffic generated by approved projects and background traffic growth through year 2025. This would be a significant and unavoidable impact.	No mitigation required	Significant and Unavoidable
Utilities and Infrastructure		
PU-1: Implementation of the Project may require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be reduced to less than significant with mitigation.	MM UT-1. Peery Park Infrastructure Fee: The City shall ensure adequate financing for funding of infrastructure improvements to serve the Project area. The PPIF shall be calculated prior to the approval of the first entitlements for a development within the Project area, following adoption of the Project. All agencies or developers responsible for new development within the Project area shall be conditioned to be subject to payment of its fair share of any impact fees identified under this program. The PPIF shall determine the costs of and establish a funding program for capital improvements to upgrade water delivery as needed to serve the demands of new land uses anticipated to occur under the Project. As part of the PPIF, a supplemental water system impact fee shall be established to assess developers their proportional cost of water line improvements to accommodate the planned development capacity in Peery Park. Each project will be required to prepare a hydraulic analysis to determine the required fire flow requirement for the site. As determined by the City, a developer would either pay an impact fee for its proportional share of the cost of Peery Park improvements, or be required to upgrade/replace specific water lines that serve the project site. The PPIF shall also:	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	a. Identify the cost of improvements to or replacement of undersized water and wastewater lines within the Project area needed to serve the Project; b. Clearly apportion existing and projected demand on these facilities and costs between existing users, the City and proposed future development. c. Identify potential funding mechanisms for sewer and water line construction, including the equitable sharing of costs between new development, the City and existing users, including development impact fees, grants, assessments, etc. d. Identify the impact fees for all residential and non-residential development to ensure that development pays its fair share of public infrastructure costs; and e. Include a regular fee update schedule, consistent with the City's Capital Improvement Program.	
UT-2: The Project would increase the demand for water; however, this demand would be adequately met by existing and planned future water supplies. This impact would be less than significant.	No mitigation required	Less Than Significant
UT-3: Implementation of the Project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). This would be a less than significant impact.	No mitigation required	Less Than Significant
UT-4: The Project may require or result in the construction of new wastewater facilities or expansion of existing facilities, the construction	MM U-2. Peery Park Infrastructure Fee: In addition to the improvements to the water delivery system described in MM U-1, the City shall ensure	Less Than Significant with Mitigation

Table ES-2. Project Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
of which could cause significant environmental effects. Impacts would be reduced to less than significant with mitigation.	adequate financing for funding of infrastructure improvements to the wastewater system. The PPIF shall determine the costs of and establish a funding program for capital improvements to wastewater conveyance as needed to serve the demands of new development occurring under the Project.	
UT-6: The Project has the potential to result in the generation of additional solid waste that would require landfill disposal. There is sufficient landfill capacity to accommodate the increased solid waste generation, so this impact would be less than significant.	No mitigation required	Less Than Significant
UT-7: The Project would not result in generation of waste with the potential to conflict with federal, state, and local statutes and regulations related to solid waste. Due to existing and proposed City programs, there is no impact.	No mitigation required	No Impact
UT-8: The Project would increase energy demand, but would not result in wasteful, inefficient, and unnecessary consumption of energy. Implementation standard regulations, as well as conformance with the City's Climate Action Plan, Zero Waste Policy, Green Building Program, Urban Forestry, Landscaping Requirements and the policies of the City's LUTE, would reduce impacts to less than significant.	No mitigation required	Less Than Significant

Table ES-3. Comparison of Alternatives to the Proposed Project

Resource Area Impacts	Proposed Project	No Project	Mixed Use Housing	Higher Intensity Buildout
Aesthetics and Visual Resources	Less than Significant	Similar but slightly less (Less than Significant)	Similar (Less than Significant)	Similar but slightly greater (Less than Significant)
Air Quality	Significant and Unavoidable	Less (Significant and Unavoidable)	Slightly Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Biological Resources	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Cultural Resources and Historic Structures	Significant and Unavoidable	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Geology & Soils	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Greenhouse Gas Emissions	Significant and Unavoidable	Less (Significant and Unavoidable)	Incrementally Less or Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Hazards and Hazardous Materials	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Hydrology and Water Quality	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Land Use and Planning	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Slightly Greater (Less than Significant)
Noise	Less than Significant	Incrementally Less (Less than Significant)	Incrementally Less (Less than Significant)	Incrementally More (Less than Significant)
Population and Housing	Less than Significant	Less (Less than Significant)	Less (Less than Significant)	Greater (Less than Significant)
Public Services	Less than Significant	Incrementally Less (Less than Significant)	Similar (Less than Significant)	Slightly Greater (Less than Significant)
Transportation, Circulation, and Traffic	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Utilities and Infrastructure	Less than Significant	Less (Less than Significant)	Slightly Greater (Less than Significant)	Greater (Less than Significant)
Project Objectives Met?	Yes	No	Partially met	Yes

CONTENTS

APPENDICES

FIGURES

Figure **Page**

TABLES

Table **Page**

ACRONYMS AND ABBREVIATIONS

%	percent
°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADT	average daily traffic
AFY	acre-feet per year
AIA	Airport Influence Area
AIRFA	American Indian Religious Freedom Act
ALUC	Airport Land Use Commission
APS	Alternative Planning Strategy
APSA	Aboveground Petroleum Storage Act
AQMP	Air Quality Management Plan
ASTM	American Society for Testing of Materials
BAAQMD	Bay Area Air Quality Management District
BCWS	Bay Counties Waste Services
BMP	Best Management Practice
BPAC	Bicycle and Pedestrian Advisory Commission
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/OSHA	California Department of Industrial Relations Division of Occupational Safety and Health
CalARP	California Accidental Release Prevention
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California's Green Building Standard Code
CalRecycle	California's Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAS	California Adaptation Strategy
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDBG	Community Development Block Grant
CDD	Community Development Department
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act

CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFC	chlorofluorocarbons
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH4	methane
CHBC	California Historical Building Code
CHL	California Historical Landmarks
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CLUP	Comprehensive Land Use Plan
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPHI	California Points of Historical Interest
CRHR	California Register of Historical Resources
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CY	calendar year
dB	decibel
dBA	A-weighted decibel
DNL	day-night average sound level
DOC	Department of Conservation
DSP	Downtown Specific Plan
DTSC	Department of Toxic Substances Control
DU	dwelling unit
du/ac	dwelling units per acre
DWR	Department of Water Resources
EC	Energy Consumption
ECM	Energy and Climate Control Measures
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FAR	floor-to-area ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
FTS	Freedman, Tung and Sasaki
GHG	greenhouse gas
GIS	Geographic Information System
GPS	global positioning system
GtCO2e	billion metric tons
H_2S	hydrogen sulfide

HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HE	Housing Element
HMIS	Hazardous Materials Inventory Statement
HMMP	Hazardous Materials Management Plans
HMRRP	Hazardous Materials Release Response Plans and Inventory
HOV	High Occupancy Vehicle
HVAC	Heating/ventilation/air conditioning system
HWG	Hazardous Waste Generator
Hz	hertz
I-	Interstate
IAP	International Airport
IEC	Infrastructure Engineering Corporation
IFC	International Fire Code
IPCC	International Panel on Climate Change
ISG	Individual Supply Guarantee
ISO	Insurance Service Office
ISZ	Inner Safety Zone
ITE	Institute of Transportation Engineers
ITR	Industrial to Residential
IWMA	Integrated Waste Management Act
kWh	Kilowatt-hours
LBP	lead-based paint
Ldn	day-night average sound level
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LF	linear foot
LID	low impact development
LOS	level-of-service
LSAP	Lawrence Station Area Plan
LUFT	Leaking Underground Fuel Tank
LUTE	Land Use and Transportation Element
MACT	Maximum Achievable Control Technology
MBTA	Migratory Bird Treaty Act
MGD	million gallons per day
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
mph	miles per hour
MPO	metropolitan planning organizations
MRP	Municipal Regional Permit
msf	million square feet
MSL	mean sea level
MTC	Metropolitan Transportation Commission
MTCO2e	metric tons
N/A	Not Applicable
N_2O	nitrous oxide
NA	Not Available
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria

NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NASA	National Aeronautics and Space Administration
NCCP	Natural Community Conservation Plan
ND	No Data
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOD	Notice of Determination
NOP	Notice of Preparation
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OPR	Office of Planning and Research
OR	Off-Road
OSHA	Occupational Safety and Health Administration
OSZ	Outer Safety Zone
Pb	lead
PCB	polychlorinated biphenyl
pCi/L	picoCuries per liter
PD	Planned Development
PDA	Priority Development Area
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
POA	Places of Assembly
ppb	parts per billion
ppm	parts per million
PPPIFP	Peery Park Public Infrastructure Financing Program
PPSP	Peery Park Specific Plan
PPV	peak particle velocity
PRC	Public Resources Code
R&D	research and development
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Allocation
RHNP	Regional Housing Needs Plan
RMS	root mean square
ROG	reactive organic gases
RPA	Registered Professional Archaeologist
RPZ	runway protection zone

RTP	regional transportation plans
SB	Senate Bill
SCS	sustainable communities strategy
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SCVWD	Santa Clara Valley Water District
SEMS	Standard Emergency Management System
sf	square foot/feet
SFBAAB	San Francisco Bay Area Air Basin
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SFO	San Francisco International Airport
SFPUC	San Francisco Public Utilities Commission
SIP	State Implementation Plan
SJC	San Jose International Airport
SMaRT	Sunnyvale Materials Recovery and Transfer
SMC	Sunnyvale Municipal Code
SO_2	sulfur dioxide
SOV	single-occupant vehicle
SO_x	sodium oxide
SPCSP	Southern Pacific Corridor Specific Plan
SR	State Route
SRREs	Source Reduction and Recycling Elements
SSZ	Sideline Safety Zone
STFM	Sunnyvale Travel Demand Forecasting Model
SVP	Society for Vertebrate Paleontology
SWAT	Special Weapons and Tactics
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TDF	Travel Demand Forecasting
TDM	Transportation Demand Management
TgCO2e	million metric tons
TIA	Traffic Impact Analysis
TMA	Transportation Management Association
tpy	tons per year
TSCA	Toxic Substances Control Act
TSZ	Turning Safety Zone
U.S.	United States
UFMP	Urban Forest Management Plan
UNFCCC	United Nations Framework Convention on Climate Change
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
USA North	Underground Services Alert of Northern California
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGBC	U.S. Green Building Council
USGS	United States Geological Survey
UST	underground storage tank

UWMP	Urban Water Management Plan
V/C ratio	Traffic Volume to Roadway Capacity ratio
VdB	decibel notation
VMT	vehicle miles traveled
VOC	volatile organic compound
VTA	Santa Clara Valley Transit Authority
WPCP	Water Pollution Control Plant
WS Agreement	Water Supply Agreement in Alameda County, San Mateo County and Santa Clara County
WSA	water supply assessment

This page intentionally left blank.

1.0 INTRODUCTION

1.1 OVERVIEW

This Environmental Impact Report (EIR) evaluates the environmental impacts of the proposed Peery Park Specific Plan (Project) for the City of Sunnyvale, California (City). The purpose of the Project is to provide the City, property owners, and businesses with a guide for future development in the approximate 450 acre Peery Park area.

The Project proposes actions, policies, and standards to guide development within Peery Park from an aging industrial area to an innovative and accessible workplace district.

The Project proposes a general vision and broad policies to guide development for the next 20 years. Based on the proposed policies, the Project provides the details on the type, location and intensity of uses, defines the capacity and design of needed public improvements and infrastructure, and determines the resources necessary to finance and implement the public improvements and infrastructure needed to support the vision for the Project area.

The intent of the Project is to set development policies, land use regulations, design standards, capital improvement program, and financing program concisely within a single document while also providing design standards to give the area a unique identity to attract quality developments and businesses. The Project would address market constraints and opportunities for industrial and office uses and evaluate the appropriateness of other uses necessary to create a vibrant business community. The Project also take into consideration the proximity of the Project area to Moffett Federal Airfield (operated by NASA-Ames), Downtown Sunnyvale Caltrain station, and Valley Transit Authority (VTA) light rail stops in Mountain View and Sunnyvale.

In addition, the City has proposed economic goals and priorities as objectives for the Project, including the following:

- Attract companies that provide high-paying jobs.
- Focus economic development activities on business retention and attraction.
- Enhance the City's inventory of Class A buildings and mixed-use development.
- Modify land uses to allow redevelopment of under-utilized industrial properties, while also maintaining a mixture of uses.
- Physically reshape the Project area to create a successful workplace district.
- Support distinct activity center uses within appropriate areas.

Development of the draft Specific Plan and environmental review of the Project began on June 9, 2015. The process of preparing the draft Specific Plan and the environmental analysis is proceeding concurrently given both analyses require many of the same studies and baseline information.

Project actions may include the following:

- Adoption of the Peery Park Specific Plan
- Carrying out an urban design framework for the existing industrial business park that addresses six primary development concepts (activity centers, innovation edges, mixed industry core, mixed commercial edge, neighborhood transition areas, and public facility)
- Community benefits program tied to development capacity
- Implementation of development code regulations for modifications to buildings, streets, open space, parking, and signage
- Improvements to the Project area that may include:
    - Street improvements
    - Traffic circulation and new transportation services
    - Utilities and infrastructure upgrades
    - Expansion of open space in Project area
    - Infrastructure and public facilities improvements
- Related amendments to the Sunnyvale General Plan and Municipal Code, such as rezoning the existing Project area to "Peery Park District - PPD", which would refer all zoning standards to the Peery Park Specific Plan.

This EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) as discussed below. The EIR was prepared by Amec Foster Wheeler under the direction of City of Sunnyvale Community Development Department staff, with assistance from staff in the Office of the City Manager, Office of the City Attorney, Public Works Department, Environmental Services Department, Department of Public Safety, and Community Services Department.

1.1.1 EIR Purpose and Legal Authority

This EIR was prepared in accordance with the Guidelines for Implementation of CEQA, published by the Resources Agency of the State of California (Title 14, California Code of Regulations 15000 et. seq.), and the City's procedures for implementing CEQA. Per §21067 of CEQA and §15367 and 15050 through 15053 of the State CEQA Guidelines, the City is the Lead Agency under whose authority this document has been prepared. It is intended to provide information to public agencies, decision-makers, and the public regarding the environmental impacts that would result from implementation of the proposed Project. Under the provisions of CEQA, "the purpose of the environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which significant effects can be mitigated or avoided" (Public Resources Code 21002.1[a]).

The environmental review process was established to enable public agencies to evaluate a project in terms of its environmental consequences, to examine and implement mitigation measures for eliminating or reducing any potentially adverse impacts, and to consider alternatives to the project. While CEQA §150201(a) requires that major consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including social and economic goals, in determining whether and in what manner a project should be approved.

The Peery Park Specific Plan serves as the basis of Section 2.0, *Project Description* analyzed in this EIR. This EIR evaluates potential impacts of reasonably foreseeable development permitted under the Project and that of three alternatives. The information in this EIR can be used to inform the public and City decision-makers about key Project issues, and to aid in the refinement of the final Peery Park Specific Plan. A full copy of the Peery Park Specific Plan can be viewed during the public review period on the project webpage: **PeeryPark.InSunnyvale.com**.

1.1.2 Program EIR

§15168 of the State CEQA Guidelines provides for the preparation of a Program EIR for a series of actions that constitute one large project and are related geographically. In the case of the Project, this includes adoption of the proposed new Specific Plan, General Plan amendment, and rezoning.

This Program EIR examines proposed action items, standards, and policies associated with development and buildout of the Project area through the year 2035.

A Program EIR provides the City with the opportunity to consider broad policy and development alternatives and mitigation programs to address citywide cumulative impacts. Once a Program EIR has been prepared, subsequent activities within the program are evaluated to determine whether additional CEQA analysis is needed. These subsequent activities could be found to be within the Program EIR scope, and additional environmental documents may not be required if the Program EIR adequately addresses impacts of the subsequent activity (CEQA Guidelines §15168[c]). When a Program EIR is relied upon for a subsequent activity, the Lead Agency incorporates applicable mitigation measures and alternatives developed in the Program EIR into the subsequent activities (CEQA Guidelines §15168 [c] [3]). If a subsequent activity would have effects that are not identified in the Program EIR, the Lead Agency prepares additional environmental review documentation, as applicable.

This is a Program EIR that addresses total buildout of the Project within the Peery Park area based on subdistricts within the Project area, as well as 8 near-term projects anticipated to occur within the Project area in the next 3 to 7 years. For buildout estimates in the Project area, each

subdistrict serves a role within the greater Project area to meet the needs of existing uses and foster development of future uses, including technology, medical, industrial, and employee-serving facilities and amenities. The proposed Project sets forth subdistrict-specific development standards, uses, and building envelopes for these delineated areas within the Project area, as well as for the connections and uses between the subdistricts. The environmental analysis provided in this EIR for these subdistricts provides sufficient analysis in compliance with the requirements of CEQA to enable decision-makers to approve subsequent projects proposed within these subdistricts consistent with the Specific Plan without subsequent environmental review. However, if any substantial changes to the development parameters (e.g., building envelope, height, use, etc.) analyzed in this EIR within any of these subdistricts are later revised, subsequent environmental review would be required prior to approval.

1.1.3 Agencies and Roles

The EIR process involves the following interested agencies, as specified in the CEQA Guidelines:

Lead Agency	The City of Sunnyvale as the agency with principal responsibility for approving or carrying out a project (CEQA Guidelines §15367).
Trustee Agencies	State agencies with general management authority over specified resources of the State when the resources may occur within a project area, including the California Department of Fish and Wildlife (CDFW) (CEQA Guidelines §15386).
Other Interested Agencies	Additional agencies that may be interested in the proposed Project and its environmental impacts, although they would have no authority over the project approval and adoption. These agencies would include the Federal Aviation Administration (FAA), Valley Transit Authority (VTA), National Aeronautics and Space Administration (NASA), Bay Area Air Quality Management District (BAAQMD), Caltrans, and County of Santa Clara Airport Land Use Commission (ALUC).

1.1.4 Environmental Review Process

The EIR process consists of the following steps, as specified in the CEQA Guidelines:

1) Notice of Preparation (NOP)/Public Scoping Hearing	The City issued a NOP on June 9, 2015, requesting comments on the proposed EIR scope of analysis within 30 days. The City held a public Scoping Hearing on June 25, 2015, and public comments were received until July 9, 2015.
2) Draft EIR and Public Review Period	The City releases the Draft EIR and provides a public review and comment period (45 days). The City will hold a Public Hearing with the Planning Commission at their regular meeting on Monday, May 23, 2016 as another opportunity for public comment on the Draft EIR. Planning Commission meetings begin at 8 p.m. and the agenda for the meeting is available at least 72 hours prior to the meeting.

3) Final EIR	The Final EIR includes the Draft EIR with any necessary revisions, public comments and a list of persons and entities who commented, and written responses to public comments submitted during the Draft EIR public review period and will be publically circulated for a 10-day period, at a minimum.
4) EIR Certification, Project Decision, Findings and Statement of Overriding Considerations	The City certifies that the Final EIR has been completed in compliance with CEQA and makes a decision on the project analyzed. CEQA provides that the Lead Agency may disapprove a project because of its significant environmental effects, require changes to the project to reduce or avoid significant environmental effects, or approve the project despite its significant environmental effects if findings and a statement of overriding considerations are first made and adopted.
5) Mitigation Monitoring and Reporting Program (MMRP)	The City adopts a MMRP for mitigation measures that were adopted or made conditions as part of project approval.
6) Notice of Determination (NOD)	The City files a NOD with the State Clearinghouse within five working days of the agency action to complete environmental review.

1.1.5 Environmental Setting/Definition of Baseline Conditions

CEQA requires that an EIR include a description of the existing physical environment in the vicinity of the project to provide the baseline condition against which project-related impacts are compared (CEQA Guidelines §15125). Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP date of June 9, 2015 and baseline year of 2015 conditions is used for all impact areas analyzed in this EIR.

1.1.6 Scope of EIR

This EIR assesses the potential environmental impacts of developing the Project area in accordance with the proposed Specific Plan. The scope of this EIR includes assessment and evaluation of potentially significant environmental issues, comments in response to the NOP, and scoping discussions among consulting staff and the City. The NOP and comment letters received during the NOP review period are included in Appendix B. The initial study and scoping phase determined that the Project may result in potentially significant impacts with respect to the following issue areas, which are addressed in detail in this EIR:

- Aesthetics and Visual Resources
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Population and Housing

- Public Services
- Transportation and Traffic
- Utilities and Service Systems
- Mandatory Findings of Significance

This EIR addresses the issues referenced above and identifies environmental impacts, including site-specific and cumulative effects of the Project, in accordance with the provisions set forth in the CEQA Guidelines. In addition, the EIR recommends feasible mitigation measures, where possible, that would reduce or eliminate adverse environmental effects.

In accordance with CEQA Guidelines §15128 (Effects Not Found to Be Significant), environmental impacts related to Agriculture and Forestry Resources, Biological Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources, and Recreation were not considered significant (Section 4.0, *Other CEQA Issues*).

Cumulative project impacts, which give consideration to other large, discretionary projects in the immediate vicinity that are expected to be operational by the time the Project would be implemented, are discussed in each resource area analysis section of EIR. Cumulative project analyses represent a comprehensive assessment of potential impacts on City resources using a list of past, present and probable future projects producing related or cumulative impacts (Chapter 3.0).

Consistent with CEQA Guidelines (§15126.6[d]), this EIR includes the assessment of a range of reasonable alternatives to the Project to allow for comparative analyses and foster informed decision making and public participation (Chapter 4).

1.2 PEERY PARK SPECIFIC PLAN BACKGROUND AND REGIONAL CONTEXT

The City was incorporated in 1912, and had a long history of agricultural production, primarily in orchard crops. The City experienced rapid growth during the 1960s to 1970s and during the latter part of this period the area known as Peery Park was developed primarily with Class B and C single-story concrete, pre-fabricated “tilt-up” buildings. Peery Park was primarily developed by Peery-Arrillaga. Although some of the properties in the area have been redeveloped, many retain their original structures.

Peery Park’s proximity to regional transport systems and surrounding neighborhoods highlights and facilitates the Project area’s development opportunities.

A strong economy, combined with Peery Park’s excellent location within Silicon Valley, has resulted in increased development activity in the

Project area. Multiple applications have recently been submitted or approved requesting increased development capacity. Prior to kicking off the Project, the City reviewed these applications on a case-by-case basis. The City and the community have been concerned about traffic, building density, and height impacts of redevelopment and intensification, but it has been challenging to develop a comprehensive understanding of the implications of wide-spread change in Peery Park when reviewing the projects individually.

The concept for the preparation of the Peery Park Specific Plan originated with a 2008 City Council Study Issue Paper, and the City Council subsequently ranked this Project as an important priority for 2009. Ultimately, the consolidated General Plan of 2011 noted the anticipated industrial growth in the Peery Park area that would necessitate planning for land use and development, with potential for 900,000 square feet of new office and industrial floor area.

In June 2013, City Council initiated the Project by selecting Freedman, Tung and Sasaki (FTS) to prepare the Specific Plan for Peery Park. FTS, while working with Amec Foster Wheeler on the EIR, and Hexagon Transportation Consultants have contributed to development of the traffic component of the EIR and Specific Plan, and Seifel Consulting for the market and fiscal analysis. Given the Project area's centralized location for high-tech and other emerging industries coupled with access opportunities via two freeways and Central Expressway, the Project includes development of an increased amount of Class A structures and campuses in addition to an improved mix of uses, including Class B and Class C structures.

As of 2016, the Land Use and Transportation Element (LUTE) of the City's General Plan is being updated concurrently and considers the proposed Specific Plan. Need of a specialized transportation and traffic plan to address growth from the Project is noted in the LUTE. Additionally, the Project and LUTE are occurring concurrent with development under the Lawrence Station Area Plan (LSAP).

As part of the planning process, a development capacity estimate for the Project was prepared to be used as the basis for an analysis of traffic, infrastructure, fiscal, and environmental impacts, as well as to inform the Project's financing/implementation strategy. To estimate how much theoretical development may occur over the timeframe of the Project, potential opportunity sites, patterns of ownership, actual development activity/interest, and regional market conditions and forecasts were analyzed. Feasible development types were projected on potential opportunity sites based on current market and demand analysis. Projects that were under construction in the Project area at the time the development capacity was prepared are considered existing development. Projects in the pipeline at the time the development capacity was prepared were included in the projection of new development. The cumulative square footage of existing buildings, under construction projects, pipeline projects, and projected development is the basis of the development capacity.

More development beyond the projected Project development capacity is theoretically possible under the Project's proposed land use and development regulations. However, the intent of the Project is to project a development scenario within a reasonable time horizon for specific plans

(20 years). This approach allows the EIR to identify impacts from development, identify realistic mitigations for those impacts, and if necessary, set reasonable caps on development capacity based on the magnitude of the impacts and the timing of mitigations. The EIR also incorporates Project implementation over time, which would adjust the development cap or mitigation measures as necessary in response to actual impacts. Ultimately, the development capacity is a balance between actual developer/property owner interest in redevelopment, current economic trends, the City/community's concerns about development, and other environmental impacts.

1.3 AREAS OF KNOWN CONTROVERSY

CEQA requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public (CEQA Guidelines §15123). Based on City Council and Planning Commission meetings, public workshops held between 2013 and 2015, and public letters received on the NOP, the following environmental issues are known to be of concern and may be controversial. Each issue is further discussed in this EIR.

- Building height and mass, considering proximity to both airport and residential land uses.
- Neighborhood and aesthetic compatibility between the business park and surrounding residential areas.
- Adequate parking availability within the Project area for proposed increased industrial building development.
- Transportation demand and congestion management.
- Utility infrastructure and dependent resources.

1.4 ORGANIZATION OF THE EIR

This EIR is organized into the following sections:

- **Section 1.0, *Introduction***, summarizes the background of the proposed projects and explains the environmental review process.
- **Section 2.0, *Project Description***, provides a detailed description of the proposed project.
- **Section 3.0, *Environmental Impact Analysis***, provides the existing environmental conditions, analyzes the proposed project, cumulative and residual impacts and recommends feasible mitigation measures.
- **Section 4.0, *Other CEQA Considerations***, identifies insignificant issues areas, as well as significant and irreversible, growth-inducing, and unavoidable effects.
- **Section 5.0, *Alternatives***, describes alternatives to the proposed projects, and identifies the Environmentally Superior Alternative.
- **Section 6.0**, ***Mitigation Monitoring and Reporting Program***, presents the mitigation monitoring program.
- **Section 7.0**, ***List of Preparers*,** identifies the EIR project team.

- **Section 8.0, *References,*** provides documents and interviews used as a basis of information for preparing the EIR.
- **Appendices,** Appendices to the EIR include the IS, NOP and NOP comment letters, and supporting technical studies used as a basis of information and analyses in preparation of the EIR.

2.0 PROJECT DESCRIPTION

The proposed Peery Park Specific Plan would enable and facilitate a net increase in development of 2,200,000 square feet (sf) of transit-oriented light industrial, office, limited retail uses, and an estimated 215 residential units within the Peery Park area. The Peery Park Specific Plan would guide this development through adoption of new urban form strategies and development standards, including architectural guidelines, and include facilitation of redevelopment of older buildings to provide for a diverse mix of uses. The Peery Park Specific Plan would also address circulation and mobility through pedestrian, bike, transit, and streetscape improvements. The Peery Park Specific Plan would also ensure that new development respects and integrates transition areas between Peery Park's current mix of industrial buildings and the surrounding residential neighborhoods.

2.1 INTRODUCTION AND OVERVIEW

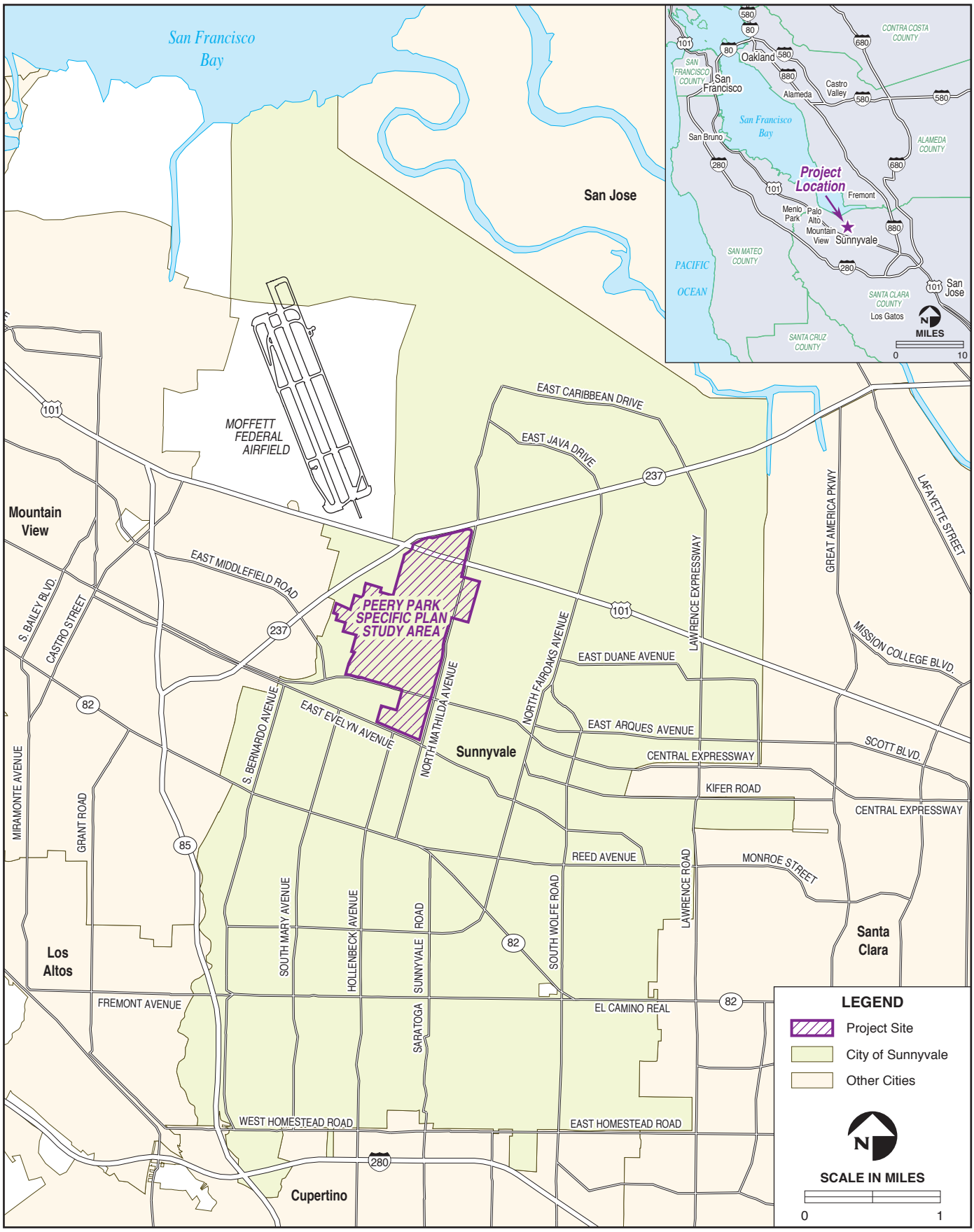
Peery Park is an established light industrial area in Sunnyvale characterized by tree-lined streets, deep setbacks, and large one- to two-story buildings. The Project would guide land use and development within Peery Park through 2035.

The City of Sunnyvale (City) is proposing to adopt the Peery Park Specific Plan (Project) to guide development for the Peery Park District. Peery Park (Project area) is an important office and industrial center for the City, as noted by the City's General Plan Land Use and Transportation Element (LUTE), which is currently being updated. The Project outlines allowable development within the 450-acre planning area and defines the goals, policies, development standards, design guidelines, preservation strategies, circulation improvements, and implementation strategies to guide development consistently with goals identified in the LUTE. The Project includes policy and program components to address proposed building form, height, development standards and strategies for open space, community benefits, and circulation. These standards also effectively define and limit maximum foreseeable future growth and development that could occur within the Project area.

2.1.1 Project Location

The Project area encompasses approximately 450 acres in the northern portion of the City within Santa Clara County, California (Figure 2-1). The City is located in the southern region of the San Francisco Bay area, an area colloquially referred to as Silicon Valley, given it is home to many of the world's largest computer and technology companies. The City is bordered by the cities of Mountain View to the west, Los Altos southwest, Cupertino to the south, and Santa Clara to the east. Moffett Federal Airfield lies to the northwest and a portion of the City of San Jose is to the northeast. The Project area is roughly bounded by California State Route 237 (SR 237) to the north and northwest, Mathilda Avenue to the east, the Southern Pacific Railroad line to the south, and Mary Avenue to the west, with a limited area extending west of Mary Avenue toward the Sunnyvale Golf Course. Downtown Sunnyvale is located approximately 0.5 mile to the southeast and provides transit and retail services to Peery Park. The Project area covers approximately 0.63 square miles within the 23 square mile City.

The 450-acre Project area, which extends to the Southern Pacific Railroad just south of the Central Expressway, encompasses primarily one- to two-story light industrial and offices with large surface parking lots are often set back from surrounding streets that are often lined with mature trees. Wide 4-6 lane roads such as North Mathilda Ave., Mary Ave. and Maude Ave (not labeled), and the Central Expressway traverse the Project area and provide access to the regional road network of US Highway (US 101) and SR 237. Discontinuous internal roads, incomplete sidewalks in places, and wide auto-oriented roads can limit or discourage pedestrian and bike mobility. This image does not include approximately 13.8 acres along the southern border of the Specific Plan area.



amec foster wheeler

Vicinity Map

FIGURE 2-1

2.1.2 Project Background

Peery Park Development History

The Project area was primarily developed between 1960 and 1970 with low-rise office and research and development (R&D) industrial buildings. Generally, site development included deep setbacks from public roads with large surface parking lots and perimeter landscaping along adjacent roads. This development pattern reflects existing industrial zoning regulations that restrict building site coverage to a 35% Floor to Area Ratio (FAR). As a result, the industrial buildings created a low to moderate density area with one- to two-story buildings, which is reflective of market demands at that time. In response to changing market demand, in 1993 the City approved higher FARs ranging from 55%-100% for several parcels along Mathilda Avenue north of Maude Avenue, which increased the development density in this portion of Peery Park. Under existing land use and zoning regulations, the City's 2011 General Plan estimates that the Project area can accommodate approximately 900,000 sf of additional office/industrial development beyond existing and pending/approved development as of 2014.

Floor to Area Ratio (FAR) is the relationship of a building's total floor area to the size of the piece of land upon which it is built. The terms can also refer to limits imposed on such a ratio to regulate the size of a building.

Some properties within the Project area have been redeveloped, but most remain in their original state. As a result many of the existing buildings are considered Class B and Class C leasable space, which meets the needs of a limited segment of the high tech real estate market in Silicon Valley. Given the expansion of high tech industries in Silicon Valley and recent market trends, interest in innovative, higher density, and taller Class A office buildings has increased in the Project area. Given Peery Park's favorable location for high-tech and other emerging companies and access via two freeways and Central Expressway, the Project area is poised for redevelopment and is experiencing strong demand for new industrial and office uses, with multiple pending development projects within the area.

Low-rise industrial buildings were constructed throughout the Peery Park District in the 1960s and 1970s, and many of these buildings, although altered and remodeled over the years, still line the Peery Park streets and surrounding thoroughfares, providing Class 'B' and 'C' leasable space.

Leasable Space Classification: The Building Owners and Managers Association (BOMA) defines three types of office space based on a combination of factors including rent, building finishes, amenities, location, market perception, etc.:

Class A Most prestigious buildings competing for premier office users with above average rents.

Class B Buildings competing for a wide range of users with rents in the average range for the area.

Class C Buildings competing for tenants requiring functional space at rents below the average for the area.

Peery Park Specific Plan Process

The Project is intended to guide new development with new land use and transportation goals, policies, development standards, and design guidelines to facilitate new employment-generating growth while also protecting the community's quality of life and providing community benefits. Specific plans are a planning tool used to implement the general plan policies and development regulations in a defined area. State law (Government Code §65450) authorizes local planning agencies to adopt specific plans for implementation of their general plans in designated areas. Specific plans are required to include types of allowable uses, development and design standards, and improvements to public facilities and infrastructure. Specific plans are a useful bridge between the broad policies of the general plan and the prescriptive standards of the zoning ordinance. Additional regulations, conditions, programs, standards, and guidelines help implement the vision for long-range development of the Project area.

The Project area is experiencing strong demand for upgraded development of new industrial and office uses, with redevelopment for Class 'A' structures.

The specific planning process for Peery Park was initiated in fall 2013 and has been discussed at four public community workshops and several City Council hearings or study sessions. The public workshops allowed for collaboration between residents, other stakeholders, City staff and project consultants regarding concepts for the draft Specific Plan. These workshops occurred between October 16, 2013 and July 9, 2015. Topics included discussion of existing issues and opportunities within the area, economics and workplace trends, neighborhood compatibility, policies and goals for the plan, concerns related to overall potential development levels, land use, building design concerns, such as transitional building heights, buffers, and pedestrian connections between the Project area and adjacent neighborhoods.

Significant components of the Project were shaped through this public outreach process. The guiding principles, district goals and policies, and the envisioned land use mix in the Project reflect concerns raised by the public during this initial planning and public outreach process. The Project also addresses key community concerns surrounding circulation, mobility, transportation, and land use connectivity.

It is anticipated that the Project would be considered by City decision-makers and adopted in 2016 and that the Peery Park Specific Plan will govern land use and development and public improvements within Peery Park through 2035.

2.2 EXISTING SETTING

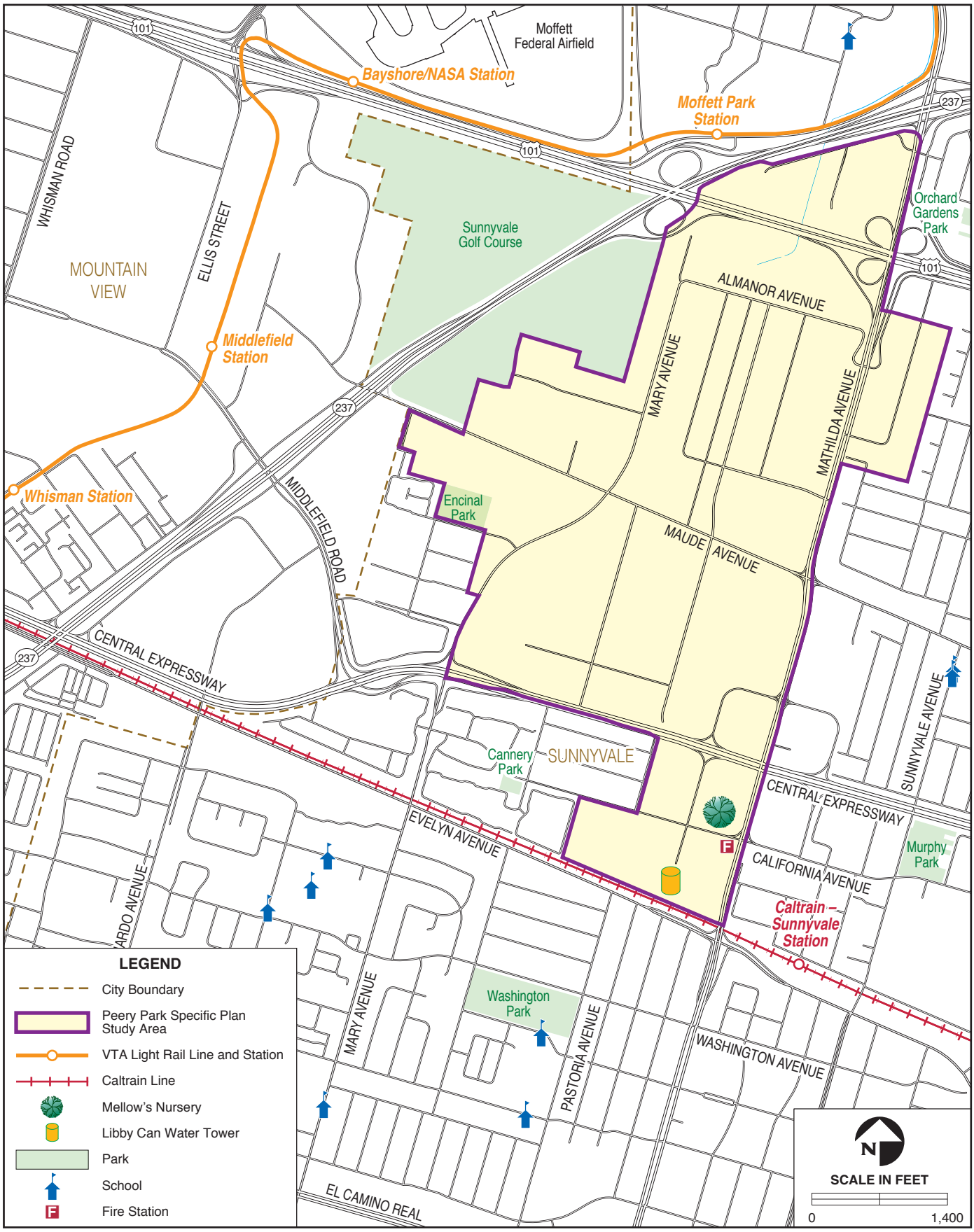
2.2.1 Existing Land Uses and Development

Land Use Overview

The Project area lies within the northern end of the City and is bordered by the cities of Mountain View to the west, Los Altos to the southwest, Cupertino to the south, and Santa Clara to the east. Moffett Federal Airfield lies to the northwest and a portion of the City of San Jose is located to the northeast. A mix of uses surround the Project area within the City, including residential neighborhoods, the Sunnyvale Golf Course, light industrial areas, and the Moffett Federal Airfield (Figure 2-2).

Peery Park is one of five major industry/workforce centers in the City, supporting software, hardware, innovation services, biomedical, and electronic components. The Project area supports approximately 7 million sf of existing development with 0.5 million sf approved or under construction. The Project area currently provides a range of building qualities and types, though the majority of the structures are Class B and C leasable space. The area is almost completely developed. The Project area is approximately 450 gross acres (446 net), containing 223 parcels ranging from 0.02 acres to 21.45 acres in size. Land use within the Project area is approximately 77% industrial, 12% service and retail commercial, 10% recreational, and less than 1% residential. Existing land uses in the Project area are predominantly industrial, but also include a range of other uses along the peripheral areas, such as small retail commercial centers, auto repair and service stations, lodging, restaurants, religious institutions, social and fraternal organizations, recreational facilities, a public park, professional and medical offices, a former nursery and farm, and four single-family homes. The four existing single-family residences are legal nonconforming uses under current industrial zoning regulations. Major industrial and office tenants in the area include Blue Coat Systems, Apple, LinkedIn, Le Boulanger, Riverbed, Good Technology, Hewlett Packard, Ariba, the Parkinson's Institute, BMC Software, Synopsis, and Patterson Dental.

The Project area lies roughly 55 feet above mean sea level (msl) with generally level topography sloping between 0% and 2% grades. Overall drainage is to the north within the Borregas drainage basin, primarily via the West Sunnyvale Channel. A 500-foot long segment of this channel "daylights" as unlined earthen bottom drainage in the northern end of the Project area and is lined with ornamental landscape species, such as California pepper and oleander. Existing vegetation consists almost entirely of planted landscape species and includes thousands of mature specimen trees located both along area roadways and on private properties. Notable larger species include California redwoods, deodar cedars, and camphor trees.



amec foster wheeler

Project Map

FIGURE 2-2

Transportation System Overview

Regional road access is provided to the Project area via US 101/ Bayshore Freeway, SR 237/ Southbay Freeway, and the County's Central Expressway/G-6. Surface street access into the Project area is primarily available via Mathilda, Maude, and Mary Avenues, which are four- to eight- lane arterials that have interchanges at these regional highways. Local roads connect with these arterials throughout the industrial park. Key roadways include:

The Project includes multi-modal improvements to roadways and transit. Connection and access to nearby VTA light rail service and Caltrain stations would be encouraged to further promote Peery Park as a multi-modal and accessible workplace. Pictured: VTA Moffett Station

- US 101, an eight-lane freeway that traverses the north end of the Project area with an interchange at North Mathilda Avenue and SR 237;
- SR 237, a four-lane freeway located west of the Project area and connects with US 101 and West Maude Avenue;
- Central Expressway, a four-lane grade-separated expressway with an interchange at Mary Avenue and on- and off-ramps at Sobrante Way, Soquel Way, and Portero Avenue;
- North Mathilda Avenue, a six- to eight-lane north-south arterial that generally defines the eastern project boundary and provides regional access from US 101;
- West Maude Avenue, a four-lane major collector that bisects the site from east to west and has an interchange with SR 237; and
- Mary Avenue, a generally four- to six-lane north to south collector that provides access into the eastern portions of the Project area.

Regular regional rail service to the Project vicinity is provided by Caltrain with stations in Downtown Sunnyvale (located 0.2 miles west of the southern edge of the Project area) and in Mountain View (located 2.4 miles east of the Project area) and currently provides connecting shuttle service to the Project area. Train service is provided with headways of 10 to 20 minutes during morning and evening peak hour commutes. Bus and light rail services are provided by the Santa Clara Valley Transit Authority (VTA) with bus lines 54 and 32 serving the Project area along Mathilda Avenue and Middlefield Road every 30 minutes during peak hours (Table 2-1). In addition, two VTA light rail stations serve the Project vicinity; the VTA Moffett Park Station (located 400 feet northwest of the Project area across the US 101 and SR 237 interchange; travel distance between the Project area and the Moffett Park Station is approximately 0.5 mile) and the VTA Middlefield Station (located 0.75 miles west of the Project area at Ellis Street in Mountain View) (Table 2-1), Although Caltrain and VTA rail services are somewhat frequent along both of these lines and located in close proximity to the Project area, pedestrian access to the stations can be challenging due to distance from stations to the interior portions of the Project area as well as existing physical barriers.[1]

[1] Though the Moffett Park Station is closest to Peery Park, it is 0.8 miles distant from Peery Park via existing roads given existing barriers, including the US 101 and SR 237 roadways, fencing, culverts, and other infrastructure.

Table 2-1. Transit Serving Peery Park

Station/Stop/Service	Location/Distance
Caltrain – Sunnyvale Station	Evelyn @ Sunnyvale – 0.2 miles southeast
Caltrain – Mountain View Station	Evelyn @ SR 85 – 1.8 miles
Google Mary/Moffett Area Caltrain Shuttle	Mary Avenue
AMD Duane Area Caltrain Shuttle	Central Expressway
VTA Bus Routes 32 and 54	Mathilda Avenue, Maude Avenue
VTA – Moffett Park Light Rail Station	Moffett Park Drive @ SR 237 – 0.1 miles north
VTA – Middlefield Light Rail Station	Middlefield Road @ Ellis Street – 0.6 miles west

2.2.2 Surrounding Land Uses

Land uses adjacent to the Project area are variable, including single-family and multi-family residences, public parks, retail and commercial services, and industrial uses. Medium and low density housing is located around the perimeter in the Sunnyvale neighborhoods to the east and south, and the City of Mountain View to the west. NASA-Ames Research Center and a number of research and development facilities are also located nearby to the north and west as part of the Moffett Park Specific Plan area. Portions of the Project area are within the Moffett Federal Airfield Airport Influence Area (AIA), which poses noise, air hazard, and height restrictions on development within Peery Park (see Section 3.6, *Land Use and Planning*). Adjacent uses include the following:

- **North**—Industrial and office uses within the Moffett Park Specific Plan area, the Sunnyvale Golf Course, and the intersection of the US 101 and CA 237. The Moffett Federal Airfield and NASA-Ames Research Center are also to the north, outside the City boundary.
- **East**—Low to High Density Residential within the Morse Park, SNAIL, and Lowlanders neighborhoods and a retail shopping center with a grocery store.
- **South**—Low to Medium Density Residential, High Density Residential, and General Commercial within the Sunnyvale West neighborhood bordering West Evelyn Avenue. Some industrial and manufacturing businesses are also located to the south along Evelyn Avenue along with the Sunnyvale Caltrain Transit Center and the Downtown Specific Plan area, which includes a commercial shopping center, small business park, and a street-lined with restaurants and bars.
- **West**—Medium Density Residential, Neighborhood Commercial, and Mobile Home Residential uses bordering the City of Mountain View.

General Plan Land Use Designations and Zoning within the Project Area

Existing land use designations within Peery Park are set forth in the 2011 City's LUTE and the Sunnyvale Municipal Code (Figure 2-3). The 2011 LUTE identifies Peery Park as a potential growth area, allowing approximately 900,000 sf of additional office and industrial floor area above the existing and approved 7.5 million sf within the Peery Park boundaries. The LUTE outlines

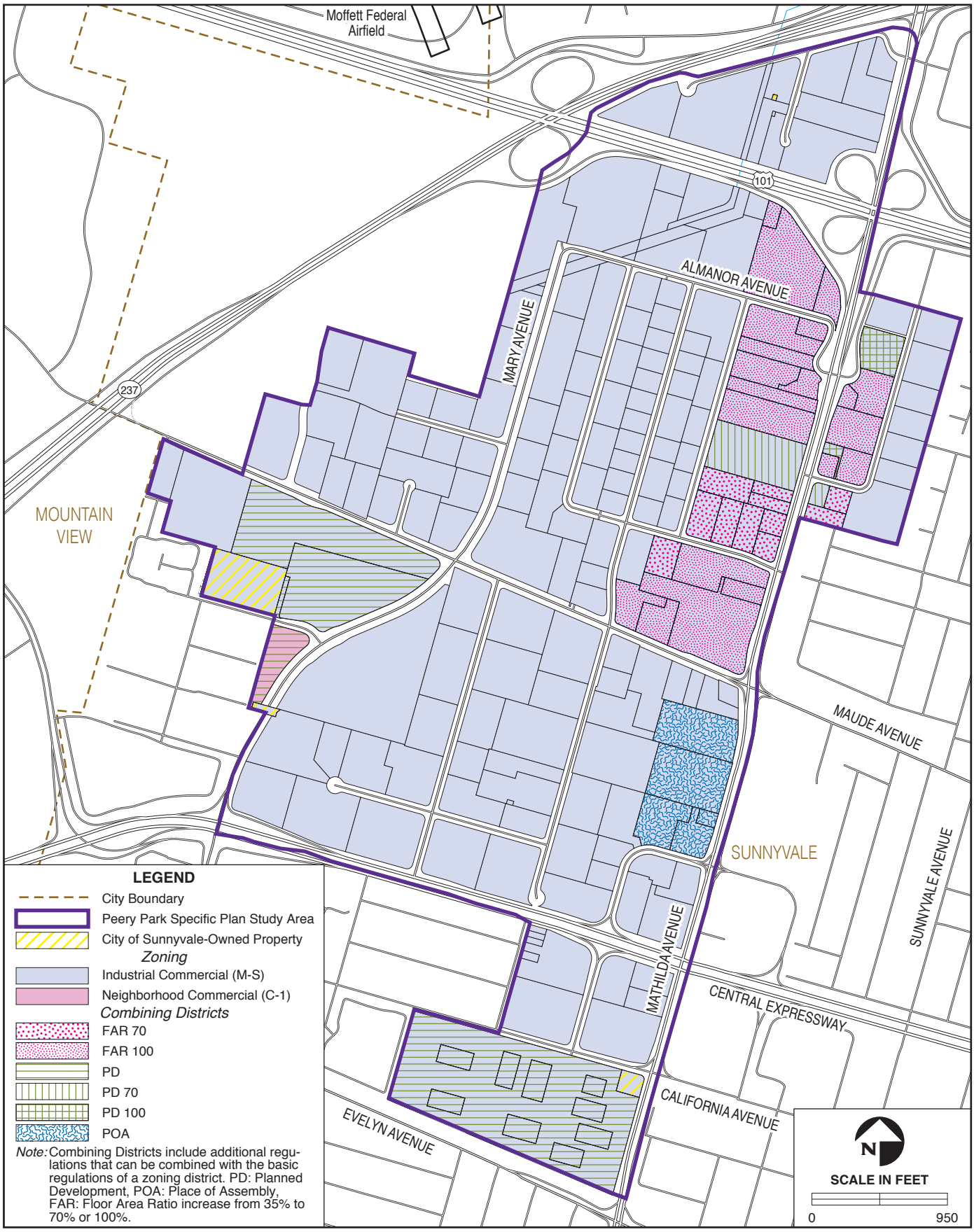
contemporary workforce areas for employees, companies, and residents that would increase industrial and office intensity, while integrating with the existing street system, the Caltrain – Sunnyvale Station, the North Mathilda Ave. Boulevard Center, and surrounding residential neighborhoods. The LUTE guides future development through land use designations and related policies to control the type, design, location, and scale of future development. The LUTE also recognizes that district-specific strategies and actions are essential to achieving the City's objectives for sustainable development and citywide livability. For dynamic industrial and office areas such as Peery Park, the LUTE directs the City to address sustainable development, transit-oriented development strategies, locations for public open space, workforce housing, and multi-modal transportation access and linkages between industrial office areas to residential neighborhoods. The LUTE designates Peery Park for *Industrial, Industrial Intensification,* and *Neighborhood Commercial,* as described below:

- The *Industrial* (I) land use designation comprises the majority of the Project area, with *Industrial and Service* (MS) zoning allowing for a 35% FAR preserved for non-residential development of buildings such as industrial, office, and manufacturing uses. FARs greater than 35% are permitted in conjunction with an approved Use Permit or through a green building incentive (additional 10% FAR).
- The *Industrial Intensification* land use designation overlaps with the previously approved area of higher FARs surrounding North Mathilda Avenue within the Project area. Zoning within this area is comprised of (MS-55%), (MS-70%), and (MS-100%) areas, which indicate and allow for higher FARs.
- The *Neighborhood Commercial* land use designation comprises a small area in the western area of the Project area adjacent to an existing neighborhood development. Zoning for this location is indicated as *Neighborhood Business* (C1), allowing for small retail and grocery opportunities to serve nearby residential areas.

2.3 PROPOSED PROJECT

The proposed Project would provide a plan for urban design, land use, and circulation within the 450-acre planning area through the adoption of goals, policies, and development standards. The Project would be implemented over the next 20 years through individual development projects and associated public improvements. Proposed development standards would ensure that the Project area evolves into a more accessible, multi-modal, pedestrian and bicycle friendly urban area that serves the needs of a developing high tech and

The Project would address sustainable and transit-oriented development to create a high tech innovation district within the City, and guide additional development in the area for the next 20 years.



amec foster wheeler

Zoning Map

FIGURE 2-3

innovation district. The Project would also ensure that new development is integrated with nearby planning documents, such as the Moffett Park Specific Plan and the Downtown Specific Plan, and is compatible with existing residential neighborhoods. The Project would set key goals and principles for new development while also using zoning incentives to obtain community benefits, such as open space and employee amenities, to ensure an economically sustainable district that adheres to the City's strong environmental sustainability principles.

The Project's would also proactively address development impacts and set reasonable caps on development capacity based on the magnitude of the impacts and the timing of mitigations. The Project balances development capacity between developer/property owner interest in redevelopment and community concerns about appropriate levels of growth in relation to environmental impacts.

The Project would also include a General Plan Amendment and modifications to the Sunnyvale Municipal Code and the Sunnyvale Zoning Map. The Project area would be rezoned to "Peery Park District - PPD", which would refer all zoning standards to the Peery Park Specific Plan, and the zoning map would also be amended to reflect this change.

2.3.1 Project Objectives

The Project is guided by the following concepts established by the City and through the community outreach process:

- Create a high-tech 21st century employment center within the City of Sunnyvale.
- Improve the visual characteristics of Peery Park through architectural, landscaping, and pedestrian oriented improvements.
- Support and attract the business of high-profile technology firms.
- Develop activity centers to provide recreational opportunities for residents and employees, and alleviate over-use of existing recreational facilities.
- Strengthen and provide opportunities for small-scale technology firms.
- Provide opportunities to develop housing in a transition area to bridge the gap between residential neighborhoods and employment centers.
- Improve multi-modal accessibility for parking and transportation to Peery Park, including a more pedestrian and bicycle friendly environment to reduce and improve the circulation of vehicle traffic within Peery Park.

2.3.2 Potential Future Buildout and Development Scenario

Implementation of the Project is expected to occur over a 20-year (2035) planning horizon through construction of both private developments and public improvements scheduled by the City. As indicated in Table 2-2, the Project would allow for development of an additional 2.2 million sf of primarily office or R&D industrial uses with limited retail commercial, as well as 215 units of multi-family residential uses limited to the western side of the Project area along Mathilda Avenue. This future development would contribute to the 7.5 million sf of existing and approved development

for a total of 9.7 million sf within the Project area by 2035. It is anticipated that most of this new development would occur on sites within the Project area that are either vacant, underutilized, or occupied by existing Class 'C' buildings that do not meet the needs of current and future Silicon Valley business needs.

Table 2-2. Proposed Net Increase in Building Space/Residential Units in Peery Park

Total	**2,200,000 sf**
Retail	200,000 sf
Office/R&D/Industrial	2,000,000 sf
Residential	**215 units**

sf = square feet

Table 2-3. Buildout Development under Peery Park Specific Plan

	Workplace (msf)	Housing Units	Average Workplace FAR	Housing du/ac
Existing (2015)	7.0	4 (legal non-conforming)	0.34	N/A
Under Construction or Approved	0.5	0	0.4-0.96	0
PPSP Proposed Growth	2.2 (net growth)	215	0.4-1.0	16-21
Buildout	9.7	219	0.5	16-21

msf = million square feet, FAR = floor area ratio, du/ac = dwelling units per acre

Under the proposed Project, future buildings would range from 30 feet to 88 feet in height (2 to 6 stories) with associated frontage improvements (e.g., sidewalk, street trees, etc.). The most prevalent types of development would be office and R&D industrial buildings with pedestrian-friendly streetscapes. However, employee-serving uses, such as restaurants and commercial services, would also be developed and encouraged within two activity center locations, the mixed commercial edge district and within small activity clusters.

2.4 PROJECT COMPONENTS

The Project consists of the proposed adoption of a Specific Plan with associated development standards and programs. The Project would establish a framework to guide future development and redevelopment within the Project area.

Consistent with the Project Objectives identified above, the Project would establish:

- Development standards to guide all future building and redevelopment projects, including site design, architectural design, and size, bulk, and scale of new development.

- Development standards for building height that would specify varying maximum allowable building heights throughout the Project area ranging from a minimum of 30 feet to a maximum of 88 feet (excluding roof top mechanical equipment).
- Development standards specifying the maximum allowable FAR for development throughout the Project area.
- A community benefits program that would allow a development project within the Project area to exceed the baseline FAR with the provision of related community benefits.
- Up to two Activity Centers to facilitate development of social and recreational facilities.
- Policies to support and attract the business of high-tech industrial firms.
- Implementation measures.
- A residential transition area that has the potential to include the development of 215 multi-family housing units.

The Project's primary components and programs are organized into four "Books" within the draft plan and are summarized in Table 2-4:

Table 2-4. Primary Project Components and Programs

Book Number	Book Title	Book Information
Book 1	Community Intent	Outlines the necessity for the Specific Plan guiding principles, district goals, and community input.
Book 2	Development Code	Governs all private development actions and land uses within the Project area, and would be used to evaluate development projects. Development regulations consist of land use regulations, building scale regulations, façade and roof regulations, open space regulations, parking regulations, and procedures to govern development through 2035.
Book 3	Design Guidelines	Contains the design guidelines for development in the Project area. Includes supplemental information to Book 2 for building massing and articulation, frontage and building orientation, façade and roof design, open space and landscaping, parking, and sustainability.
Book 4	City Actions	Describes the community benefits program, capital improvements, the Sense of Place concepts, and other Peery Park specific fees to be implemented in conjunction with development within the Project area.

Projects proposing higher FARs than the Project's baseline standard may be permitted, but would be required to incorporate a range of community benefits, such as additional open space, structured or underground parking, green building components, public access easements or various other benefits.

2.4.1 Urban Design, Land Use, and Development Standards

The Project would provide goals, policies, development regulations and design guidelines to regulate urban form of new development, including building height, mass, and form, within six subdistricts of the Project area. The proposed land use plan would allow a mix of uses and building types to enhance Peery Park's role as an innovation and high-profile technology district. Development standards would promote a more pedestrian and bicycle friendly environment and encourage mixed-use/transit oriented development in key locations to the existing public transportation. Improvements would also include public and private open space, multi-modal connectivity for transit, cyclists, and pedestrians, transitional buffer areas between industrial and residential uses, and industrial growth. Additionally, as part of the regulating plan, the Project would also provide development standards and design guidelines that address building setbacks, parking requirements, frontage improvements, architectural features, maximum block sizes, and increased private open space. The Project designates overall policies that would apply to all new construction, significant additions of greater than 20% of the building's floor area, major exterior renovations, intensification of the use of a building, and some other site improvements. The Project would also require all new development projects to prepare a transportation demand management plan as further described in Section 2.4.2, *Circulation and Mobility* below, and to join the business-sponsored Peery Park Transportation Management Association (TMA).

The Project includes a program to provide incentives to obtain community benefits from larger or more intensive projects within the Project area. This community benefits program would allow for incremental increases in the allowable FAR when a project incorporates community benefits. The amount of additional development capacity granted would be dependent on the type and amount of community benefits provided by the development subject to approval by the corresponding hearing body. For example, a project that proposes publicly accessible open space may be granted between 3% and 10% addition FAR depending on the amount of open space dedicated within the site. The community benefits program involves a menu of defined and flexible options. Defined benefits include those that categorically meet the goals of the Project, such as innovation-friendly development, open space, public access easements, retail uses, childcare, parking, and green building. Flexible benefits include those that may meet the goals of the Project, but would require review and approval by the City before bonus FAR is granted, including innovation anchor facilities (i.e., incubator, co-working spaces), streetscape or transportation improvements, TMA programs, sustainability facilities (e.g., energy efficiency), community facilities or programs, and contribution to a community benefits fund. Community benefits would be approved only if they meet the intent of the Project's Vision, Principles, and Policies. Available community benefits also depend on the location of proposed development within the Project area: Zone 1 covers the majority of the Project area. The range of Zone 2 is limited to development along Mathilda Avenue between Almanor Avenue and Del Rey Avenue. Properties within Zone 2 would be granted a more substantial increased allowable FAR with provision of community benefit compared to Zone 1. Regardless of community benefits provided by future development within the Project area, pending development projects that exceed or amend the parameters of the proposed Project may also be subject to separate and/or concurrent environmental review processes in accordance with CEQA.

Community Intent (Book 1)

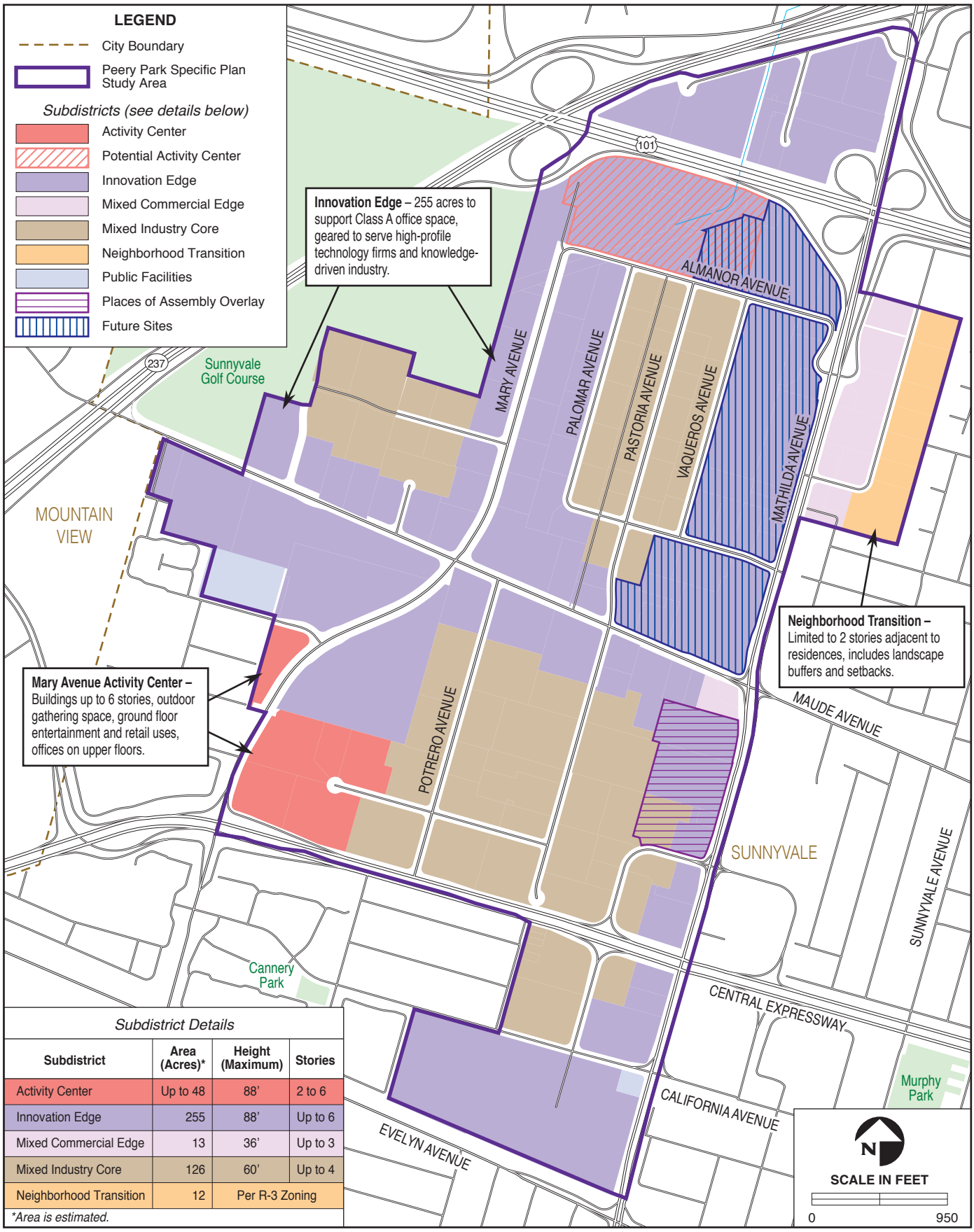
The Project's Community Intent is described in Book 1 and includes a description of the intent and physical outcomes of the Project. The means of investment for private and public interests are described, along with revitalization strategies that would be implemented through regulations and planned public actions, as provided in Books 2 through 4. Book 1 provides guidance for instances or opportunities not specifically covered by Books 2 through 4. As such, the public outreach process, Project area, regional context, and local context are described within this Book, along with land use, development, and market contexts.

The vision statement and guiding principles are also stated within this Book, including the vision for the Project area to be "A cutting edge workplace District that has been physically re-shaped to align with 21st century workplace trends and the innovation economy". Additionally, land use policies, open space policies, the community benefits program, and transportation and mobility policies are described. Concepts for approaching Project area revitalization, urban design, and development opportunities are discussed and create the framework for the six proposed subdistricts within the Project area, as further detailed below.

Subdistricts

The Project delineates six subdistricts within the Project area to organize and apply the Project's development standards (Figure 2-4). These include the Activity Center, Innovation Edge, Mixed Industry Core, Mixed Commercial Edge, Neighborhood Transition, and Public Facility subdistricts. The following goals are proposed for each subdistrict in the Project area, and proposed development standards are included in Table 2-5. Proposed maximum building heights are included in Figure 2-5.

> **Activity Centers:** The Activity Center subdistrict is intended to provide a hub of social and commercial activity within the industrial area to provide services to employees and visitors. Development of up to 48 acres of Activity Centers in up to two separate locations within the Project area would consist of communal areas and commercial services, such as retail, restaurants, and open space and public gathering locations. Ground floor businesses would provide restaurant, retail, and commercial services adjacent to office and industry buildings within biking and walking distance to the business areas. Maximum allowed building heights would be 88 feet, or approximately 6 stories (excluding the potential for roof top mechanical equipment) within this subdistrict.
>
> The primary Activity Center is proposed at the intersection of Mary Avenue and Central Expressway, comprising approximately 23 acres in the southwestern region of the Project area, and provides a connection between the Innovation Edge, a Mixed Industry Core, and residential uses.



Subdistrict Details

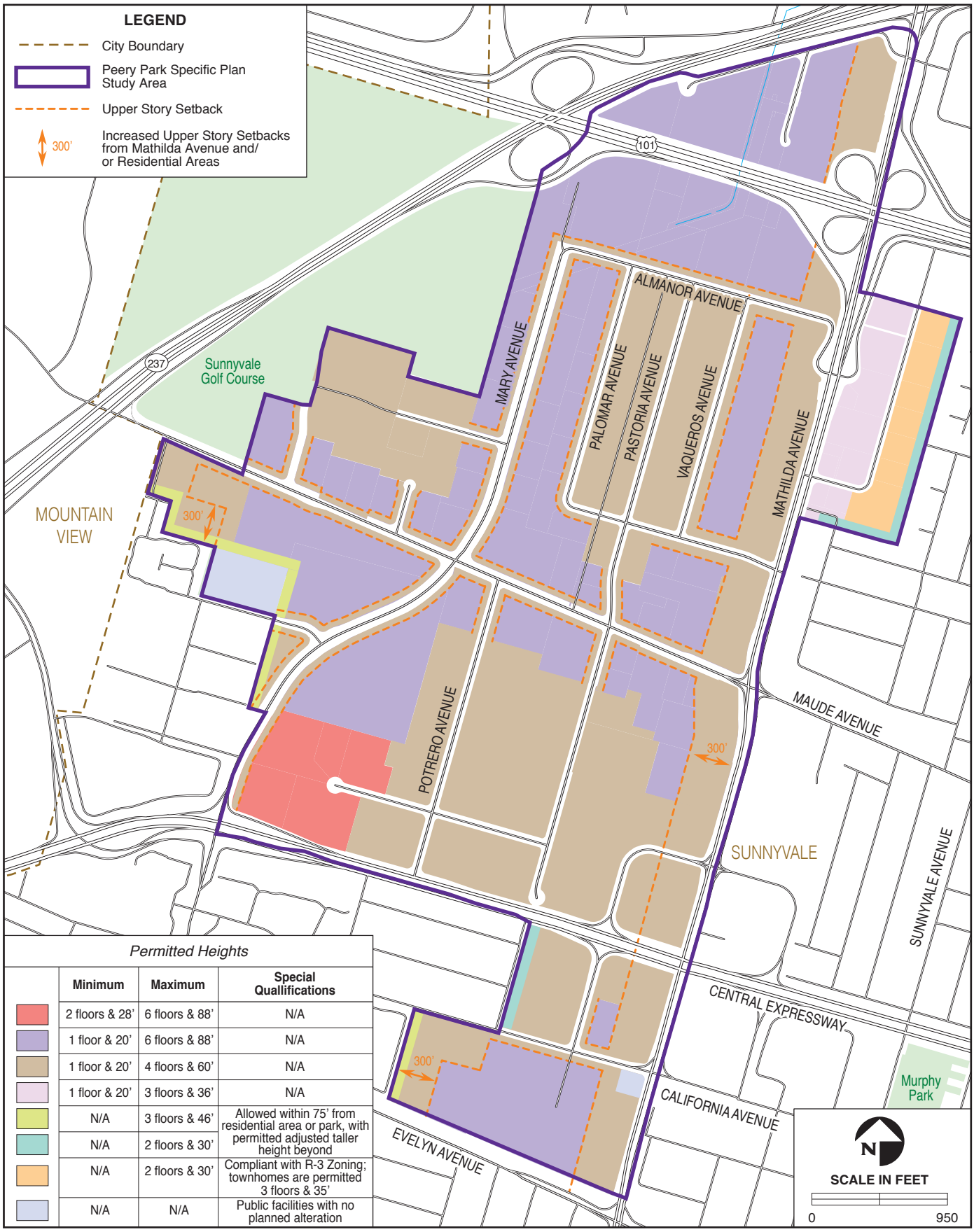
Subdistrict	Area (Acres)*	Height (Maximum)	Stories
Activity Center	Up to 48	88'	2 to 6
Innovation Edge	255	88'	Up to 6
Mixed Commercial Edge	13	36'	Up to 3
Mixed Industry Core	126	60'	Up to 4
Neighborhood Transition	12	Per R-3 Zoning	

*Area is estimated.

amec foster wheeler

Subdistricts

FIGURE 2-4



Permitted Heights

	Minimum	Maximum	Special Quallifications
	2 floors & 28'	6 floors & 88'	N/A
	1 floor & 20'	6 floors & 88'	N/A
	1 floor & 20'	4 floors & 60'	N/A
	1 floor & 20'	3 floors & 36'	N/A
	N/A	3 floors & 46'	Allowed within 75' from residential area or park, with permitted adjusted taller height beyond
	N/A	2 floors & 30'	
	N/A	2 floors & 30'	Compliant with R-3 Zoning; townhomes are permitted 3 floors & 35'
	N/A	N/A	Public facilities with no planned alteration

amec foster wheeler

Permitted Heights

FIGURE 2-5

Table 2-5. Proposed Subdistricts Urban Form Development Standards

	Activity Center	Innovation Edge	Mixed Industry Core	Mixed Commercial Edge	Neighborhood Transition	Public Facilities
General						
Height	Minimum 28 ft Maximum 88 ft	Minimum 20 ft Maximum 88 ft	Minimum 20 ft Maximum 60 ft	Minimum 20 ft Maximum 36 ft	Per R-3 zoning: Maximum 35 ft	Cannot exceed most restrictive abutting district
Stories	2 to 6 (can add 2 stories at setback)	Up to 6 (can add 2 stories at setback)	Up to 4 (can add 2 stories at setback)	Up to 3 (can add 2 stories at setback)	Per R-3 zoning: Up to 3	N/A
Permitted Maximum Height Setback	65 ft from street- or residential-facing façade when above 4 stories	65 ft from street- or residential-facing façade when above 4 stories	N/A	N/A	N/A	N/A
Special Conditions	Maximum 3 stories and 46 ft setback within 75 ft of adjacent housing	Maximum 3 stories and 46 ft setback within 75 ft of adjacent housing Maximum 4 stories within 300 ft of Mathilda Ave. or residential	NA	Maximum 2 stories and 30 ft setback within 75 ft of adjacent housing	Maximum 2 stories and 30 ft setback within 75 ft of adjacent housing	Additional setback may be required: One-half foot shall be added to each yard for each foot that the building exceeds the maximum height allowed
Length (Max.)	300 ft	300 ft	200 ft	300 ft	N/A	N/A
Space Between Buildings	20 ft	30 ft	20 ft	30 ft	N/A	N/A
Minimum Lot Size	22,500 sf	22,500 sf	22,500 sf	22,500 sf	Per R-3 zoning: 8,000 sf	None
Front Yard Setback Requirements (min/max):						
General (all streets)	0 ft / 10 ft	15 ft / 30 ft	15 ft / 30 ft	10 ft / 20 ft	20 ft per R-3 zoning	Equal to most restrictive abutting district.
Mathilda Avenue	N/A	30 ft / 40 ft (C1)	N/A	30 ft / 40 ft (C1)	N/A	N/A
Mary Avenue	5 ft / 15 ft	30 ft / 40 ft	N/A	N/A	N/A	N/A
Maude Avenue	N/A	30 ft / 40 ft (C1)	N/A	N/A	N/A	N/A
Pastoria Avenue	N/A	15 ft / 30 ft (C1)	15 ft / 30 ft	N/A	N/A	N/A
San Aleso Avenue	N/A	N/A	N/A	10 ft / 20 ft	N/A	N/A

ft = feet; sf = square feet; C1 = “or 20% of parcel depth, whichever is smaller”

The secondary Activity Center would be near the intersection of Almanor Avenue and North Pastoria Avenue, which comprises approximately 25 acres on the northern region of the Project area. This Activity Center would connect a proposed Mixed Industry Core area, Innovation Edge, and the intersections between Pastoria Avenue and Mathilda Avenue.

Additional smaller activity clusters may also be developed in appropriate locations in the Project area, including small retail, restaurant, and other commercial services to provide daytime or lunch commercial services to the surrounding businesses.

Innovation Edge: Mathilda Avenue, Maude Avenue, and Mary Avenue define the 255 acres of Innovation Edge subdistrict of the Project area. Maximum allowed building heights would be 6 stories or 88 feet (excluding the potential for roof top mechanical equipment). Within 300 feet of Mathilda Avenue and other residential properties, building heights would be limited to four stories to ensure buildings stepback from the public realm and adjacent neighborhoods.

Class A office and technological manufacturing facilities would be allowed in this area with the intent of drawing high profile businesses. Campus-style site plans and interconnections are encouraged within this subdistrict. The Innovation Edge subdistrict emphasizes development of a transit-oriented workplace and is proposed near the Caltrain Sunnyvale Station and the VTA Moffett Park Light Rail Station, as well as intersections near the SR 237 and US 101.

Mixed Industry Core: This subdistrict would cover approximately 126 acres between Palomar and Vaqueros Avenues, surrounding Benecia Avenue, in the interior areas of the Project area. The subdistrict builds on the area's existing small scale industrial character to allow for a continuation and intensification of innovative start-up companies, small scale R&D, prototyping, and production businesses, with future development oriented towards for small scale, industrial and R&D tenants.

Maximum building heights would be 4 stories or 60 feet tall (excluding the potential for roof top mechanical equipment). Pastoria Avenue, which runs up the center of Mixed Industry Core subdistrict areas, would be improved with streetscapes enabling plaza-like spaces intended for outdoor lunches and a collaborative environment. The subdistrict would break up existing large blocks in favor of smaller, more pedestrian friendly and walkable interconnections.

Setbacks for the Mixed Industrial Core development would be smaller compared to other subdistricts, with engaging street frontages and pedestrian-scale accessible façades. Landscaped vegetation and shared parking opportunities would border Pastoria Avenue and provide an inner-development connection between the Innovation Edge areas and internal portions of Peery Park.

Mixed Commercial Edge: This subdistrict would cover approximately 13 acres in the northeasterly region of the Project area along Mathilda Avenue and would serve as an entrance to the Project area and the City. This subdistrict would provide a mix of commercial services that would support the employees and visitors to Peery Park. The western side of the avenue would permit large-scale commercial, hotel, and limited retail uses with deep landscape setbacks. The eastern side of the avenue would also permit commercial development. Maximum allowed building heights would be 3 stories or 36 feet (excluding the potential for roof top mechanical equipment).

Neighborhood Transition: This subdistrict would cover approximately 12 acres along the eastern border of the Project area where allowable development would consist of medium density residential uses. This area would provide a transition area between the existing SNAIL neighborhood and the Mixed Commercial Edge and Innovation Edge subdistricts. A maximum of 2 stories or 30 feet would be allowed within 75-foot residential buffer closest to the SNAIL neighborhood (behind San Aleso Avenue), to create a compatible transition between single-story development and the taller industrial development in the interior portions of the Project area. Outside of this residential buffer, a maximum of 3 stories or 35 feet would be allowed.

Public Facilities: This subdistrict would be provide for existing public facilities, including Sunnyvale Fire Station No. 1 and Encinal Park. The Project would incorporate existing regulations maintained in Sunnyvale Municipal Code (SMC) Title 19, *Zoning*, which restricts of public facilities to the construction, use, and occupancy of governmental, public utility, and educational buildings and facilities. No alterations to existing public facilities in this subdistrict are proposed as part of the Project.

Peery Park Development Code (Book 2)

The Project includes a Development Code for private development proposed for properties within the Plan Area. The Project's proposed Development Code is detailed in Book 2, and includes a variety of regulations to guide future development projects within the District. The Design Guidelines described in Book 3 supplement the information contained within the Development Code, providing additional information to assist designers of new developments to fulfill the intent of the Project.

The Development Code would apply to all new construction, significant additions of greater than 20% of the building's floor area, major exterior renovations, intensification or change of use within an existing building and some site improvements. Changes of use within an existing building would be evaluated on a project-by-project basis to determine whether street, open space, parking regulations, or other standards would be required. There are six primary regulation subsets that set the standards for the Project area:

1. *Land use regulations* address use types, including industrial and commercial uses with special retail configuration standards. The permitted land uses for the Activity Center,

Innovation Edge, Mixed Industry Core, and Mixed Commercial Edge subdistricts are defined and include industrial, manufacturing, warehousing, office and medical, education, recreation, places of assembly, commercial retail and service, public, and other land use categories.

2. *Building scale regulations* include standards for building height, special building height limits, building length, and special building length limits.
3. *Frontage and building placement regulations* set standards for parcel size, setbacks for front yards, side yards, and rear yards, space between buildings, and encroachments of setback areas.
4. *Façade and roof regulations* regulate selective detailed aspects of façade and roof requirements, residential-facing façade requirements, signs, and interactivity and animation displays.
5. *Open space and landscaping regulations* determine standards for minimum open space or landscape dependent on project square footage (20% of site), and setback area landscaping types.
6. *Parking regulations* provide standards for parking provisions (number of spaces for retail, eating, entertainment, business, civic, commercial, personal use, workplace, lodging, live-work, residential, neighborhood center, and corner store uses). The parking regulations also address maximum parking required for proposed building square footage, and some general parking requirements.
7. *Procedures* provides an index of definitions of land uses that are found within Book 2.

The Development Code would outline development review processes but would also refer to procedures within the SMC related to variances, signs, subdivision maps, and various other permitting processes.

Peery Park Design Guidelines (Book 3)

The Project's proposed Design Guidelines in Book 3 supplement the Development Code contained within Book 2, addressing building orientation, mass, access, shade/shadow placement, building/façade articulation, and architectural design guidelines for color, projections, lighting, signage, and other exterior features. The design guidelines also address vehicle parking, open space, and courtyard plaza design for public use, along with aspects such as the orientation and management of service, utility, and mechanical features of the building, such as heating units and solid waste facility enclosures. Sustainability guidelines are also included, detailing existing Sunnyvale Green Building requirements, standards, and programs, in addition to strongly encouraging application of external green building techniques and guidelines.

Peery Park Implementation and City Actions (Book 4)

The Implementation and City Actions of the Project includes information about the development capacity of the Project area, allowable FAR in relation to community benefits, zoning incentives, proposed traffic and street improvements to the area, and utilities and infrastructure

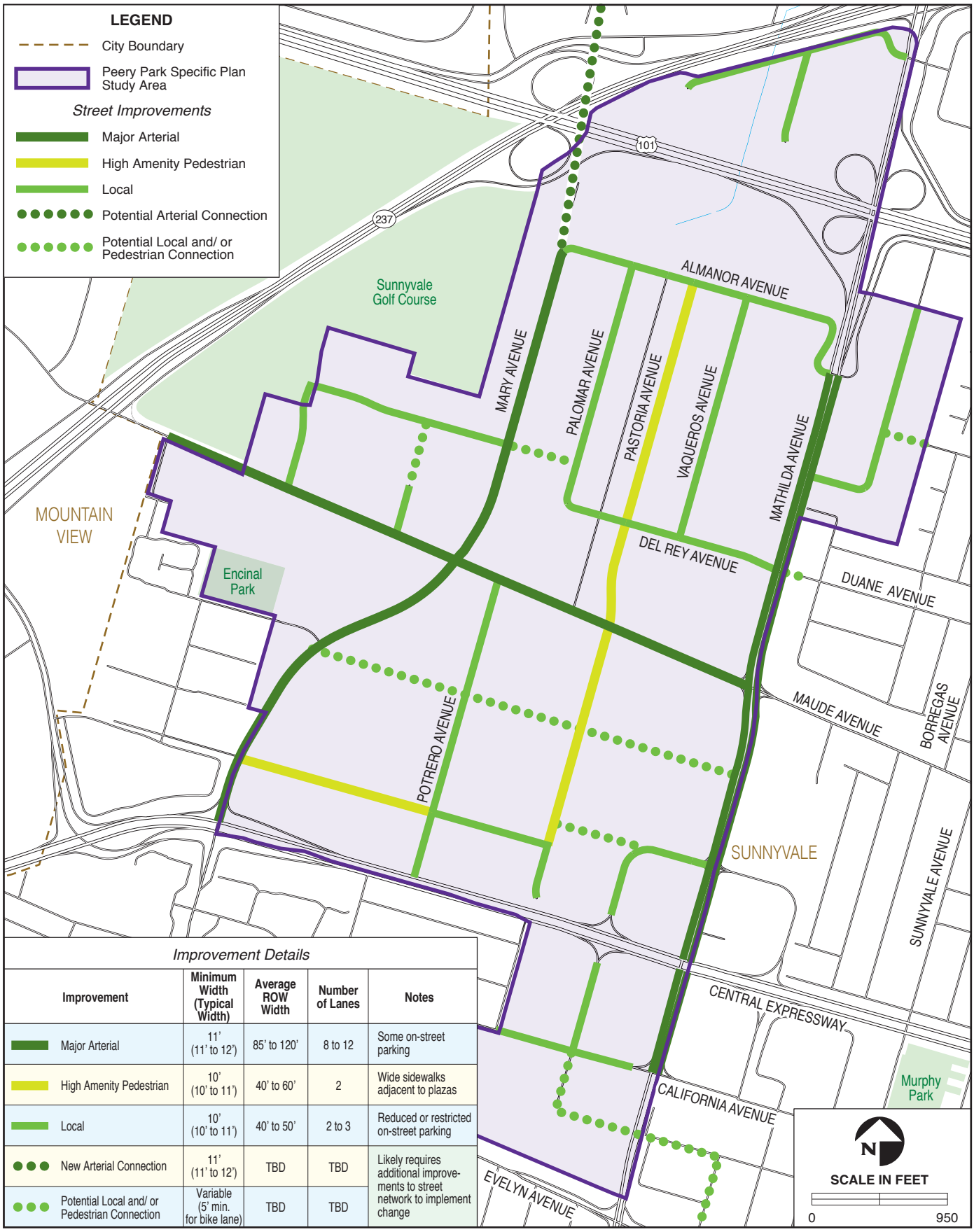
improvements. Mitigation and monitoring requirements are described, including the process for "tiering" future environmental review from this EIR during future development projects. Additional detail is given about the implementation processes for the community benefits program. Actions encompassing Transportation Demand Management, the Peery Park Specific Plan Fee, and the Sense of Place Fee are likewise detailed and discussed within this Book. Coordination between the Specific Plan and the Santa Clara County Land Use Plan is also discussed.

2.4.2 Circulation and Mobility

The Project includes public improvements to roadways, as well as installation of new sidewalks, new bike lanes, and transit improvements to improve multi-modal mobility and interconnectivity. Improvements to major roads such as North Mathilda Avenue would be designed to enable improved multimodal access to area transit stations. Where block lengths are long, new connector streets or public bicycle/pedestrian pathways may be required to divide the block and improve internal circulation. The Project would include alterations to approximately 35,216 linear feet of streetscape, including pedestrian and landscape improvements (Figure 2-6). Improvements along existing roadways including the following range of improvement types:

Mathilda Avenue would retain wide intersections with turn pockets. Curbsides would be improved with designated bike lanes and parallel parking opportunities to improve accessibility and circulation.

- **Major Arterial**: Maude Avenue, Mary Avenue, and Mathilda Avenue would be improved into multi-modal roadways with bicycle lanes and/or cycle tracks, landscaped medians, and complete sidewalks.
- **High Amenity Pedestrian**: Pastoria Avenue would be improved to provide a 22 foot wide landscaped pedestrian paseo in addition to vehicle parking and landscaping. This streetscape improvement would include a pedestrian-friendly connection between the northern and southern areas of the Project area, and a similar pedestrian-friendly route would be established near the southwestern Mary Avenue Activity Center subdistrict.
- **Local Streets**: Two-lane roads serving local mobility within the Project area would provide complete sidewalks, bicycle connections to the Major Arterials, and streetscape improvements.



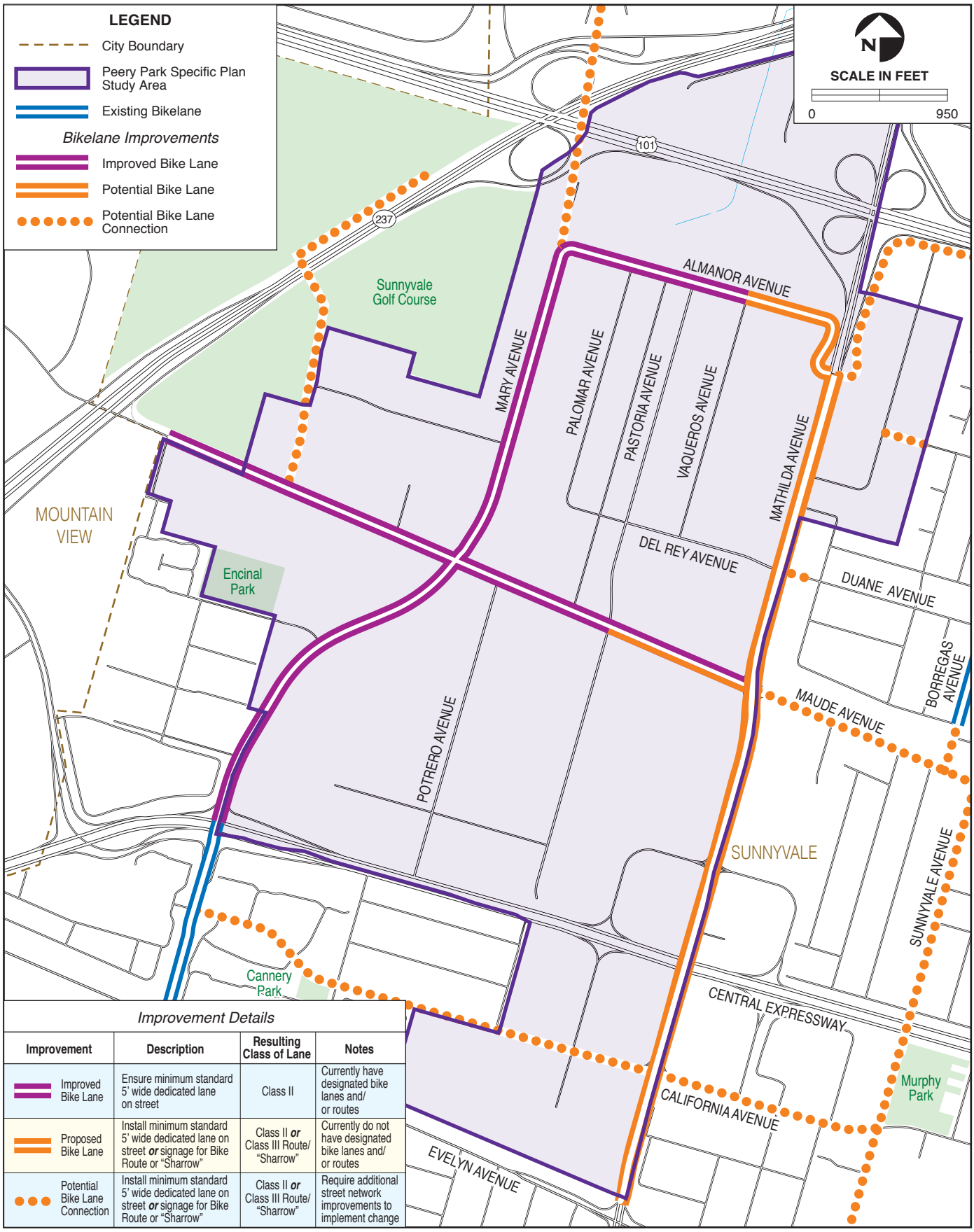
Improvement Details

Improvement	Minimum Width (Typical Width)	Average ROW Width	Number of Lanes	Notes
Major Arterial	11' (11' to 12')	85' to 120'	8 to 12	Some on-street parking
High Amenity Pedestrian	10' (10' to 11')	40' to 60'	2	Wide sidewalks adjacent to plazas
Local	10' (10' to 11')	40' to 50'	2 to 3	Reduced or restricted on-street parking
New Arterial Connection	11' (11' to 12')	TBD	TBD	Likely requires additional improvements to street network to implement change
Potential Local and/ or Pedestrian Connection	Variable (5' min. for bike lane)	TBD	TBD	

amec foster wheeler

Circulation System Improvements

FIGURE 2-6



Improvement Details

Improvement	Description	Resulting Class of Lane	Notes
Improved Bike Lane	Ensure minimum standard 5' wide dedicated lane on street	Class II	Currently have designated bike lanes and/ or routes
Proposed Bike Lane	Install minimum standard 5' wide dedicated lane on street ***or*** signage for Bike Route or "Sharrow"	Class II ***or*** Class III Route/ "Sharrow"	Currently do not have designated bike lanes and/ or routes
Potential Bike Lane Connection	Install minimum standard 5' wide dedicated lane on street ***or*** signage for Bike Route or "Sharrow"	Class II ***or*** Class III Route/ "Sharrow"	Require additional street network improvements to implement change

amec foster wheeler

Bike Circulation Improvements

FIGURE 2-7

The Project would also coordinate existing and future multi-modal improvements, as follows:

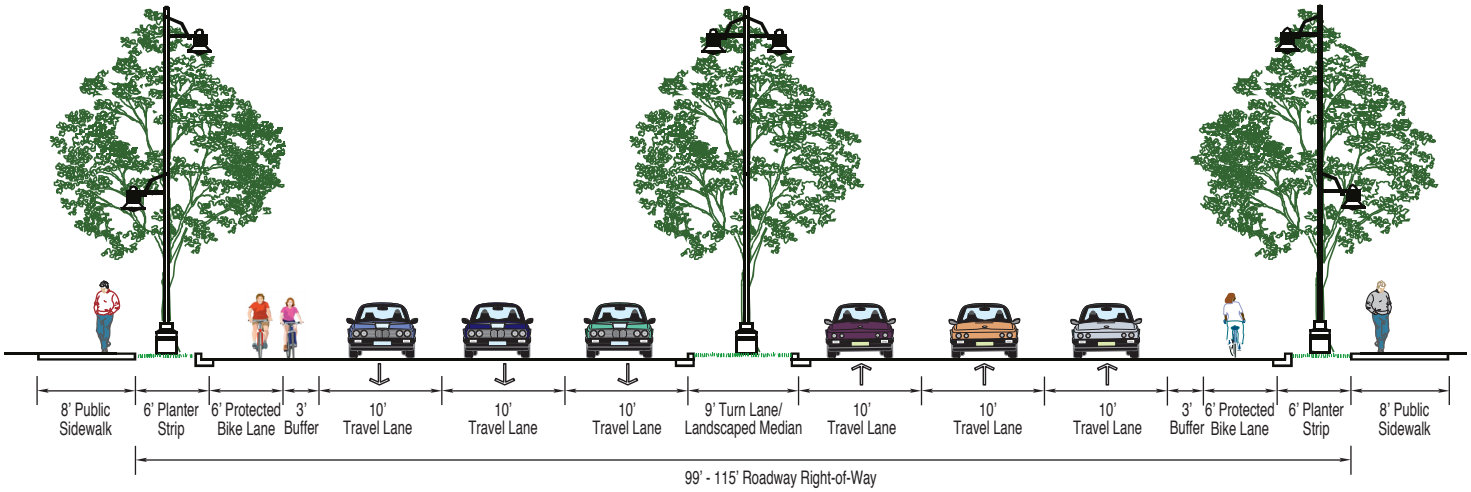
Streetscape and Transit Improvements

The Project proposes capital improvements to existing roadways, including targeted changes to streets to improve vehicular mobility along approximately 35,200 linear feet of streetscape. In addition to street lighting improvements, which would provide appropriate lighting environments for boulevard, local/neighborhood, pedestrian, and plaza areas and uses, the following six roadways would experience the described improvements, as depicted in Figures 2-8 and 2-9:

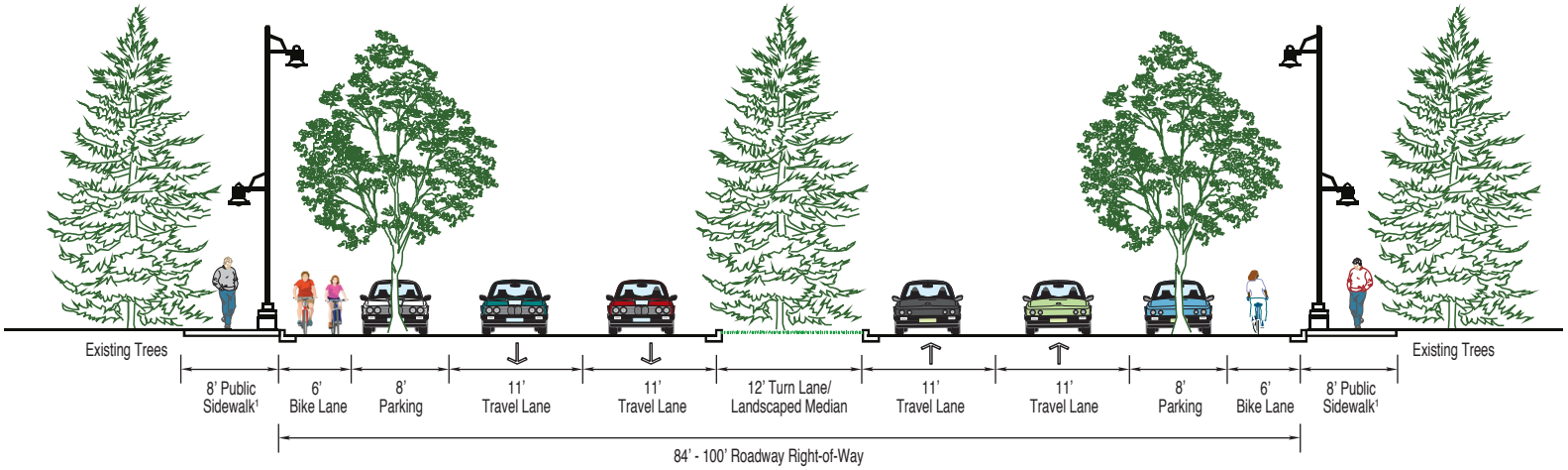
- **Mathilda Avenue** from California Avenue to San Aleso Street, where approximately 0.8 miles of thoroughfare would retain existing through-lanes and turn pockets. The layout would establish a minimum eight foot wide sidewalk, separated from the curb by a six foot wide planter strip. The planter strip would contain shade trees every 40 feet, boulevard light posts with pedestrian lighting. A protected bike lane of approximately four to six feet in width would run adjacent to the curb. Parallel parking would also be established along the curb where curb-to-curb dimensions allow, providing a buffer between bike and traffic-lanes. The three existing through-lanes would remain. The directional roads would be separated by a landscaped center median, containing shade or flowering trees and decorative boulevard light posts. The landscaped median would provide turn pockets where appropriate, and contain drought tolerant ground-cover.
- **Mary Avenue** from Central Expressway to Almanor Avenue, where approximately 0.9 miles of thoroughfare would retain existing through-lanes, though the arrangement of parking, bike lanes, pedestrian walkways, and intersections would be improved (existing bike lanes already exist in this stretch, though they may also be improved). The layout would establish minimum eight to ten foot wide sidewalks adjacent to the existing street-side trees. Bike lanes of four to six feet in width may be relocated to beside the sidewalks, and buffered from the traffic lanes by a parallel parking lane with curbside islands of 6.5 feet wide and 8 feet long supporting new street trees. The curbside islands would also support new boulevard light posts and pedestrian lighting. The two existing through-lanes would remain. The directional roads would be separated by a landscaped center median, containing large pine trees or other tree species as required by Department of Public Works. The landscaped median would provide turn pockets where appropriate.

- **Maude Avenue** from SR 237 to Mathilda Avenue, where approximately 0.9 miles of thoroughfare would retain the existing through-lanes and bike lanes, while select intersections may be improved with pocket turn lanes within the center medians. The layout would establish a minimum six foot wide sidewalk, separated from the curb by a four foot wide planter strip. The planter strip would contain large pine trees and street trees or other tree species as required by Department of Public Works and boulevard light posts. A four to six foot wide bike lane would run adjacent to the curb. The two existing through-lanes would remain. The directional roads would be separated by a landscaped center median, containing large pine trees or other tree species as required by Department of Public Works. The landscaped median would provide turn pockets where appropriate.

MATHILDA AVENUE



MARY AVENUE



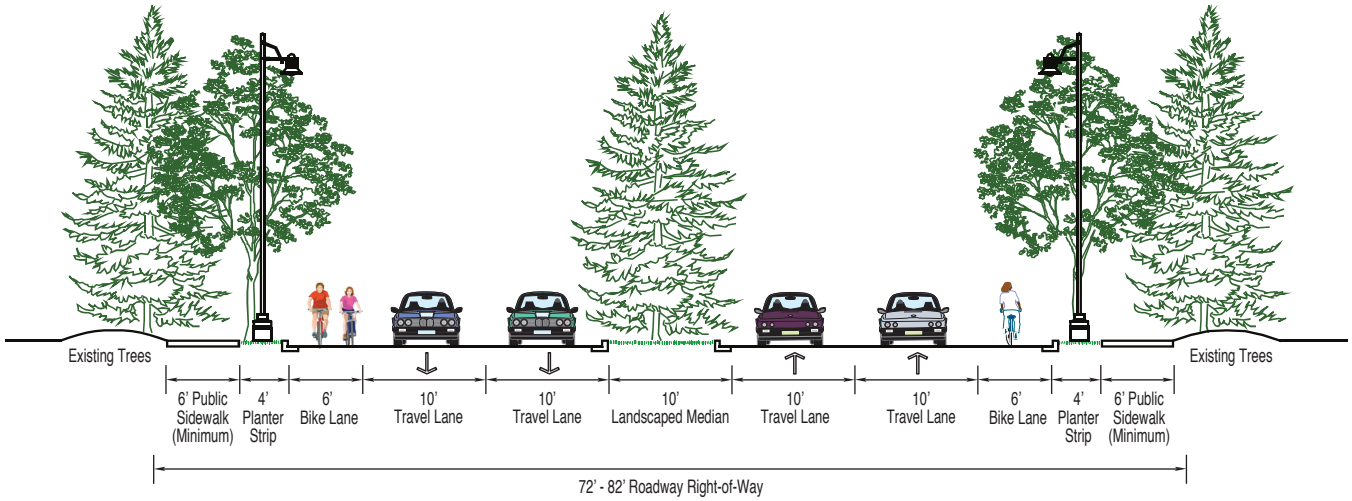
[1]Minimum 10' wide sidewalk in Activity Center Subdistrict.

amec foster wheeler

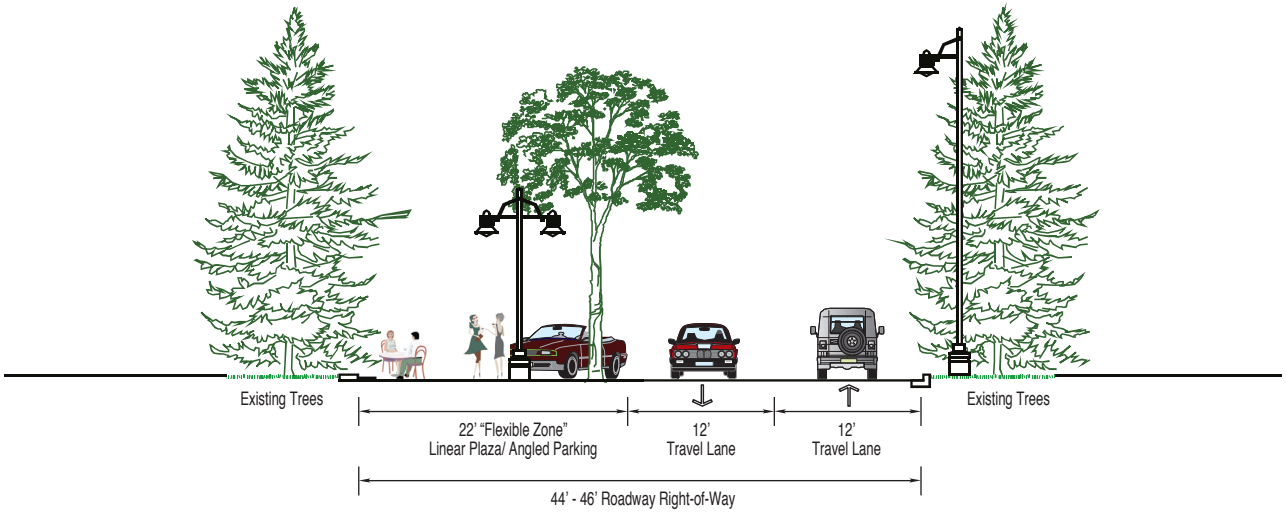
Mathilda Avenue and Mary Avenue Road Cross Sections

FIGURE 2-8

MAUDE AVENUE



PASTORIA AVENUE



amec foster wheeler

Maude Avenue and Pastoria Avenue Road Cross Sections

FIGURE 2-9

- **North Pastoria Avenue** from Central Expressway to Almanor Avenue, where approximately 0.8 miles of thoroughfare would be reconfigured by moving the existing two-way lanes to the south/easterly side of the street, while the north/westerly side of the street would establish a 22 foot wide "flexible zone" to accommodate uses such as outdoor dining, pedestrian passage, and angled parking. The "flexible zone" would have streetlights and trees within curbside areas and between angled parking spaces. The "flexible zone" would contain pedestrian light posts, while the south/easterly side of the street would contain roadway lighting. Near intersections, the "flexible zone" would extend from parking into pedestrian-friendly zones. The ten to twelve foot wide directional roads would remain on the south/east side of the road adjacent to the south/east curb.

- **Workplace District Streets** upon Almanor Avenue, Penicia Avenue, Del Rey Avenue, Hermosa Avenue, Indio Way, Palomar Avenue Potrero Avenue, Soquel Way, and Vaqueros Avenue would retain their existing through lanes, while curbside parking lanes would be repurposed for pedestrian use. The layout would establish a minimum six foot wide sidewalk, separated from the curb by a five foot wide planter strip (though depending on cost, the existing street parking lanes may instead be restriped to establish a pedestrian zone). The planter strip would contain trees within curbside landscaping areas and light posts. Where intersection lighting is necessary, boulevard lighting may be required within the planter strip or sidewalk. The two existing through-lanes would remain.

- **Neighborhood Streets** upon Pastoria Avenue, Corte Madera Avenue, and San Aleso Avenue would retain their existing through-lanes and curbside parking. The layout would establish a minimum six foot wide sidewalk, separated from the curb by a six foot wide planter strip (or a continuous twelve foot wide sidewalk without a planter strip). The planter strip would contain trees (single species within each block, native/water efficient/low maintenance vegetation). Lighting would consist of pedestrian lighting at a maximum spacing of 90 feet. The two existing through-lanes and parking lanes would remain.

Traffic and Street Network Improvements

Intersection improvements, timing modifications and signal coordination would occur during implementation of the Project. Potential future level of service reductions at the Mathilda Avenue, US 101, and SR 237 interchanges would be addressed within the Mathilda Avenue and SR 237/US 101 Interchange Improvement Project. Multiple Mathilda Avenue intersections would be improved with traffic signal modifications, such as stoplights that include protected green arrow indicators, to address higher left turn lane volumes and increased commuter directional traffic.

Per the General Plan, the Project considers an extension of Mary Avenue, as shown in Figure 2-6. This project is included in the adopted transportation improvement program; it would be subject to separate, pending CEQA review. This major arterial connection would extend north from the Mary and Almanor Avenues intersection, spanning the US 101 and SR 237 freeways. The connection would link Peery Park to the Moffett Park industrial district and provide eased access to the existing VTA Moffett Park Light Rail Station.

Bicycle and Pedestrian Improvements

The Project would improve existing road corridors to provide wider sidewalks and improved streetscapes as part of public and private development. Within the Project area, substandard sidewalks would be widened, new sidewalks would be required where gaps exist, new pedestrian connections would be installed, and crosswalks improved at existing intersections. The Project would also regulate land uses, building design, open space incentives, and signage to promote pedestrian accessibility and mobility. Pedestrian facilities would be modified to provide connections between buildings of the industrial campus.

The Project would include new bicycle and pedestrian access connections between Peery Park and other areas of the City. The Project considers improvements to existing bike lanes, installation of new bike lanes or signed routes, and consideration of new bicycle route connections. Proposed and considered improvements, which are marked within Figure 2-7, include the following:

- Provide cyclist connections across US 101 and SR 237; one potential route may begin at the Macara Avenue and Benicia Avenue intersection on the west side of the Project area adjacent to the existing golf course;
- Connect Peery Park, Mathilda Avenue, and residential neighborhoods through creation of an access point between the end of Ferndale Avenue extending to San Aleso Avenue;
- Connect Peery Park, Mathilda Avenue, and residential neighborhoods through creation of an access point between the end of West Duane Avenue extending to Mathilda Avenue, though this route would not enable direct access to an existing sidewalk.

Parking Improvements

The Project generally limits public parking to specific streets to encourage walking and alternative methods of transportation, such as bicycle and public transportation. Parallel curbside parking stalls and parallel parking opportunities are offered and supported through a variety of street development plans, with some reduction in on-street parking through streetscape improvements. Shared parking as part of new development would be encouraged to facilitate carpool opportunities and public transport services.

Transit Improvements

The Project would encourage transit use through potential expansion of shuttle services within Peery Park to connect employees with multi-modal, regional rail transit options provided by VTA and Caltrain. The Project may include improvements to Mathilda Avenue such as enhanced bus stops with shelters to support increased transit and multi-modal access connecting VTA Light Rail's Lockheed Martin Station, Peery Park, Downtown Sunnyvale, and the Downtown Sunnyvale Caltrain Station. The Project also identifies options for providing multi-modal access to the Moffett Park Station located 0.1 miles from the northern edge of the Project area on West Moffett Park Drive.

Peery Park Rides Shuttle Program

The Project would promote the creation of a shuttle service to serve the Project area and surrounding neighborhoods. Recently, the City was awarded a grant in partnership with VTA from the Metropolitan Transportation Commission (MTC) to establish a shuttle bus pilot program (Peery Park Rides). The program combines a flexible transit service with aggressive trip reduction targets in Peery Park to attract commuters to transit and yield greenhouse gas reductions. The shuttle service serves to connect people with transit stations during peak commute times and between Peery Park, the adjacent neighborhoods and downtown during non-peak times. It is anticipated that the service will be available to the public as well as employees within Peery Park.

Transportation Demand Management Plan

The Project would require each project executed within the Project area to prepare a transportation demand management (TDM) plan. The TDM plan requirement would be implemented to manage and decrease the number of vehicular trips that may be produced with implementation of each project. TDM plans would meet City guidelines and monitoring requirements throughout implementation. TDM content would be coordinated with the Peery Park TMA and reviewed and approved by the Director of Public Works. Specifically, the following strategies would be considered with TDM implementation under the Project:

- Incentivize alternative transportation options such as bike shares, car shares, and private shuttle buses
- Information, promotion, and public education of alternative transportation options
- Financial incentives such as unbundled parking, subsidized transit passes, and reduced parking requirements

The following trip reduction goals are expected with implementation of a project's TDM plan:

Table 2-6. Trip Reduction Goals for Project TDMs

Project (gross sf)	TDM Trip Reduction Goal
Over 750,000	35%
300,001 to 750,000	30%
100,001 to 300,000	25%
Up to 100,000 and change in occupancy that intensifies prior use	20%

2.4.3 Utilities and Infrastructure

The Project proposes infrastructure, wastewater, water and storm drain facility improvements to serve development within the Project area. The improvements would provide updates to the City's management of water supply, water delivery systems, sewer and wastewater systems, storm water, solid waste and energy generation, and energy and telecommunications systems. The utilities and infrastructure plan would be implemented with input from infrastructure analyses prepared for this EIR (see Appendix I) and from Section 3.11, *Utilities and Infrastructure*.

2.4.4 Open Space/Landscaping

Pocket parks and plazas installed as part of new development augment the accessibility of public open spaces throughout Peery Park, which is especially beneficial as rest areas for pedestrians and cyclists. Pictured: Encinal Park, western edge of Project area

The Project would integrate public and private open space into future development within the Project area, requiring that a minimum of 20% of future development project sites be dedicated to open space areas. Places with promoted open space would include public amenities around areas such as cafes, restaurants, exercise facilities, landscaped areas and courtyards.

Open space requirements may be fulfilled through the implementation of parks, landscaped areas, and generally accessible open areas available to the public. At least six potential open space target areas have been identified by the Project, along the northern and southern portions of Pastoria Avenue, north of Almanor Avenue, along Hamlin Court, surrounding Maude Court, and at the southwest corner of the Project area.

Development projects would be able to gain additional FAR by providing public open space through the community benefits program beyond the minimum requirements set in the plan. The Design Guidelines chapter helps illustrate different open space and landscaping types and styles in which open space can be promoted within the Project area.

2.5 ADDITIONAL PLANNING LAWS, REGULATIONS, AND GUIDELINES

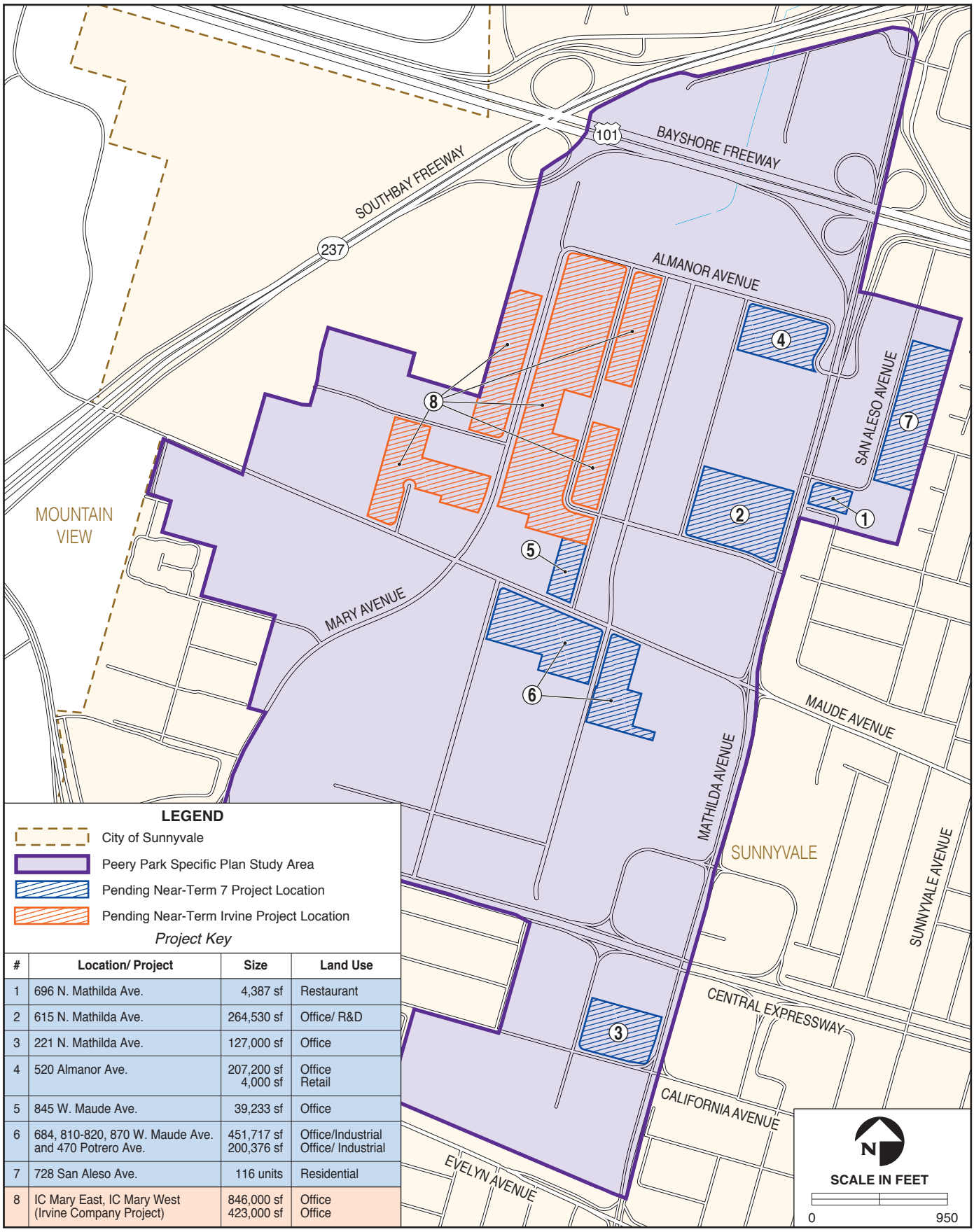
The Project would interact with a variety of additional planning initiatives throughout its implementation. The Project would be subject to all federal and state policies and regulations (e.g., Clean Air Act, Migratory Bird Treaty Act, Endangered Species Act, etc.) In addition, the following is an overview of existing local plans that may affect the Project:

- The *Moffett Federal Airfield Comprehensive Land Use Plan* (CLUP), adopted 2012, affects land use compatibility standards within the City. The CLUP contains compatibility guidelines, general criteria, and restrictions which apply to the Peery Park District and other areas adjacent to the airfield. Compatibility guidelines for issues such as noise, height, and safety restrictions are included within the CLUP.
- The 2013 *Downtown Specific Plan* (DSP) directly affects approximately 125 acres adjacent to the Project area. The DSP outlines goals and policies, design concepts and guidelines, development standards, circulation and parking, utilities, and implementation for the downtown area. Some aspects of the DSP will affect connections and circulation, historical resources, and utility and service uses adjacent to the Project area.

- The *Moffett Park Specific Plan*, updated in 2013, applies to approximately 1,156 acres of industrial and warehouse uses to the north of Peery Park, within the City. The *Moffett Park Specific Plan* outlines land use, development, design, and buildout implementation for the area and how it may affect off-site Project areas such as the extension of Mary Avenue as proposed in the Sunnyvale General Plan.
- The *Southern Pacific Corridor Specific Plan* (SPCSP), adopted 1984, affects areas within and adjacent to the railroad transportation route which borders the southern edge of the Project area.
- *Citywide Design Guidelines*, adopted 2013, maintain a cohesive design structure for the City, including site design, building design, parking and circulation, landscaping, and service and accessory structure design guidelines.
- *Parking Structure Design Guidelines*, adopted 2015, provides information for parking structure development in the City, including design principles and guidelines for specialized areas (e.g. Office Parks, Adjacent to Residential, etc.) and for particular types, including underground, podium, and parking garage structure types.
- *Bird Safe Design Guidelines*, adopted 2013, provides information for design of buildings or development that may be located in areas within proximity to bodies of water or large open spaces to promote bird safety.

2.6 PENDING NEAR-TERM PROJECTS

Several projects are proposed for development within the Project area which would be implemented within the next 3 to 7 years (Figure 2-10). At of the time of this EIR creation, eight projects have been submitted for formal or preliminary review. The eight Pending Near-Term Projects total 1,029,710 sf of existing development which would be redeveloped and improved with approximately 2,567,433 sf of office, industrial, and residential uses. One of the eight projects, the Irvine Company Project, was studied under a separate Traffic Impact Analysis (TIA) and, therefore, remains distinct in description and analysis within this EIR. Potential effects from these projects may include, at minimum, impacts to air quality, greenhouse gas emissions, noise, and traffic from construction and operation of these facilities. While some effects of the projects may be readily apparent, subsequent project-specific analyses tiered off of the program EIR will likely be necessary as the projects are defined more fully. With this understanding, preliminary discussions of possible effects from the Pending Near-Term Projects are addressed in Section 3.2, *Air Quality*, Section 3.4, *Greenhouse Gas Emissions*, Section 3.7, *Noise*, and Section 3.10, *Transportation, Circulation, and Traffic*.



LEGEND

- City of Sunnyvale
- Peery Park Specific Plan Study Area
- Pending Near-Term 7 Project Location
- Pending Near-Term Irvine Project Location

Project Key

#	Location/ Project	Size	Land Use
1	696 N. Mathilda Ave.	4,387 sf	Restaurant
2	615 N. Mathilda Ave.	264,530 sf	Office/ R&D
3	221 N. Mathilda Ave.	127,000 sf	Office
4	520 Almanor Ave.	207,200 sf 4,000 sf	Office Retail
5	845 W. Maude Ave.	39,233 sf	Office
6	684, 810-820, 870 W. Maude Ave. and 470 Potrero Ave.	451,717 sf 200,376 sf	Office/Industrial Office/ Industrial
7	728 San Aleso Ave.	116 units	Residential
8	IC Mary East, IC Mary West (Irvine Company Project)	846,000 sf 423,000 sf	Office Office

amec foster wheeler

Pending Near-Term Projects*

*Pending development projects estimated for completion within the next 3 to 7 years

FIGURE 2-10

Table 2-7. Buildout of Pending Near-Term Development Projects

Project			Existing Development		Proposed Development		
#	Location	APN	Existing Size	Use	Use	Considered Size	FAR
1	696 N. Mathilda Avenue	201-01-003 204-01-004	1,650 sf 9,800 sf	Vacant Building(s)	Restaurant with drive thru	4,387 sf	10%
2	615 N. Mathilda Avenue	165-43-028 165-43-027 165-43-014 165-43-023 165-43-029 165-43-026 165-43-024 165-43-025	109,305 sf	Light Industrial, restaurant with drive thru, R&D	Office/R&D	264,530 sf	80%
3	221 N. Mathilda Avenue	165-27-010	0 sf (1 sf house)	Nursery	Office	127,000 sf	69%
4	520 Almanor Avenue	165-43-018 165-43-016 165-43-017	80,000 sf	Industrial	Office Retail	207,200 sf 4,000 sf	110%
5	845 W. Maude Avenue	165-41-001	19,998 sf	Industrial	Office	39,233 sf	55%
6	684, 810-820, 870 Maude & 470 Potrero [Simeon]	165-30-012 165-28-016 165-28-014 165-28-015 165-30-001	164,870 sf 33,948 sf	Industrial Industrial	Office/Industrial Office/Industrial	451,717 sf 200,376 sf	100%
7	728 San Aleso Avenue	204-01-006 204-02-005 204-01-015 204-01-016 204-01-007	54,668 sf	Office/Industrial	Residential	116 units	n/a
8	IC Mary East, IC Mary West [Irvine Company]	Many	353,917 sf 201,554 sf	Industrial Industrial	Office Office	846,000 sf 423,000 sf	80% 67%

sf = square feet

Source: PPSP Near-Term 7 Projects Transportation Impact Assessment 2015, PPSP Near-Term Irvine Company Project Transportation Impact Assessment 2015, and Peery Park Development Applications 2015

Pending Near-Term Projects

1. **696 N. Mathilda Avenue** – J.P. DiNapoli Companies, Inc. is proposing to demolish existing structures totaling 11,450 sf on two parcels located on the eastern side of N. Mathilda Avenue and redevelop the site with a new 4,387 square foot restaurant with a drive-thru.
2. **615 N. Mathilda Avenue** – J.P. DiNapoli Companies, LLC is proposing to redevelop eight parcels totaling 7.9 acres between Vaqueros Avenue and Mathilda Avenue. Currently the parcels are developed with one-story buildings totaling 109,305 sf that are occupied by light industrial uses and a restaurant with a drive thru, the parcels would be redeveloped with 264,530 sf of office and research and development uses.
3. **221 N. Mathilda Avenue** – The Spear St. Capital Company is proposing to redevelop a 4.3 acre parcel on the southeastern edge of the Project site, previously occupied by a nursery and orchard, with a 127,000 square foot office development.
4. **520 Almanor Avenue** – Lane Partners LLC is proposing to redevelop three parcels currently containing a one-story, 80,000 square foot industrial building with 207,200 sf of office space and 4,000 sf of retail space.
5. **845 W. Maude Avenue** – The Arillaga/Sandis Company is proposing to redevelop a 1.66 acre site, replacing a one-story, 19,998 square foot industrial building with 39,233 sf of office development.
6. **684, 810-820, 870 Maude & 470 Potrero** – Simeon Commercial Properties is proposing to redevelop five parcels that currently contain multiple one-story industrial buildings comprising 198,818 sf and an undeveloped parcel. Proposed development for the properties consists of approximately 652,093 sf of office and industrial development.
7. **728 San Aleso Avenue** –Standard Pacific is proposing to convert five parcels containing four one-story office and industrial buildings (54,668 sf) to a medium density residential use with 116 units. The property is located adjacent to the SNAIL residential community in the Neighborhood Transition Subdistrict.

Pending Near-Term Irvine Project

8. **IC Mary East, IC Mary West** – Irvine Company is proposing to redevelop 24 parcels in the northwest corner of the Project area. The proposed project would replace 555,471 sf of existing industrial uses into 1,269,000 sf of new office development.

2.7 ALTERNATIVES TO THE PEERY PARK SPECIFIC PLAN

CEQA Guidelines (§15126.6[d]) directs the assessment of a range of alternatives to allow for comparative analyses by decision-makers. CEQA requires consideration of a reasonable range of alternatives to a project that: (1) could feasibly attain most of the basic project objectives; and (2) would avoid or substantially lessen significant impacts of the proposed project. An analysis and further description of the potential alternatives are located in Section 5.0, *Alternatives*. An alternative cannot be eliminated simply because it is more costly or if it could impede the

attainment of project objectives to some degree. The State CEQA Guidelines also requires that the EIR identify the "environmentally superior alternative" from among the project and alternatives evaluated.

The ***No Project/Existing Policies Alternative*** considers environmental impacts if the Peery Park Specific Plan is not adopted and existing policies continue, including the existing Land Use and Transportation Element of the General Plan. This provides a baseline impact analysis against which to compare impacts of the Peery Park Specific Plan and alternative policy/growth scenarios.

1. **No Project Alternative -** Under the required No Project Alternative, the Project would not be adopted and piecemeal development and redevelopment would occur in accordance with land use designations and provisions of the 2011 General Plan, existing Zoning Ordinance for M-S and C-1 zone districts, and the City's Industrial Design Guidelines. Over the long-term, the No Project Alternative would reduce overall development of the Project area when compared to the Project by 1.3 million sf. Though entities can still apply for higher FAR with a use permit to create office buildout and the existing General Plan still allows for a 900,000 sf increase in the Project site, this alternative would favor development of more R&D type uses under the current district-wide regulation Industrial–Service (M-S) zoning, resulting in associated reductions in potential future employment. This alternative would incrementally reduce some potential impacts of the proposed Specific Plan, such as traffic congestion, utilities, and jobs-housing balance. However, this alternative would not provide a uniform development standard for the district and would not obtain community benefits through an incentive zoning program. This alternative may also reduce Project level streetscape improvements and would not promote an activity centers or related retail amenities or services.
2. **Mixed Use Housing Alternative –** The goal of this alternative would be to replace some proposed commercial uses with residential uses to diversify the land uses within the Project area. Specifically, this alternative would adjust the land use plan to allow housing in a mixed use environment within the Southern Mixed Use Activity Center.

   Unlike the 24 acres proposed within the Project, this proposed activity center involves 16 acres of land near the intersection of Mary Avenue and Central Expressway. This alternative would replace approximately 500,000 sf of proposed office uses with residential uses, which would allow up to 640 dwelling units (du) at an average density of 40 du/acre. This alternative would continue to include retail uses at the Activity Center area to serve new residents and employees as well as existing residents in the surrounding area.

   Developing housing closer to jobs in the Project area would potentially reduce some environmental impacts, such as regional traffic congestion, air quality, and utilities demand. Under this alternative, the Project would include use of development standards to prescribe the height, Floor to Area ratio (FAR), and allowed uses of potential mixed use development in appropriate locations in the Project area. These areas would be restricted in terms of allowable use to ensure compatibility between residential and commercial uses. This Alternative would limit mixed use development to the Activity Center, while

retaining other areas in Peery Park for office and R&D uses. This alternative would incrementally reduce potential impacts, but would not provide as much of an increase in employment within the Project area. The incremental reduction in impacts would also be associated with the loss of employment opportunities and potential community benefits associated with those developments, but would increase housing to meet demand in Sunnyvale and regionally.

3. **Higher Intensity Buildout Alternative** – The goal of this alternative would be to intensify and concentrate development within the proposed activity centers and innovation edges of the Project Area to increase the employment and economic viability of Peery Park beyond the proposed Project. Under this alternative, the Project would allow more development with the potential for changes to proposed development standards to allow for this increase.

   In total, this alternative would increase the development potential of the Project area by 1 million sf beyond the Project for a total net increase of 3.2 million sf. This alternative would focus development on areas of the Project designated for high profile firms, as well as the proposed activity centers. This alternative may incrementally increase some potential impacts, but would have the ability to attract multiple high-profile companies and increase employment within the Project area. The incremental increase in impacts would also be associated with the increase of employment opportunities and potential community benefits associated with the Project.

2.8 REQUIRED ACTIONS AND APPROVALS

The proposed Project would include preparation and adoption of a new Specific Plan for the Project area. The Project would require modification to the existing General Plan and SMC to include or refer to the Specific Plan for land use and development regulations within the Project area.

The City is the lead agency for the proposed Project, consistent with CEQA Guidelines Section 15065(b). As such, this EIR will be used by the City to both evaluate the environmental impacts created by implementation of the proposed project, and develop conditions of approval which would address those impacts for which mitigation measures are proposed in the EIR. The Peery Park Specific Plan and Final EIR will be reviewed by the Bicycle and Pedestrian Advisory Commission (BPAC) and the Sustainability Commission before going to the Planning Commission for a recommendation and the City Council for adoption and certification.

This Peery Park Specific Plan includes the following regulatory and/or legislative actions by the City:

1. Review of the Specific Plan and Final EIR by the BPAC and Sustainability Commission during the 45-day public review comment period.

2. Recommendation from the Planning Commission on the Specific Plan and Final EIR to the City Council.
3. Certification of the Final EIR by the City Council
4. Consideration and Approval of a Findings and a Statement of Overriding Considerations by the City Council
5. Specific Plan Adoption by the City Council
6. Related General Plan Amendments and Modifications to the SMC.

3.0 ENVIRONMENTAL IMPACT ANALYSIS

INTRODUCTION

This section of the Environmental Impact Report (EIR) addresses the potentially significant environmental impacts of the proposed Peery Park Specific Plan (Project). Each environmental resource area is discussed under the following subsections: Environmental Setting, Regulatory Setting, Impact Assessment Methodology, Project Impacts and Mitigation Measures, Residual Impacts, and Cumulative Impacts. For resource areas where unique or supplementary information is available, additional subsections are provided chapter to chapter. The EIR addresses potential impacts that could result from the construction and operation of future land uses anticipated to occur under the Project. The Project would guide future development through the year 2035 by establishing development standards, goals, policies, and design guidelines for future land uses. As described Section 2.0, *Project Description*, 8 pending near-term projects have been submitted for formal or preliminary review and are proposed for implementation within the next 7 years, pending approval. While impacts of the Specific Plan are addressed programmatically, potential impacts associated with the 8 pending near-term projects are also considered within four sections of the EIR (Section 3.2, *Air Quality*, Section 3.4, *Greenhouse Gas Emissions*, Section 3.7, *Noise*, and Section 3.10, *Transportation, Circulation, and Traffic*) of this EIR.

IMPACT SIGNIFICANCE GUIDELINES AND IMPACT CLASSIFICATION

The California Environmental Quality Act (CEQA) requires an EIR analysis to “identify and focus on the significant environmental effects of a proposed project” (CEQA Guidelines, §15126.2(a) and Public Resources Code Section 21000(a). The emphasis of the EIR should be placed on the potential “physical” adverse effects of a proposed project.

CEQA Guidelines §15360 defines “environment” as the physical conditions that exist within the area that will be affected by a proposed project including, but not limited to, land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The guidelines further define the area involved as the area in which significant effects would occur either directly or indirectly as a result of the project. The “environment” includes both natural and human-made conditions.

CEQA Guidelines §15382 further clarifies the definition of “significant effect on the environment” as a substantial, or potential substantial, adverse change in any of the physical conditions within the area affected by the project. An economic or social change by itself shall not be considered a significant effect on the environment. However, that economic or social change that may have a physical impact (such as urban decay) should be considered in an EIR (Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184).

For each impact analysis section, thresholds for determining impact significance are identified along with descriptions of methodologies used for conducting the impact analysis. Determinations of impact significance levels in the EIR are made based on City impact significance guidelines and criteria for each impact topic, including Appendix G of the CEQA Guidelines. For some resource areas, such as air quality, transportation, and noise, the analysis of impacts are more quantitative in nature and involve the comparison of effects against a numerical threshold. For other resource areas, such as aesthetics and visual resources and land use, the analyses of impacts are inherently more qualitative, involving the consideration of a variety of factors, such as City policies.

The EIR impact discussions classify impact significance levels as:

1. **Significant and Unavoidable** - a significant impact to the environment that remains significant even after mitigation measures are applied;
2. **Less Than Significant with Mitigation** - a significant impact that can be avoided or reduced to a less than significant level with mitigation;
3. **Less Than Significant** - a potential impact that would not meet or exceed the identified thresholds of significance for the resource area;
4. **No Impact** – no impact would occur for the resource area; and
5. **Beneficial** – a potential impact that would improve the resource area.

MITIGATION MEASURES AND MONITORING

Per CEQA Guidelines §15126.4, where potentially significant environmental impacts have been identified in the EIR, feasible mitigation measures that could avoid or minimize the severity of those impacts are also identified. The mitigation measures are identified as part of the EIR analysis of each resource area in Sections 3.1 through 3.11.

Pursuant to CEQA, feasible mitigation measures must be implemented for all significant impacts. Feasible means “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environment, legal, social, and technological factors.” A lead agency must impose mitigation measures unless findings can be made that the mitigation measures are found to be infeasible or within the jurisdiction of another agency (City of Marina v. Board of Trustees of the California State University (2006) 39 Cal.4th 341).

Mitigation measures may involve various means of implementation, such as:

- Measures incorporated directly into the adopted Peery Park Specific Plan as new or revised policies or development standards, or in implementing ordinances.

- Measures implemented in multi-year City operational programs, such as a capital improvements program or development impact fee program.
- Measures incorporated as standard departmental conditions of approval for individual development projects.

CEQA requires that implementation of adopted mitigation measures or any revisions made to the Peery Park Specific Plan by the Lead Agency to mitigate or avoid significant environmental effects be monitored for compliance. Accordingly, CEQA Guidelines §15097 requires that a public agency adopt a Mitigation Monitoring or Reporting Program (MMRP) for those adopted mitigation measures and project revisions. With respect to approval of a program-level document, CEQA provides that "[w]here the project at issue is the adoption of a …specific plan…the monitoring plan shall apply to policies and any other portion of the plan that is a mitigation measure or adopted alternative". That is, the monitoring plan may consist of policies included in plan-level documents (CEQA Guidelines §15097(b)). A draft MMRP is provided in Section 6.0 of this EIR.

CUMULATIVE IMPACTS ANALYSES

CEQA Guidelines §15130(a) states that an EIR shall "discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable". "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). CEQA Guidelines §15355 defines cumulative impacts as "two or more individual effects that, when considered together, are considerable, or which compound or increase other environmental impacts." The CEQA Guidelines allow for the use of two different methods to determine cumulative impacts:

1. **General Plan Projection Method** - A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact (CEQA Guidelines §15130).

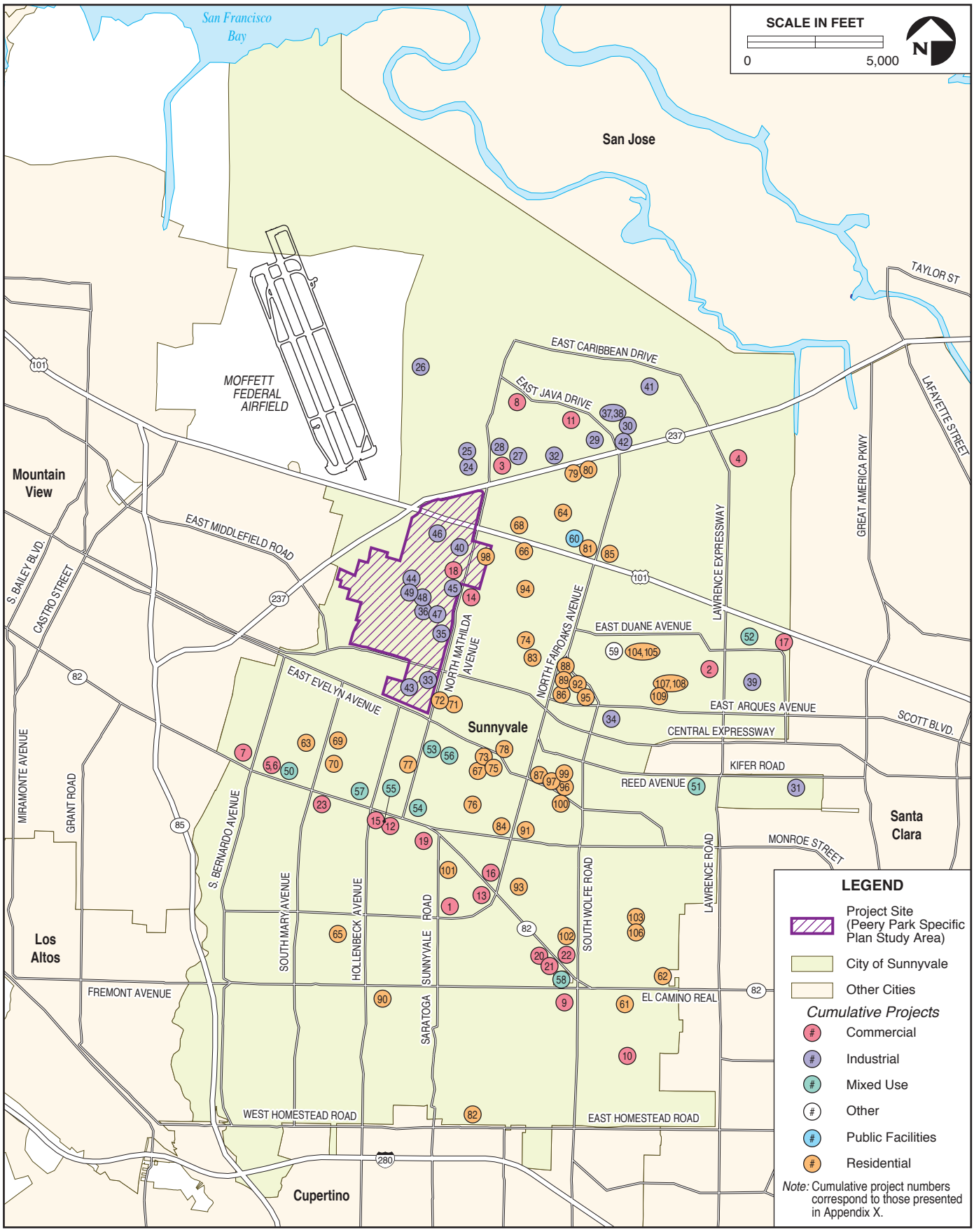
2. **List Method -** A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency (CEQA Guidelines §15130).

The Project is a regulatory planning document that addresses potential land use changes in the Project area through the year 2035. The Specific Plan would be an implementation tool for the City's General Plan, Land Use and Transportation Element (LUTE), which is the overarching guiding land use document for the City. Since the LUTE is currently being updated (expected adoption in 2016) and the proposed Project is a planning document with a time horizon through the year 2035, this EIR could not reasonably use the General Plan Projection Method to analyze cumulative effects for all environmental topic issues. As such, the List Method is used in this EIR. Appendix D provides an updated citywide list of cumulative past, present, and probable future

projects, including projects that have occurred recently or are anticipated to occur in the Project area. Figure 3.0 depicts the location of the cumulative projects relative to the Project area.

CEQA Guidelines Section 15130(b)(2) further states that the EIR should define the geographic scope of the area affected by the cumulative effects and provide a reasonable explanation for the geographic limitation used. The geographic scope for the analysis of cumulative impacts in this EIR varies by each environmental impact topic (e.g., air basin, jurisdiction, service area, viewshed, watershed, etc.). For most of the impact topics analyzed in this EIR, the geographic scope was determined to be limited to the City. However, impact topics such as air quality, greenhouse gases and climate change, hydrology and water quality, land use and planning, population/housing, and transportation/traffic have a more regional geographic scope, as identified below:

Environmental Topic Area	Geographic Context for Cumulative Analysis
Aesthetics	City of Sunnyvale
Air Quality	San Francisco Bay Area Air Basin
Biological Resources	City of Sunnyvale
Cultural Resources	City of Sunnyvale
Greenhouse Gases and Climate Change	Global
Geology and Soils	City of Sunnyvale
Hazards and Hazardous Materials	City of Sunnyvale
Hydrology and Water Quality	City of Sunnyvale, Santa Clara Valley Water District
Land Use and Planning	City of Sunnyvale, County of Santa Clara, and Association of Bay Area Governments (ABAG) planning area
Noise	Peery Park and adjacent areas in the City of Sunnyvale
Population, Housing, and Employment	City of Sunnyvale, County of Santa Clara, ABAG planning area
Public Services (e.g., Fire, Police, Parks, Schools, Libraries)	City of Sunnyvale
Transportation and Circulation	City of Sunnyvale, County of Santa Clara, ABAG planning area
Utilities	Water – City of Sunnyvale, San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Reservoir service area, and Santa Clara Valley Water District (SCVWD) Wastewater – City of Sunnyvale, Water Pollution Control Plant (WPCP) service area Solid Waste – Sunnyvale Materials Recovery and Transfer (SMaRT) Station service area, Santa Clara County Electric – Pacific Gas and Electric Company service area Natural Gas – Pacific Gas and Electric Company service area



amec foster wheeler

Cumulative Project Locations

FIGURE 3.0

3.1 AESTHETICS AND VISUAL RESOURCES

This section describes the aesthetic and visual resource setting within the Peery Park vicinity, and describes potential impacts to visual resources that could result from implementation of the Peery Park Specific Plan (Project). The primary visual and aesthetic issues include changes in land use and visual character within the Project area, potential impacts to existing public views from within the Project area and from adjacent neighborhoods, and visual compatibility of the Project with the surrounding area.

3.1.1 Environmental Setting

A community's aesthetic values relate to how residents and visitors perceive the visual attractiveness of an area, and key elements that create or enhance its visual quality. Although aesthetic values are subjective, most communities identify scenic resources as an important asset; valued scenic resources vary by community or within the particular urban or rural context.

In an urban context, scenic resources can include regional natural features and landmarks, urban open spaces, and the built environment such as parks, pathways, cultural resources, and architectural features. Views or vistas are generally defined by physical features that frame the boundaries and context of scenic resources. In an urban context, views and view corridors often extend along city streets and may include foreground views of street trees, architecturally notable or historic structures, plazas and the urban streetscape, or more distant backdrop views, such as those of mountains, hillsides, water bodies, parks, and open spaces.

Regional Aesthetic Setting

The Project area is located in the northwestern portion of the City of Sunnyvale (City) within Santa Clara County. The City forms part of a continuous urban landscape with the neighboring cities of San Jose to the north, Mountain View to the west, Los Altos to the southwest, Cupertino to the south, and Santa Clara to the east.

Silicon Valley has a diversity of urban and natural landscapes unique to the southern region of the San Francisco Bay area. While the valley floor is a highly urbanized area with concentrations of high-technology centers, old and new residential areas, transportation infrastructure, and downtown settings, Silicon Valley is surrounded by natural features with the San Francisco Bay to the north, the Santa Cruz Mountains to the southwest, and the Diablo Mountain Range to the east. These mountain ranges and bay waters provide distant scenic landscapes of associated topography, vegetation, wetlands, and nature preserves. A number of open spaces and recreational areas throughout Silicon Valley also contain scenic parks, golf courses, and riparian stream corridors.

Visual and Aesthetic Characteristics of Peery Park

The Project area is archetypal of early Silicon Valley technology-based business growth. The existing industrial business park is characterized primarily by older one- or two-story structures set back from wide surface streets. Individual light industrial campuses typically contain a centrally located building accessible via internal pathways from surrounding private surface parking lots and established perimeter landscaping, including many mature shade trees, grass lawns, and other small ornamental landscaped areas. Onsite vegetation is typically installed within parking medians, vegetated courtyards and foyers, and planters as part of commercial landscaping.

Development of taller buildings along the perimeter of the Project area is visible from public roadways and adjacent neighborhoods.

While interior portions of the Project area are not viewable from surrounding public areas (e.g., Sunnyvale Golf Course) and existing neighborhoods, peripheral industrial uses within the Project area and development primarily along Mathilda Avenue and Mary Avenue is visible to the SNAIL, Orchard Gardens, Lowlanders neighborhoods and single family residences along Pine Avenue, as well as multi-family residences accessed from Corte Madera Avenue and Escalon Avenue. By their nature, industrial uses can exhibit visual characteristics that may be incompatible with residential neighborhoods, including nighttime lighting, ambient noise, and architectural design. However, in the majority of the Project area, industrial uses are setback considerably from adjacent residential uses and mature landscaping is maintained to an extent that older one- to two-story buildings do not substantially alter the aesthetic character of the existing neighborhood and the adjacent uses are generally compatible with one another. In some locations, taller buildings with immature landscaping and more extensive nighttime lighting are more visible to adjacent residential uses. For example, as noted by residents during the scoping process for the Project, recent multi-story high tech development along Mathilda Avenue is visible from the backyards and living areas of some residences and outdoor public spaces to the west of the Project area.

Due to the low-profile of most structures, shade and shadow effects are minimal; however, even with larger structures up to five stories, shade and shadow effects are negligible due to the setbacks between taller structures from adjacent buildings. Street lighting is the predominant source of nighttime light and glare. The following is a description of public views within the Project area and Project vicinity (Table 3.1-1).

Existing development in the Project area is archetypal of the technology-based economy of Silicon Valley, where one- and two-story industrial buildings contain business campuses, courtyards, foyers, and ornamental landscaping.

Table 3.1-1. Existing Views within Peery Park

Key Viewshed	
Viewshed 1: North Mathilda Avenue   Source: Google Earth 2015	This viewshed is along North Mathilda Avenue near the intersection with West Maude Avenue. North Mathilda Avenue is an automobile-dominated six-lane road with turning lanes, narrow central dividers lined with street lights, and some sidewalk landscaping. Neighboring uses to the east of Mathilda Avenue include a residential neighborhood; taller buildings within Peery Park would be within the viewshed of this neighborhood. Land uses to the south of West Maude Avenue are characterized as low-density development with one- or two-story structures set back from the street between surface parking lots. A few fast food restaurants are located within this viewshed as well as two gas stations (left image). Development along Mathilda Avenue north of West Maude Avenue differs in character as it includes the six-story office building leased by Apple within the Project area, which is highly visible along the road (right image). Mature trees that line the street, a narrow walkway, and a landscaped center divider provide some visual relief from the urban streetscape along North Mathilda Avenue.

Key Viewshed	
Viewshed 2: Almanor Avenue 	This viewshed is representative of the character of many internal roadways within the Project area. Almanor Avenue is a quiet tree-lined two-lane road within the Project area with 25 mile per hour (mph) speed limits, bike paths, grass planters, and narrow sidewalks. Single- to five-story industrial business park buildings are widely spaced apart along this road. Buildings are setback approximately 50 to 150 feet from the road. Parking lots and lawns fill the space between the road and buildings. Most properties along this road include well maintained paths leading to the entrances of buildings and contain ornamental landscapes and decorative hardscapes such as flower beds and fountains.

Key Viewshed	
Viewshed 3: West Maude Avenue near Pastoria Avenue  Source: Google Earth 2015	This viewshed is at the intersection of West Maude Avenue and Pastoria Avenue. West Maude Avenue is a two-lane street within the Project area that is experiencing a change in character within the last one to two years, with the new construction of five- and six-story modern business campuses that replace older one-story industrial office buildings. As is characteristic of the Project area, West Maude Avenue is lined with street trees, grass buffers, and narrow sidewalks.

Key Viewshed	
Viewshed 4: Mary Avenue and Central Expressway 	Viewshed 4 is at the intersection of two major roadways at the southwest boarder of the Project area, Central Expressway and Mary Avenue. This intersection is at the southwestern border of the Project area and is within the vicinity of several apartment complexes and single-family homes. The Meadows Apartments are located at the northwest corner of this intersection; a partitioning wall with landscaping is visible from the street and largely shields private views of this intersection. Very few structures are within sight at the intersection and are generally hidden behind rows of dense trees lining the road and center divider one story in height. Most structures on Mary Avenue are single story in height. Parking lots along Mary Avenue are partially visible between landscaping planters and street trees. A bus stop, bike paths, and pedestrian crossings are located within this intersection, allowing a viewing corridor to commuters and travelers using several modes of transportation.

Key Viewshed	
Viewshed 5: Ross Drive at Mathilda Avenue 	Viewshed 5 is along the northern border of the Project area, adjacent to SR 237. This viewshed includes low-density developments of older one- to two-story commercial buildings surrounded by grass lawns, parking lots, and trees. The north side of Ross Drive contains partial views of SR 237 buffered by heavy shrubs, trees, and fencing.

Visual and Aesthetic Characteristics of Building Classes in Peery Park

Office buildings are typically categorized in three classes: Class A, Class B, and Class C. This classification system uses measures such as rent, building finishes, system standards and efficiency, building amenities, location/accessibility and market perception. Standard classifications are as follows:

Class A: High-quality buildings competing for premier office users with rents above average for the area are considered Class A. Buildings have high quality standard finishes and high-tech systems. Aesthetics, including amenities, design, and finishes, set Class A buildings apart from other buildings. Class A buildings are considered aesthetically pleasing, have notable architectural design, and often reside in highly visible locations with landscaping. Many Class A buildings contain features such as a large central lobby, high ceilings, and contain three or more stories. Some Class A buildings may include attributes such as atriums, water features, cafes and courtyards. Finishes may include luxurious materials such as mahogany, imported tile, marble, or glass (Davidson 2014).

Class A buildings are characterized by aesthetics-driven site design, notable architectural design, and highly visible facades.

Class B buildings are typically one- to two-story offices providing standard amenities and an average design aesthetic.

Class B: Standard buildings competing for a wide range of users with rents in the average range for the area are considered Class B. Building finishes are fair to good for the area and systems are adequate, but the building does not compete with Class A at the same market price. While buildings contain fully functional facilities, they do not contain luxury or high-quality fixtures. Many Class B buildings are at least 10 years old and show signs of minimal deterioration. Class B buildings may also have some amenities such as a central lobby or elevators (Davidson 2014).

Class C: Buildings competing for tenants requiring functional space at rents below the average for the area are considered Class C. Class C buildings are at least 20 years old and often much older. Buildings may contain fair-to-poor infrastructure with out-of-date furnishings and poor maintenance. Buildings are often located in areas with little neighborhood revitalization and usually lack amenities seen in Class A and B buildings such as landscape features, central lobbies, or elevators. With some repairs and improvements, a Class C building may be upgraded to Class B, although unlikely to achieve Class A status, due to the lack of high quality finishes, architectural design, and aged infrastructure (Davidson 2014).

Class C buildings typically lack a congruous aesthetic with a wide range of commercial uses and site design approaches.

The Project area currently consists mainly of Class B and Class C industrial buildings constructed primarily in the 1960s and 1970s. However, recent industrial and office development has contributed a range of five- and six-story Class A structures to the Project area. The construction of these Class A buildings facilitates a more modern, high-quality aesthetic to the Project area characterized by seamless glass pane facades, modern/contemporary architectural design, and low-profile lighting and signage. Additionally, Class A buildings are typically accompanied by improved landscaping, including native, and drought-tolerant plantings.

Peery Park Visual Resources

Within the City, visual resources include the Santa Cruz Mountains, historic buildings, and tree-lined streets throughout most of the City creating an urban forest. Views within the Project area tend to be dominated by existing structures, surface parking, and street trees. Along public roadways or across undeveloped areas, some distant views of the Santa Cruz Mountains ridgelines are available. Public areas, streets and sidewalks within Project area currently provide limited channelized views of the Santa Cruz Mountains. These views are primarily along Mathilda Avenue, Pastoria Avenue, Potrero Avenue, Palomar Avenue, and Mary Avenue. Views are typically framed by one- to seven-story buildings and trees, with occasional glimpses across limited surface parking areas.

Additionally, intermittent views of public open space areas, including the Sunnyvale Golf Course and Encinal Park, provide visual relief within an otherwise developed urban setting. Views of the San Francisco Bay are generally not available from public viewing locations due to existing development and transportation corridors, which block northward views.

Additional visual resources in the Project area include views of the historical resources that are located within the Project area, as they represent visual anomalies contrasted with the business industrial buildings that dominate the Project area. The Libby Can Water Tower (Libby Tower), located within the central courtyard of the Raytheon Industrial Campus on California Avenue, is a historical structure remnant from the Libby Cannery, and can be viewed from various locations within the Project area as well as North Mathilda Avenue, West Evelyn Avenue, and adjacent

(Left) Key View Corridors down tree-lined streets define the overall aesthetic quality of Peery Park and provide visual context for the industrial area, as shown looking east along Almanor Avenue. (Right) The remnant orchards of Mellow's Nursery, which are viewable from Sobrante Way, North Mathilda Avenue, and California Avenue, provide a unique visual break in the continuous industrial area, where the fruit trees offer a reminder of the historical agricultural character of the Project area.

neighborhoods. Mellow's Nursery located at 221 N. Mathilda Avenue is another historic site and is the last historic orchard within the vicinity. The nursery is visible from West California Avenue and Sobrante Way, as well as North Mathilda Avenue.

Table 3.1-2. Key Visual Resources in Peery Park

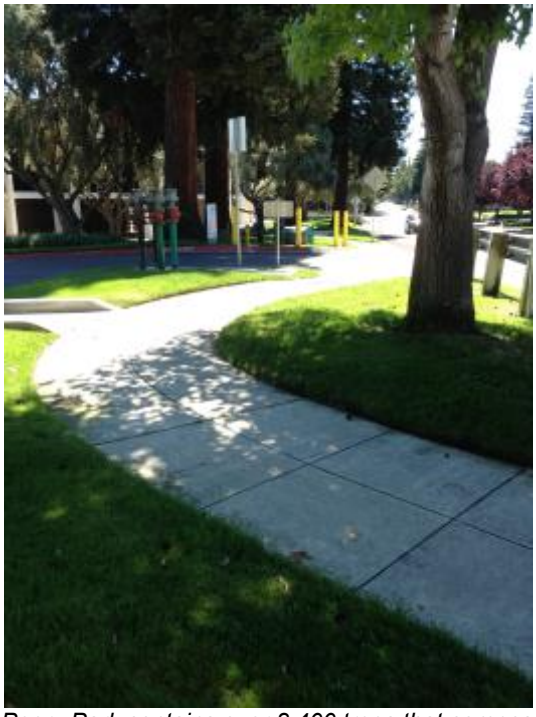
Visual Resource	Key View Location
Santa Cruz Mountains 	The following public roadways provide distant but clear southern views of the Santa Cruz Mountains: • Mathilda Avenue • Pastoria Avenue • Potrero Avenue • Palomar Avenue • Mary Avenue

Visual Resource	Key View Location
Sunnyvale Golf Course 	Intermittent views to the west between structures toward the Sunnyvale Golf Course are available from: • Mary Avenue
Encinal Park 	Clear northern views toward Encinal Park are available from: • Corte Madera

Visual Resource	Key View Location
Libby Can Water Tower  	Though often obstructed by existing buildings and landscaping, views of the Libby Can Water Tower historical resource are available from: • Raytheon Campus Courtyard • North Mathilda Avenue • West Evelyn Avenue • Sunnyvale west neighborhood streets
Mellow's Nursery and Farm  Source: Google Earth 2014	Views of the Mellow's Nursery and Farm heritage resource site are available from: • California Avenue • Sobrante Way Views of the farm residence building are available from: • North Mathilda Avenue

Trees and the Urban Forest

In the public realm, the Project area includes over 8,400 mature trees within the public right-of-way that line streets and parking lots, and provide visual barriers to internal buildings and roads. Street trees and greenways complement sidewalks and walking paths to form an interconnected urban forest environment. The Project area is characterized by a dense canopy of mature trees lining streets interspersed between the low-density urban fabric of commercial buildings and surface parking lots. The continuity of the tree-lined corridors and mature native trees, such as valley oak, blue oak, interior live oak, cottonwood, sycamore, and willow, provide a visual break from the uniformity of urban development, as well as shade and ornamental value. The most common types of trees within the City include southern magnolia, gingko biloba, and coastal redwood; they are also common within the Project area (Table 3.1-3). Sixteen individual native trees are listed as Heritage Trees on the City's Heritage Resources Inventory; however, none are located within or adjacent to the Project area.



Peery Park contains over 8,400 trees that compose a varied urban forest canopy along streetscapes and within industrial campus landscape designs. The canopy provides shade, color, and cooling benefits along sidewalks, pathways, and roadways within the Project area.

Table 3.1-3. 10 Most Common Types of Trees in the City

Type of Tree	Number of trees
Southern Magnolia	4,607
American Sweet Gum	3,495
Chinese Pistache	2,851
Gingko Biloba	1,457
Holly oak	1,352
London Plane	1,177
Coastal Redwood	1,018
Water Gum	903
Tulip Tree	856
Camphorwood	740

Source: (City of Sunnyvale 2015).

Surrounding Land Uses

Land uses surrounding the Project area include residential neighborhoods to the east of Mathilda Avenue and to the south below Evelyn Avenue and Central Expressway. These residences are primarily detached single-family dwellings along tree-lined streets, with grass lawns and public sidewalks along secondary streets. To the west of Sunnyvale Business Park on Pasito Terrace, the Briarwood Apartments provide a residential complex of upscale garden apartments ranging between one and three stories, containing porches, balconies, a pool and playground, and ornate landscaping. Residential neighborhoods to the west of the Project area adjacent to Mary Avenue are mainly comprised of multi-unit complexes between one and three stories, with uncovered parking and landscaped areas that often include trees, shrubs, and grasses.

A small-scale shopping center on North Mary Avenue contains a one-story commercial complex of restaurants and retail stores, as well as a surface parking lot fronting the buildings and separating the commercial uses from the street. Encinal Park adjacent to the Project area on Corte Madera Avenue offers open space and recreational facilities, including tennis courts, a baseball field, soccer fields, and a playground. The park is encompassed by mature trees and some fencing. To the west bordering SR 237 and Maude Avenue is a commercial complex of Class A Buildings ranging from three to eight stories surrounded by uncovered parking.

Sunnyvale Golf Course is located northwest of the Project area on either side of SR 237. Sunnyvale Golf Course is a well-manicured 18-hole golf course that provides a restaurant, bar, and banquet space. To the north of the Project area across US Highway 101 is Moffett Federal Airfield, built in 1931, and currently used as a NASA-Ames research center. Moffett Federal Airfield contains three dirigible hangars which are highly visible throughout the bay area and included on the National Register of Historic Places, although difficult to see from within the Project site. Across SR 237 on the north of the Project area are several newer mid-rise corporate campuses with glass and metal exteriors, including Moffett Towers and a business park on West Moffett Park Drive.

Scenic Vistas

A scenic vista is a view of natural environmental, historic, and/or architectural features possessing visual and aesthetic qualities of value to the community. The term “vista” generally implies an expansive view, usually from an elevated point or open area. No designated scenic vistas occur in the Project area or its vicinity.

Scenic Highways and Roadways

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans) protects state scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. According to the California State Scenic Highway Program, no state-designated scenic highways occur within or adjacent to the City (Caltrans 2014).

Existing Light and Glare

Lighting and glare levels in the Project area are typical for that of urban areas and other business parks. The Project area currently generates light from indoor and outdoor lighting, security lighting, and parking lot lighting. Along the perimeter of the Project area, particularly along Mathilda Avenue, interior lighting in taller buildings is visible to adjacent neighborhoods. Vehicle headlights, street lighting at intersections and along the streets, parking lot lighting, and building lighting, as well as various other sources of light the onsite facilities, contribute to the existing light setting within the Project area.

Reflective building surfaces such as windows and aluminum siding, and vehicles generate glare within the Project area. Glare impacts from sunlight reflections in Peery Park are the most severe during the morning and evening hours when sunlight is directly reflected from glass windows and building surfaces onto motorists, pedestrians and bicyclists, and all persons traveling in or through the area. Class A buildings, particularly in the Project area, are typically taller than the older Class B and C buildings. Despite the new construction of taller Class A buildings in the Project area, shade and shadow effects are generally negligible due to the setbacks between taller structures from adjacent buildings and sidewalks and large lot sizes. Class A buildings typically consist of exteriors with more reflective materials, such as metals and glass, which can contribute to greater light and glare effects than Class B and C buildings. Taller buildings with glass facades can also allow spillover of interior lighting to adjacent uses, which can be viewable at night to nearby residential neighborhoods. The canopy coverage of the mature trees mutes the light and limits views of the sky. Existing glare within Peery Park is mostly attributed to reflections from vehicles and building windows. However, landscape trees reduce this effect, as well as the abundance of lower-profile one- and two-story buildings.

3.1.2 Regulatory Setting

Federal Policies and Regulations

There are no federal regulations that pertain to aesthetic or visual resources.

State Policies and Regulations

Caltrans Scenic Highway Program

Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Suitability for designation as a State Scenic Highway is based on vividness, intactness, and unity. No officially designated California Scenic Highway segments occur within the City (Caltrans 2014).

Local Policies and Regulations

City of Sunnyvale General Plan

The consolidated City of Sunnyvale General Plan Chapters 3, *Land Use and Transportation* and Chapter 4, *Community Character*, address visual resource issues (City of Sunnyvale 2011). The goals and policies that are relevant to the Project are listed below.

Goal II. Attractive Community. To maintain and enhance the appearance of Sunnyvale, and to distinguish it from surrounding communities, through the promotion of high quality architecture, the preservation of historic districts and structures, the maintenance of a healthy urban forest, and the provision of abundant and attractive open space.

Goal XIII. Community Identity To foster a strong sense of community which promotes participation in civic affairs, community pride, and a sense of place.

Goal LT-2: Preserve and enhance an attractive community, with a positive image and a sense of place that consists of distinctive neighborhoods, pockets of interest, and human-scale development.

Goal LT-4: Preserve and enhance the quality character of Sunnyvale's industrial, commercial, and residential neighborhoods by promoting land use patterns and related transportation opportunities that are supported of neighborhood concept.

Goal CC-2: Attractive Street Environment. Create an attractive street environment which will compliment private and public properties and be comfortable for residents and visitors.

Goal CC-3: Well Designed Sites and Buildings. Ensure that buildings and related site improvements for private development are well designed and compatible with surrounding properties and districts.

Policy LT-2.1: Recognize that the City is composed of residential, industrial and commercial neighborhoods, each with its own individual character, and allow change consistent with reinforcing positive neighborhood values.

***Policy LT-2.2b*:** Encourage development of diversified building forms and intensities.

Policy LT-4.2: Require new development to be compatible with the neighborhood, adjacent land uses and transportation system.

Policy LT-4.2b: Utilize adopted City design guidelines to achieve compatible architecture and scale for renovation and new development in Sunnyvale's neighborhoods.

***Policy LT-4.8a*:** Require high quality site, landscaping and building design for higher intensity industrial development.

***Policy LT -4.13*:** Promote an attractive and functional commercial street environment.

***Policy LT-4.13a*:** Discourage commercial street uses and designs that result in a boxy appearance.

Policy LT-8.4: Maintain existing park and open space tree inventory though the replacement of trees with an equal or greater number of trees when trees are removed due to disease, park development or other reasons.

Policy LT-8.5: Maintain park and open space tree inventory on a system of wide basis rather than a site-by-site basis with an understanding that there is no optimum number of trees for a particular site.

***Policy CC-1.8*:** Provide and encourage the incorporation of art - both functional and decorative - in public and private development.

***Policy CC-3.1*:** Place a priority on quality architecture and site design which will enhance the image of Sunnyvale and create a vital and attractive environment for businesses, residents and visitors, and be reasonably balanced with the need for economic development to assure Sunnyvale's economic prosperity.

***Policy CC-3.2*:** Ensure site design is compatible with the natural and surrounding built environment.

***Policy CC-5.2*:** Enhance the visual character of the City by preserving diverse as well as harmonious architectural styles, reflecting various phases of the City's historical development and the cultural traditions of past and present residents.

Zoning Ordinance

Title 19 of the Sunnyvale Municipal Code (Zoning Ordinance) provides development standards and regulations that are meant to enhance the visual quality of new development through building height limits, building density, building design and landscaping standards, architectural features, setback requirements, sign regulations, usable open space requirements, and public artwork in private developments.

Chapter 13.16, known as the City Tree Ordinance, provides guidance and regulations on City Trees, including protected trees, removal or damage to trees, and permitting. Permitting is required for planting trees in the public right of way, removal or maintenance to protected trees, and construction affecting protected trees. The City defines "protected trees" as trees that meet the following criteria:

- Any single trunk tree 38 inches or greater in circumference (the circumference of the tree is measured at 4.5 feet above the ground); or
- Any multi-trunk tree which has at least one trunk 38 inches or greater in circumference or where the measurements of the multi-trunks added together equal at least 113 inches.

The Zoning Ordinance promotes good design and careful planning of development projects to enhance the visual environment. The City's development review process includes the review of preliminary plans and the consideration of public input by the Zoning Administrator, the Planning Commission, and the City Council. The City reviews private and public development applications for conformance with City plans, ordinances, and policies related to zoning, urban design, and the California Environmental Quality Act (CEQA).

Citywide Design Guidelines

The City established Citywide Design Guidelines in 1992 and has subsequently established other design guideline documents in order to provide a sufficient level of development guidance for future projects in various areas of the City (City of Sunnyvale 2013). The design guidelines are intended to supplement (not replace) the building standards in the City's Zoning Ordinance. The design guidelines establish only the minimum acceptable design standards for the City. Individual projects in specific areas of the city would be required to comply with the relevant Citywide Design Guidelines and other applicable design guidelines as a condition of project approval. Peery Park is subject to the adopted Citywide Design Guidelines and Industrial Design Guidelines and will also contain a set of guidelines specific to the area within the Project area (City of Sunnyvale 1993). For example, the City's parking structure standards would apply to the Project area to control mass and bulk of the structures and buffer parking garages from adjacent residential neighborhoods.

Industrial Design Guidelines

The City adopted its Industrial Design Guidelines in 1993. These guidelines were designed to complement and support the City's economic and development goals, and are intended to provide advance information to developers and architects on the site development and architectural standards expected by the City so that they can be incorporated into the plans at the earliest possible time. The guidelines are based on successful and generally accepted design principles that can be administered in a "flexible, sensitive, and results-oriented manner." Examples of some of these guidelines that are relevant to the proposed project include:

A4. New buildings shall present strong relationships to their site and surrounding buildings on the same or adjacent parcels. Visual and functional relationships between buildings and sites may be created by building orientation and massing, and site organization.

A5. In multi-building complexes, a distinct visual link shall be established among various buildings by using architectural or site design elements such as courtyards, plazas, landscaping, and walkways to unify the project.

A6. Project perimeter landscaping shall be integrated with the landscaping of adjacent development for streetscape continuity.

A7. New sidewalks shall be integrated into the existing frontage landscaping to maintain street continuity. Where new sidewalks are required, mature trees and landscaping should be preserved as much as possible by meandering sidewalks around them.

A8. Natural features on a site such as mature trees, creeks, views, etc. should be preserved and incorporated into the site design of the project.

C2. Open space areas may be incorporated as a part of focal points.

A4. Front facades of large buildings visible from a public street shall include architectural features such as reveals, windows and openings, expansion joints, changes in color, texture, and material to add interest to the building elevation. Exceptions may be permitted only where a specific architectural style offers other types of facade articulations, as determined by the planning staff. New buildings shall maintain diversity and individuality in style while improving the aesthetic character of their surrounding area.

1. Corporate and professional office buildings shall have the highest quality architecture and be oriented toward streets.

4. When there are two or more buildings located on site, buildings should be oriented toward public streets and provide view corridors into the Project area. View corridors may be provided by controlling the spacing and angles of buildings on the site and by providing vistas and plazas.

Urban Forest Management Plan (UFMP)

The City adopted the Urban Forest Management Plan (UFMP) in 2014 in order to sustain, protect and enhance the urban forest in the City. The UFMP includes goals to maintain city trees to as well as encourage good tree management on privately-owned properties. Furthermore, the UFMP includes implementation and monitoring strategies to carry out these goals.

3.1.3 Impacts and Mitigation Measures

Significance Criteria

Consistent with Appendix G of the CEQA Guidelines, an aesthetic or visual resource impact is considered significant if implementation of the Project would result in any of the following:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

3. Substantially degrade the existing visual character or quality of the site and its surroundings (This may include loss of visual landmarks or historic structures with visual significance, loss of major onsite landscape features, or degradation by change of character when placed in the context of the existing surroundings).
4. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Methodology

This aesthetics and visual resource analysis is based on field study of the Project area and surrounding areas, review of topographic conditions, and review of the proposed Peery Park Specific Plan. Amec Foster Wheeler prepared a Project Site Photo Inventory on June 27, 2013 of the existing Project area and took photos and detailed observations of historic structures, iconic buildings, public open spaces, potential view corridors and important public viewing locations (Amec Foster Wheeler 2013). Visual impacts were evaluated using a combination of a site reconnaissance, review of photo documentation and aerial photographs, review of recent approved and pending development projects in the City, and a review of existing policy documents (e.g., City of Sunnyvale Industrial Design Guidelines). Based on the Project Site Photo Inventory and fieldwork, this analysis assesses the potential effects of development, redevelopment, and land use changes in the Project area from implementation of the Project on the identified scenic and visual resources. The degree of the visual impact in this assessment depends upon the sensitivity of the resource, as supported by viewer susceptibility, viewing conditions (e.g., angle of view, distance, and primary viewing directions), degree of change and visual contrasts to surroundings.

Changes to Scenic Vistas and Visual Resources

Impact AES-1: The Project would not block or diminish public views of a scenic vista or views of scenic resources from a designated state scenic highway. Therefore, no impacts would occur.

The Project area does not contain any designated scenic vistas. The topography of the Project area is flat and does not contain any unique topographic features that would offer a scenic view. There are no designated State scenic highways within the vicinity of the Project area, and no portions of the City encompass the viewshed of a state scenic highway. Development would not occur in protected natural areas surrounding Silicon Valley that provide regionally significant scenic views of regional aesthetic resources, such as the San Francisco Bay and the Santa Cruz Mountains. The development of additional multi-story buildings may be visible from distant viewing areas upland of the City in the foothills or across the San Francisco Bay; however, the Project is located within an urban setting that already contains a number of five- to eight-story buildings and public views from accessible viewpoints of these areas would remain unobstructed. Therefore, the Project would cause no impacts to existing scenic vistas and scenic views.

Changes in Visual Character

Impact AES-2: Implementation of the Project would gradually alter the existing visual character of the Project area through increased land use density and the replacement of one- to two-story older Class B and Class C buildings and/or surface parking areas with newer, multi-story Class A buildings. Accordingly, the change in character would result in less than significant impacts to visual character.

Development permitted under the Project would substantially change the visual and aesthetic character of the Project area and limited views of peripheral Project areas from adjacent neighborhoods by gradually replacing older one- to two-story Class B and Class C buildings with more contemporary multi-story Class A buildings. New structures would change the visual setting of the Project area, with potential increases in the bulk and scale of buildings as seen from the street level and some public and private outdoor living spaces. However, future development within the Project area would be subject to a formal development review process, which would include applicable citywide design guidelines, as well as the proposed Peery Park Specific Plan development standards and design guidelines, such as building setbacks, visually interesting architectural design elements, installation of new sidewalks, and natural landscaping features to provide visual screening. Additionally, upper-story stepbacks, which limit building heights to four stories near Mathilda Avenue and two to three stories on the east side, would apply for areas adjacent to existing residential neighborhoods to minimize effects on visual character. This would ensure that the design of proposed buildings would enhance the character and quality of the Project area, contributing to a high quality urban environment. Thus, with implementation of existing and proposed design standards for this Specific Plan, impacts would be less than significant.

Impact AES-3: Construction activities resulting from implementation of the Project would temporarily create impacts to the visual character of the Project area. Due to the temporary nature of construction, impacts would be less than significant.

Construction-related activities as a result of Project implementation would involve demolition and removal of existing structures, site grading, and construction of new structures. Graded surfaces, construction debris, construction equipment and truck traffic would be visible intermittently and on a temporary basis. The duration and intensity of construction would vary depending on the development.

Views of the Project area would be primarily from nearby office and industrial buildings, along portion of SR 237, as well as views from residential areas on North Mathilda Avenue, Evelyn Avenue, Central Expressway, and Mary Avenue. Construction-related activities would temporarily influence the character of the Project area as viewed from surrounding office buildings, residences, and motorists traveling along SR 237. Upon completion of construction activities, short-term visual impacts would cease. Thus, due to the temporary nature of construction, impacts are considered to be less than significant.

Impacts to Visual Resources

Impact AES-4: The Project could result in impacts upon visual resources with future development. Existing City design regulations as well as the Project's proposed design standards would ensure that impacts to visual resources would be less than significant.

Five notable visual resources within or visible from Peery Park include views of the Santa Cruz Mountains, Sunnyvale Golf Course, Encinal Park, Libby Tower, and Mellow's Nursery and Farm. Impacts to these visual resources would be less than significant, as described below.

Santa Cruz Mountains

Implementation of the Project may have the potential to alter some views of the Santa Cruz Mountains, as the Project would result in intensified development and increased building heights in designated areas. However, development standards listed in Title 19 of the Zoning Ordinance, as well as the Industrial Design Guidelines, would either preserve or provide new view corridors through the requirement of building setbacks and step backs from the existing public right of way, and controlling the spacing and angles of buildings within the site, limiting adverse effects to scenic resources from new buildings. Furthermore, the Project proposes to retain the established public street grid and infrastructure, which would preserve existing channelized views of the Santa Cruz Mountains and other regional views along public streets.

Open Spaces - Sunnyvale Golf Course and Encinal Park

Encinal Park and Sunnyvale Golf Course, which provide aesthetic value to the community, would be retained under the Project in their existing configuration. These open spaces are part of the City's public lands and would not be proposed for development of commercial or industrial structures. While additional development adjacent to Encinal Park and Sunnyvale Golf Course may alter views of these spaces, their aesthetic value would be maintained.

Historic Resources – Libby Tower and Mellow's Nursery

Intensified land use and increased building heights within the Project area may have some impacts to views of the historical landmark Libby Tower. Currently Libby Tower sits within a developed business park and distant views are limited due to nearby trees and surrounding one-and-two story buildings. As views are already restricted to the immediate vicinity of Libby Tower, additional development within the region would not have adverse effects on Libby Tower. Impacts to the landmark are discussed in further detail in Section 3.5, *Cultural Resources and Historic Structures*. The Project would adhere to policies in the Sunnyvale General Plan that require preservation of historical resources and their environmental settings. Given the existing setting of Libby Tower encased within industrial development and the preservation requirements to ensure visual access to the landmark, impacts to Libby Tower would be less than significant.

Mellow's Nursery is a City-designated heritage resource proposed for industrial land uses and would be subject to redevelopment under the Project. While Mellow's Nursery has historic significance, it is considered to have low visual value anomalous to the visual character within the

Project area. Therefore, impacts related to visual resources would be less than significant. Impacts related to the redevelopment of Mellow's Nursery are further described in Impact CR-2, *Cultural Resources*.

Impact AES-5: The Project may result in indirect impacts to scenic trees and the urban forest through encouraging redevelopment on existing parcels. This would result in the loss of a visual resource through the removal of trees. With compliance to the City Tree Ordinance, impacts would be less than significant.

Trees are a valuable scenic resource within the Project area. Trees help to provide overall aesthetic beauty to a property or public street, shield parking lots, provide contrast to urban buildings, offer shade, and keep public spaces and walkways cooler in the summer. Notable types of trees within the Project area include coastal redwoods, deodar cedars, camphorwood, and olive trees. As the Project entails intensified land use, development and redevelopment of existing parcels, implementation of the Project may indirectly result in the removal of mature trees.

Adherence to the City's City Tree Ordinance and UFMP would help mitigate potential impacts to trees within the Project area. The City monitors and maintains 37,000 street trees with the assistance of adjacent property owners (City of Sunnyvale 2015). About 80 percent of mature trees in the City are privately managed trees, including 50 percent of trees along streets (City of Sunnyvale 2014). If a protected tree on private property is proposed for removal or has the potential to be damaged due to construction activities, the tree must be review by the City arborist and Tree Removal Permit must be obtained. Furthermore, the City Planning Division usually requires tree replacement when a Tree Removal Permit is granted.

Under the UFMP, trees impacted by the Project would be required to be maintained or replaced in order to sustain and improve the urban forest. Therefore, impacts would be less than significant.

Changes in Light and Glare

Impact AES-6: Implementation of Project could result in additional sources of light and glare from new developments, which could increase daytime glare or nighttime lighting in the Project area. Compliance with Sunnyvale Municipal Code standards would make impacts less than significant.

New development permitted under the Project would occur within a developed, urban area with many existing sources of light and glare. Sensitive receptors including residential land uses surrounding the Project area and commuters along arterial roadways within the Project area may be especially susceptible to changes in nighttime lighting and glare.

Project implementation could increase the amount of light and glare, as it proposes to increase land use intensity and building heights in the Project area, and may result in the use of reflective building materials. The Project would encourage replacement of low-rise Class B and Class C for Class A buildings that may use light reflecting materials such as glass and stainless steel. Lighting

from new developments may include additional exterior light fixtures, path-finding lighting for public safety, and safety lighting for vehicular circulation. In addition, taller Class A buildings can produce nighttime lighting effects on adjacent neighborhoods from both exterior and interior lighting, where glass facades allow for spillover of interior lighting. To ensure that impacts related to exterior light and glare are reduced to levels considered less than significant, the Project would adhere to Sunnyvale Municipal Code regarding restrictions on lighting. This ensures that all lights, spotlights, floodlights, reflectors, and other means of illumination are shielded or equipped with special lenses in such a manner as to minimize glare or direct illumination on any public street or other property. In addition, to address spillover of interior lighting from taller buildings, the Project includes upper-story stepbacks, which limit building heights to four stories near Mathilda Avenue and two to three stories on the east side residential neighborhoods, to minimize nighttime light and glare encroaching into existing residential neighborhoods.

Cumulative Impacts

The geographic context for visual resource impacts includes surrounding industrial, residential, and commercial development. Several industrial, commercial, mixed use, and residential developments are planned within the City, as described in Section 3.0. Cumulatively, these projects have the ability to gradually alter the visual character of the City, with a trend towards more intensive land uses and the replacement of low density sprawling development with multi-story structures. Cumulative development anticipated to occur in the City would result in changes to various aspects of the City's character (e.g., building composition); however, the changes would not be considered adverse. All development proposals would be subject to all applicable City development and design standards, including those set forth in the Peery Park Specific Plan, City's Zoning Ordinance, and various citywide design guidelines, to ensure compatibility with the existing surrounding areas. Additionally, all new construction projects would be required to go through an entitlement process that would ensure that the design of new development would not detract from the visual character of an area. Furthermore, the Project includes development standards and design guidelines to ensure that future projects develop structures that would maintain and enhance the area's visual character. Therefore, cumulative impacts would be considered less than significant.

3.2 AIR QUALITY

This section evaluates the potential impacts of the Peery Park Specific Plan Project (Project) on air quality in the Project area and the San Francisco Bay Area Air Basin (SFBAAB). This evaluation includes both short-term construction impacts and long-term operational impacts of the Project. A discussion of climate change, an analysis of greenhouse gas (GHG) emissions, and a summary of associated impacts is included in Section 3.4, *Greenhouse Gas Emissions*. Information for this section was derived from the United States Environmental Protection Agency (USEPA), the California Air Resources Board (ARB), the Bay Area Air Quality Management District (BAAQMD), the City of Sunnyvale Climate Action Plan, and from emissions modeling conducted for the Project's construction and operations (including traffic).

3.2.1 Environmental Setting

Climate and Meteorological Setting

The City of Sunnyvale (City) is located in the northern portion of the Santa Clara Valley. The northwest-southeast-oriented Santa Clara Valley is bounded by the Santa Cruz Mountains to the west, the Diablo Range to the east, San Francisco Bay to the north, and the convergence of the Gabilan Range and the Diablo Range to the south. Temperatures are typically warm in summer, under mostly clear skies, although a relatively large diurnal range results in cool nights. Winter temperatures are mild, except for very cool but generally frostless mornings. At the northern end of the Santa Clara Valley, mean maximum temperatures recorded at San Jose International Airport range from the high 70s to the low 80s degrees Fahrenheit during the summer, and from the high 50s to the low 60s during the winter; mean minimum temperatures range from the high 50s during the summer to the low 40s during the winter. The City's annual average rainfall is about 15 inches per year (USA 2015). The wind patterns in the valley are influenced greatly by the terrain, resulting in a prevailing flow roughly parallel to the valley's northwest-southeast axis with a north-northwesterly sea breeze extending up the valley during the afternoon and early evening and a light south-southeasterly drainage flow occurring during the late evening and early morning.

Air Pollutants

Air pollutant emissions within the SFBAAB are generated from a number of stationary, mobile, and natural sources—from large power plants and manufacturing facilities to residential water heaters and consumer products such as aerosols. Mobile sources, including motor vehicles, aircraft, trains, and construction equipment, account for most of the air pollutant emissions within the SFBAAB. Construction activities that generate fugitive dust such as excavation and grading also contribute to emissions. Air pollutants can also be generated when winds pull fine dust particles into the air.

These pollutants are described below (refer to Table 3.2-1 for federal and state standards).

Ozone (O_3)

Ozone (O_3) is a gas that is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic gases (ROGs), also referred to as volatile organic compounds (VOCs). NO_x is formed during the combustion of fuels, while ROGs are formed during combustion and evaporation of organic solvents. Conditions that produce high concentrations of O_3 are direct sunshine, stagnation in source areas, high ground surface temperatures, and a strong inversion layer that restricts vertical mixing. O_3concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.

$O_3$is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to O_3include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide (CO)

Carbon monoxide (CO) is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest near congested transportation corridors and intersections, especially during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels.

Health effects associated with CO are related to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Respirable Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)

PM_{10} and $PM_{2.5}$ consist of extremely small, suspended particles or droplets with diameters less than 10 microns and less than 2.5 microns, respectively. PM_{10} generally comes from windblown dust and dust kicked up from mobile sources, while $PM_{2.5}$ is generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Most particulate matter in urban areas is produced by fuel combustion, motor vehicle travel, and construction activities.

Children, the elderly, and people with pre-existing respiratory or cardiovascular disease appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$. Potential impacts of elevated levels of PM_{10} and $PM_{2.5}$ include increased mortality rates, respiratory infections, number and severity of asthma attacks, and number of hospital admissions. Daily fluctuations in $PM_{2.5}$ concentration levels have been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent

studies show lung function growth in children is reduced with long-term exposure to particulate matter.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide (NO_2) is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the probability of developing respiratory illness.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

Sulfur Dioxide (SO_2)

SO_2 is a colorless, extremely irritating gas or liquid. The largest sources of SO_2 are fossil fuel combustion at power plants and other industrial facilities. Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore, and the burning of high sulfur containing fuels by locomotives, large ships, and non-road equipment.

SO_2 is linked with a number of adverse effects on the respiratory system. Asthmatics are particularly sensitive to SO_2, with only a few minutes of exposure to low levels of the gas potentially resulting in airway constriction.

Lead (Pb)

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 on-road motor vehicles; therefore, most lead combustion emissions are associated with aircraft and some racing and off-road vehicles. Substantial Pb emissions also occur in the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters. However, from 1970 to 2014, Pb emissions in the US dropped by 98 percent (USEPA 2015).

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased levels of Pb are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although, it appears that there are no direct effects of Pb on the respiratory system.

Toxic Air Contaminants (TACs)

TACs are a diverse group of air pollutants including both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the criteria pollutants previously discussed in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be local rather than regional. California ARB has designated nearly 200 compounds as TACs. Additionally, California ARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control.

TACs are capable of causing chronic and acute adverse effects on human health. These health impacts include increased risk of cancer due to continual inhalation of toxic air pollutants. 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.

Odors

Odors are not regulated under the federal or state Clean Air Acts; however, they are considered under CEQA. Odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

Regional Air Quality

The Project is located in the SFBAAB, which is governed by the BAAQMD, a public agency responsible for regulating stationary sources of air pollution in its jurisdiction. The SFBAAB is currently in non-attainment of several state and federal air quality standards, including state standards for 8-hour O_3, 1-hour O_3, annual arithmetic mean PM_{10}, 24-hour PM_{10}, and the annual arithmetic mean for $PM_{2.5}$; and federal standards for 8-hour $O_3$and 24-hour $PM_{2.5}$. Air pollutants in the SFBAAB are generated primarily from the region's concentration of industrial facilities, several airports, and a dense freeway and surface street network. On-road motor vehicles are the largest emission sources of CO, NO_x, and ROG.

The air pollution potential of the Santa Clara Valley is particularly high due to dense populations, warm climates, and prevailing wind patterns. The valley has a large population and the largest complex of mobile sources in the San Francisco Bay Area making it a major source of CO, particulate, and photochemical air pollution. In addition, photochemical precursors from San Francisco, San Mateo, and Alameda counties can be carried along by the prevailing winds to the Santa Clara Valley, making it also a major O_3receptor. Geographically, the valley tends to channel pollutants to the southeast with its northwest/southeast orientation, and concentrate pollutants by its narrowing to the southeast. Meteorologically, on high-O_3low-inversion summer days, pollutants

can be recirculated by the prevailing northwesterly winds in the afternoon and the light drainage flow in the late evening and early morning, increasing the impact of emissions significantly. On high particulate and CO days during late fall and winter, clear, calm, and cold conditions associated with a strong surface-based temperature inversion prevail (BAAQMD 1998).

Table 3.2-1 shows the federal and state attainment status for the SFBAAB. The region is in nonattainment for federal O_3 and $PM_{2.5}$ standards, and nonattainment for state O_3, PM_{10}, and $PM_{2.5}$ standards.

Table 3.2-1. Air Quality Attainment Status for SFBAAB

Pollutant	Standard	Federal	State
Ozone (O_3)	8-hour	Nonattainment	Nonattainment
	1-hour	--	Nonattainment
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	--	Nonattainment
	24 Hour	Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	Attainment	Nonattainment
	24 Hour	Nonattainment	--
Carbon Monoxide (CO)	8 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	Attainment	--
	1 hour	Unclassified	Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	Attainment	--
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Lead (Pb)	Calendar Quarter	Attainment	--
	30 Day Average	Attainment	--
Hydrogen Sulfide (H_2S)	1 Hour	--	Unclassified

Source: BAAQMD 2015.

Areas with pollutant levels that exceed adopted air quality standards are designated as nonattainment areas for the relevant air pollutants. Nonattainment areas are sometimes further classified by degree (marginal, moderate, serious, severe, and extreme for O_3; and moderate and serious for CO and PM_{10}) or status (nonattainment-transitional). Areas that comply with air quality standards are designated as attainment areas for the relevant air pollutants. Unclassified areas are those with insufficient air quality monitoring data to support a designation of attainment or nonattainment, but are generally presumed to comply with the ambient air quality standard. State Implementation Plans (SIPs) must be prepared by states for areas designated as federal nonattainment areas to demonstrate how the area will come into attainment of the exceeded federal ambient air quality standard.

As detailed below, both California ARB and the USEPA have established air pollution standards in an effort to protect human health and welfare. Geographic areas are designated in attainment if these standards are met and nonattainment if they are not met. In addition, each agency has several levels of classifications based on severity of the problem.

Local Air Quality

California ARB maintains several air quality monitoring stations in the SFBAAB, and the one located neared the Project area is located approximately 5 miles to the south, in Cupertino, at 22601 Voss Avenue. Table 3.2-2 shows historical measurements of pollutant levels exceeding state and federal ambient air quality standards for the four-year period of 2010 through 2013. The table shows the number of days that each standard was exceeded.

Table 3.2-2. Ambient Air Quality Standards for Criteria Pollutants

Pollutant/Standard	Number of Days Threshold Was Exceeded & Maximum Levels During Violations			
	2012	2013	2014	2015
Ozone				
State 1-Hour > 0.09 ppm	0 days	0 days	3 days	7 days
State 8-Hour > 0.07 ppm	0 day	0 day	10 days	12 days
Federal 8-Hour > 0.075 ppm	0 days	0 days	5 days	7 days
State Max. 1-Hour Conc. (ppm)	0.083 ppm	0.091 ppm	0.097 ppm	0.106 ppm
State Max. 8-Hour Conc. (ppm)	0.067 ppm	0.078 ppm	0.080 ppm	0.085 ppm
Federal Max. 8-Hour Conc. (ppm)	0.066 ppm	0.077 ppm	0.080 ppm	0.084 ppm
Carbon Monoxide				
State 8-Hour > 9.0 ppm	0 days	0 days	0 days	0 days
Federal 8-Hour > 9.0 ppm	0 days	0 days	0 days	0 days
Max. 8-Hour Conc. (ppm)	0.73 ppm	*	*	*
Nitrogen Dioxide				
State 1-Hour > 0.18 ppm	0 days	0 days	0 days	0 days
Max. 1-Hour Conc. (ppm)	0.045 ppm	0.042 ppm	0.045 ppm	0.042 ppm
Sulfur Dioxide				
State 24-Hour > 0.04 ppm	0 days	0 days	0 days	0 days
Max. 24-Hour Conc. (ppm)	0.003 ppm	0.003 ppm	0.006 ppm	0.005 ppm
Suspended Particulates (PM_{10})				
State 24-Hour > 50 μg/m^3	0 days	0 days	3 days	1 day
Federal 24-Hour > 150 μg/m^3	0 days	0 days	0 days	0 days
Max. 24-Hour Conc. (μg/m^3)	41.5 μg/m^3	33.5 μg/m^3	57.8 μg/m^3	58.8 μg/m^3
State Annual Average (μg/m^3)	13.5 μg/m^3	14.5 μg/m^3	33.6 μg/m^3	37.6 μg/m^3
Fine Particulates ($PM_{2.5}$)				
Federal 24-Hour > 35 μg/m^3	NA	NA	5 days	0 days
Max. 24-Hour Conc. (μg/m^3)	27.5 μg/m^3	38.9 μg/m^3	60.4 μg/m^3	34.8 μg/m^3
State Annual Average (μg/m^3)	ND	8.5 μg/m^3	ND	ND
Federal Annual Average (μg/m^3)	ND	ND	ND	ND

* Indicates there was insufficient data available to determine the value.
Not Available (NA); No Data (ND)
Source: California ARB 2014.

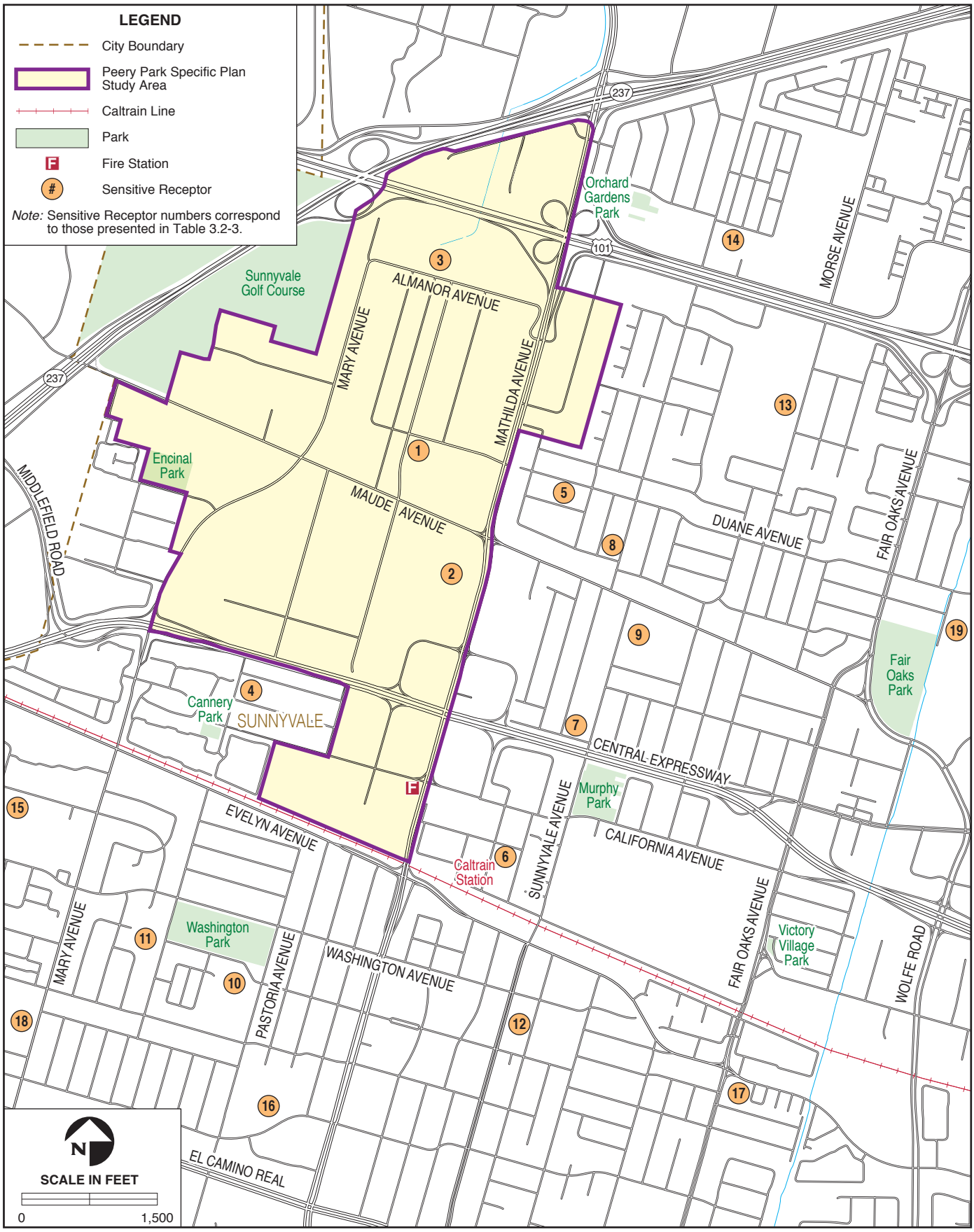
Sensitive Receptors

Sensitive receptors are populations that are more susceptible to the effects of air pollution than are the population at large. According to the California 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. 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. Commonly identified locations that may contain a high concentration of sensitive receptors include: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds and parks with active recreational uses, childcare centers, and athletic facilities.

Most land use activities in the vicinity of the Project are largely commercial or industrial and are not considered to include sensitive receptors. However, there are four single-family residential homes, a church, and two medical facilities within the Project area, and residential neighborhoods and preschool/day care facilities are adjacent to the Project area. Sensitive receptors within 1.0 mile of the Project are identified in Table 3.2-3 and shown in Figure 3.2-1 below.

Table 3.2-3. Sensitive Receptors within 1.0 Mile of the Project

Name	Distance to Project	Type
IntraOp Medical Corporation	Within Project area	Medical Facility
Trinity Church of Sunnyvale	Within Project area	Place of Worship
Parkinson's Institute	Within Project area	Medical Facility
Right Start Preschool	500 feet	Preschool/Daycare
Lulu's Daycare	800 feet	Preschool/Daycare
St. Herman of Alaska Russian Orthodox Church	0.25 mile	Place of Worship
St. Mark Lutheran Church	0.25 mile	Place of Worship
Bambi Family Daycare	0.25 mile	Preschool/Daycare
Bishop Elementary School	0.5 mile	School
Stratford School	0.5 mile	School
St. Thomas Episcopal Church	0.5 mile	School
Plaza De Las Flores	0.5 mile	Senior Apartment Complex
Columbia Middle School	0.5 mile	School
The Rock Church	0.5 mile	Place of Worship
Vargas Elementary School	0.5 mile	School
Sunnyvale Public Library	0.5 mile	Library
Creative Explorers Preschool	0.85 mile	Preschool/Daycare
Sunnyvale Christian School	1.0 mile	School
The Kings Academy	1.0 mile	School



amec foster wheeler

Sensitive Receptors within and Near Peery Park

FIGURE 3.2-1

As shown in Table 3.2-3 and Figure 3.2-1, 19 sensitive receptors are located within a 1.0-mile radius of the Project. Additional sensitive receptors (e.g., family childcare homes) may exist near the Project area but are unknown given permit exemption status.

3.2.2 Regulatory Setting

Federal Policies and Regulations

USEPA. The USEPA has established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. There are NAAQS for six principal pollutants, or "criteria" pollutants: CO, Pb, NO_2, O_3, $PM_{2.5}$ and PM_{10}, and SO_2. The USEPA must designate areas as meeting (in attainment) or not meeting (nonattainment) the standards. The Clean Air Act requires states to develop a general plan to achieve and maintain compliance with the NAAQS in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These State Implementation Plans (SIPs) are developed by state and local air quality management agencies and submitted to the USEPA for approval.

The SIP serves two main purposes:

1. Demonstrate that the state has the basic air quality management program components in place to ensure consistency with a new or revised NAAQS.
2. Identify emissions control requirements the state will rely upon to attain and/or maintain the primary and secondary NAAQS.

Additionally, the USEPA regulates emissions sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The USEPA also maintains jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

Some of the major federal laws include the following statutes (and regulations promulgated there under):

- Clean Air Act and Amendments (1970, 1977, 1990)
- National Emission Standards for Hazardous Air Pollutants 40 CFR 61 Subpart M – (NESHAP)
- NAAQS (40 CFR Part 50)

State Policies and Regulations

California ARB. The California ARB, a division of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs in California. Other state agencies involved in air quality management are the Department of Industrial Relations (Occupational Safety and Health Administration [OSHA] implementation), Department of Transportation (Caltrans), Office of Environmental Health Hazard Assessment (OEHHA—Proposition 65 implementation), and the California

Integrated Waste Management Board (CIWMB). As the state's air quality management agency, the California ARB conducts research, sets California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops recommended air pollution control measures, provides oversight of local air quality programs, and prepares the SIP for submission to the USEPA. The California ARB also establishes emissions standards for motor vehicles, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment sold in California. The California ARB also sets fuel component specifications to further reduce vehicular emissions.

Some of the major state laws and regulation include the following statutes (and regulations promulgated there under):

- California Clean Air Act (1988)
- CAAQS (California Health & Safety Code section 39606)
- Global Warming Solutions Act (AB 32, 2006)
- Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987).

Regional Policies and Regulations

BAAQMD. The BAAQMD is the air pollution control agency for the area comprising the entirety of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa counties, as well as the southwestern portion of Solano County and the southern portion of Sonoma County. As one of 35 air quality districts in California, BAAQMD coordinates and monitors air quality management programs jointly with regional planning agencies and local governments, and cooperates actively with all federal and state government agencies. BAAQMD develops regional policies and regulations, establishes permitting requirements, inspects emissions sources, and effectuates ongoing regional air quality improvements though a combination educational and penalty programs, including fines or sanctions when necessary. BAAQMD is directly responsible for reducing emissions from stationary (point and area sources), mobile, and natural sources.

The BAAQMD maintains and periodically updates an Ozone Attainment Plan and a Particulate Material Program for the SFBAAB. The Ozone Attainment Plan was adopted in 2001 and incorporated into the 2010 Clean Air Plan. The Ozone Attainment Plan is designed to identify control measures the region should implement in order to improve air quality in the SFBAAB. It satisfies USEPA requirements for a new attainment demonstration of the revoked 1-hour O_3 standard.

In addition to state and federal standards, in September 2010 the BAAQMD adopted the Bay Area 2010 Clean Air Plan, which provides an integrated, multi-pollutant strategy to improve air quality, protect public health, and protect the climate. The BAAQMD has developed air quality control measures, including control strategies to reduce O_3, particulate matter, air toxics, and GHGs.

Association of Bay Area Governments (ABAG). ABAG is the regional planning agency for Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and

Sonoma counties. ABAG addresses regional issues related to transportation, the economy, community development, and environmental resources and constraints. As part of regional planning effort, ABAG is responsible for developing transportation, land use, and energy conservation measures that affect air quality. ABAG has a number of adopted strategies and plans to implement California's Sustainable Communities and Climate Protection Act (Senate Bill [SB] 375), including the implementation of a regional climate change program with partner agencies, advancing the development of Priority Development Areas as complete communities to reduce vehicle miles traveled, and the promotion of policies and programs that address climate change. Refer to Section 3.4, *Greenhouse Gas Emissions*, for additional information regarding SB 375 and ABAG's efforts to address GHG emissions.

Local Policies and Regulations

City of Sunnyvale Climate Action Plan

- Decrease Energy Consumption (EC)

  EC-1 Lighting Efficiency: Increase the use of efficient indoor and outdoor lighting technologies.

  EC-2 New Construction and Remodels: Require green building practices in new residential and commercial development and remodels.

  EC-4 Commercial Energy Efficiency: Establish a regulatory incentive-based structure that facilitates commercial and industrial energy efficiency and conservation.

- Decrease Water Consumption (WC) Measures

  WC-1 Water Sources and Efficiency: Decrease the amount of energy needed to filter, transport, and treat water used within Sunnyvale.

  WC-2 Water Conservation: Reduce indoor and outdoor potable water use in residences, businesses, and industry.

- Off-Road Equipment (OR)

  OR-2 Construction Equipment: Reduce emissions from heavy-duty construction equipment by limiting idling and utilizing cleaner fuels, equipment, and vehicles.

- Land Use Planning (LUP) Measures

  LUP-2 Transit-Oriented, Higher Density, Mixed-Use Development: Facilitate development in designated core and corridor areas that is transit-oriented, higher density and mixed-use.

LUP-4 Jobs/Housing Balance: Plan for an improved jobs/housing balance in order to reduce the need for long distance travel between residences and places of work.

- Expand Sustainable Circulation and Transportation Options (CTO)

  CTO-1 Bicycle, Pedestrian and Transportation Design Elements: Create streets and connections that facilitate bicycling, walking, and transit use throughout the city.

  CTO-2 Bicycle, Pedestrian and Transportation Travel Operations: Prioritize safe, efficient, and convenient access for non-automotive travel to destinations in and outside of Sunnyvale.

  CTO-3 Transit: Facilitate the use of public and private transit such as buses, Caltrain, Amtrak and shuttles to and from Sunnyvale and within the city.

  CTO-4 Commute Programs: Reduce single-occupant vehicle trips to major employers (100 employees or more) located in Sunnyvale.

City of Sunnyvale General Plan

Chapter 3, *Land Use and Transportation Element* (LUTE) Goal B: Environmentally Sustainable Land Use and Transportation Planning and Development of the City of Sunnyvale. The City's LUTE, originally adopted in 1997 and currently undergoing revisions, includes the following goals and policies that are relevant to air quality in Sunnyvale:

- GHG Reduction

  Policy 12: Reduce GHG emissions that effect climate and the environment though land use and transportation planning and development.

  Policy 13: Actively maintain and implement a GHG emissions reduction plan such as a Climate Action Plan that outlines impacts, policies, and reduction measures related to public and private land use and transportation.

- Urban Forestry

  Policy 14: Accelerate the planting of large canopy trees to increase tree coverage in Sunnyvale in order to add to the scenic beauty and walkability of the community, provide environmental benefits such as air quality improvements, wildlife habitat, and reduction of heat islands, and enhance the health, safety, and welfare of residents.

Chapter 7, *Environmental Management*, of the City of Sunnyvale General Plan (City of Sunnyvale 2011) includes the following goals and policies that are relevant to air quality in Sunnyvale:

Goal EM-11: Improved Air Quality. Improve Sunnyvale's air quality and reduce the exposure of its citizens to air pollutants.

Policy EM-11.1: The City should actively participate in regional air quality planning.

Policy EM-11.2: Utilize land use strategies to reduce air quality impact, including opportunities for citizens to live and work in close proximity.

Policy EM-11.3: Require all new development to utilize site planning to protect citizens from unnecessary exposure to air pollutants.

Policy EM-11.4: Apply the indirect source rule to new development with significant air quality impacts. Indirect source review would cover commercial and residential projects as well as other land uses that produce or attract motor vehicle traffic.

Policy EM-11.5: Reduce automobile emissions through traffic and transportation improvements.

Policy EM-11.6: Contribute to a reduction in regional vehicle miles travelled.

Policy EM-11.7: Reduce emissions from City of Sunnyvale fleet vehicles.

Policy EM-11.8: Assist employers in meeting requirements of transportation demand management (TDM) plans for existing and future large employers and participate in the development of TDM plans for employment centers in Sunnyvale.

3.2.3 Impacts and Mitigation Measures

Significance Criteria

The BAAQMD released the *CEQA Air Quality Guidelines* in May of 2012, replacing *2011 CEQA Air Quality Guidelines* and thresholds of significance, which provides guidance on air pollution emissions calculations, information regarding the health impacts of air pollutants, identification of potential mitigation measures, and suspension of significance thresholds. Although reliance on the more stringent 2011 thresholds is no longer required, the City is using the BAAQMD's 2011 air quality thresholds to evaluate Project impacts in order to more conservatively evaluate the potential effects of the Project on air quality. BAAQMD 2011 CEQA Construction and Operational Emission Thresholds are identified in Table 3.2-4 below.

Table 3.2-4. BAAQMD 2011 CEQA Construction and Operational Emission Thresholds

Pollutant	Significance Threshold
Oxides of Nitrogen (NO_X) and Reactive Organic Gases (ROGs)	Less than 54 pounds per day (lbs/day)
Respirable Particulate Matter (PM_{10})	Less than 82 lbs/day
Fine Particulate Matter ($PM_{2.5}$)	Less than 54 lbs/day

In addition to the above construction and operational emissions thresholds, the following thresholds would also apply:

- PM_{10} and $PM_{2.5}$ fugitive dust generated during construction (requires compliance with Best Management Practices, per BAAQMD Guidelines)
- CO concentrations of 9.0 parts per million (ppm) (8-hour average) and 20.0 ppm (1-hour average) as estimated by roadway vehicle volumes exceeding 44,000 vehicles per hour at any intersection

A project's contribution to cumulative impacts for criteria pollutants is considered significant if the project's impact individually would be significant (i.e., if it exceeds the BAAQMD's quantitative thresholds).

Consistent with Appendix G of the State CEQA Guidelines, the impact of the Project on air quality would be significant if it would:

- 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 non-attainment under an applicable federal or state ambient are quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Methodology

Potential impacts are assessed by modeling the estimated daily emissions generated by Project construction and Project operations using the CalEEMod land use emissions model version 2013.2. Construction activities associated with the Project would generally involve six stages: (1) demolition, (2) site preparation, (3) grading, (4) building construction, (5) paving, and (6) architectural coating. For the purposes of this analysis, all CalEEMod calculation considered the substantial amount of construction associated with the Project that may occur within the first five years (2016-2020), but would continue annually through 2034. This considers the fact that some projects have been submitted for review by the City Planning Division and are currently awaiting the approval of the Project to begin construction. CalEEMod emissions were estimated for the

overall Project, Near-Term 7 Projects and the Near-Term Irvine Project. CalEEMod worksheets are provided in Appendix E.

Impact AQ-1: Implementation of the Project would result in construction emissions that could substantially contribute to air pollution and would result in a projected air quality violation. While this impact would be reduced through construction technologies to control emissions, no additional mitigation measures would be available to reduce this impact to a less than significant level. Therefore, this impact is significant and unavoidable.

Implementation of the Project would result in the construction of approximately 2.2 million square feet (sf) of new development within the Project area. Construction activities associated with the Project would generally involve six stages: (1) demolition, (2) site preparation, (3) grading, (4) building construction, (5) paving, and (6) architectural coating. For the purposes of this analysis, it is assumed that construction activities would start in 2016 and occur incrementally for approximately 19 years, through 2034.

Project implementation would result in emissions being generated during construction activities. Recommended BAAQMD thresholds for construction emissions were developed for individual development projects under the Project. Varying amounts of construction may occur annually through 2034. Many of the individual projects would be small and would likely not generate construction emissions in exceedance of BAAQMD's significance thresholds. However, it is reasonably foreseeable that multiple construction projects could overlap, increasing potential annual emissions. Through the environmental review process for individual projects, additional mitigation may also be required to further reduce emissions and potential impacts; however, even with mitigation it may not be possible to reduce potential emissions to levels below the BAAQMD thresholds for construction.

Short-term increases in air pollutant emissions would result from grading and excavation, demolition of existing structures and facilities, construction (e.g., buildings, roads, and parking areas), and finishing (e.g., landscaping and coatings). Emissions from these activities, particularly operation of heavy equipment such as trucks, graders, scrapers, compressors, and generators, would include fugitive dust (PM_{10}) and exhaust emissions (NO_X, SO_X, CO, VOC, $PM_{2.5}$, and diesel particulates, an identified TAC). A substantial amount of construction associated with the Project may occur within the first five years (2016-2020), but would continue annually through 2034. This considers the fact that some individual projects have been submitted for review by the City Planning Division and are currently awaiting the approval of the Project to begin construction.

Operation of heavy equipment and vehicles associated with new development would generate TACs from exhaust of diesel particulate matter. Pollutant levels from exhaust emissions would fluctuate depending on the level and type of construction activity; however, temporary exposures associated with construction activity would not generally create a substantial risk. Impacts associated with individual construction projects would occur for short periods, and localized impacts would be reduced through standard measures on a project-by-project basis, thereby

addressing the combined citywide effect incrementally over time. Impacts from citywide diesel construction equipment emissions to the year 2034 would represent a small percentage of total emissions in the County and SFBAAB.

Demolition and removal of existing buildings, parking lots, and other improvements can generate dust and possible hazardous emissions due to use of hazardous materials used in older buildings. Although the precise amount or location of such demolition cannot be forecast with accuracy, much of the future construction under the Project would be expected to be redevelopment and thus involve some level of demolition. Impacts associated with individual construction projects would occur incrementally over time for short periods, and localized impacts would be reduced through standard measures on a project-by project basis, thereby addressing the combined citywide effect incrementally over time.

Dust and particulate matter would be generated during new construction from soil disturbance during site preparation (e.g., grading, cut and fill). Fugitive dust consists of particulate matter from soils that escape from a construction site. The amount of particulate emissions generated from fugitive dust varies with the weather conditions (e.g., winds), level and type of activity, soil composition, and water content. Sensitive receptors such as nearby schools and places of worship located adjacent to a project could be temporarily impacted by higher concentrations of PM_{10}. Impacts from fugitive dust could potentially increase when several construction projects occur in close proximity simultaneously.

The Project would facilitate many individual development projects and public improvements through the year 2034, including construction of 4- to 6-story buildings, throughout the Project area. Future public projects could include construction of a new 2- to 6-story activity center which would include areas for communal services such as retail, restaurants, and open space and public gathering locations. In the near-term (3 to 7 years), eight development projects have been submitted for review by the City Planning Division and are expected to occur as part of the Project. Table 3.2-5 presents a summary of the Pending Near-Term Projects location and details.

Air quality emissions associated with the individual projects were estimated for construction, operation, and related transportation. However, in general, the size, type, location, and timeline of such developments are unknown and may overlap. Therefore, it would be speculative to quantify the daily emissions associated with each phase of the proposed construction activities. Total annual emissions for construction and operation of the Project were modeled using CalEEMod and analyzed in Tables 3.2-7 through 3.2-9 below.

Table 3.2-5. Near-Term 7 Projects Location and Detail Summary

Location	Existing Square Feet (sf) /Units	Existing Land Use	Proposed Square Feet (sf) /Units	Proposed Land Use
696 N. Mathilda Avenue	1,650 sf 9,800 sf	Vacant Building	4,387 sf	Restaurant with drive-thru
615 N. Mathilda Avenue	109,305 sf	Light Industrial, Restaurant with drive-thru, and Research and Development	264,530 sf	Office Research and Development
221 N. Mathilda Avenue	0 sf (1,000 sf house)	Nursery	127,000 sf	Office
520 Almanor Avenue	80,000 sf	Industrial	207,200 sf 4,000 sf	Office Retail
845 W. Maude Avenue	19,998 sf	Industrial	39,233 sf	Office
Simeon Project	164,870 sf 33,948 sf	Industrial Industrial	451,717 sf 200,376 sf	Office/Industrial Office/Industrial
728 San Aleso	54,668 sf	Office/Industrial	116 units	Residential

Table 3.2-6. Near-Term Irvine Project Location and Detail Summary

Location	Existing Square Feet (sf) /Units	Existing Land Use	Proposed Square Feet (sf) /Units	Proposed Land Use
IC Mary East	353,917 sf	Industrial	846,000 sf	Office
IC Mary West	201,554 sf	Industrial	423,000 sf	Office

Table 3.2-7. Maximum Estimated Unmitigated Project Construction Emissions (lbs/day)

Emission Source	VOCs (ROGs)	NO_x	PM_{10}*	$PM_{2.5}$*
Demolition	14.40	166.70	5.47	5.08
Building Construction	103.92	563.34	18.46	17.26
Site Preparation	4.91	26.18	0.84	0.84
Grading	6.60	27.40	0.99	0.99
Paving	1.38	7.00	0.32	0.32
Architectural Coating	529.85	1.15	0.03	0.46
Overall Construction[1]	661.06	791.77	26.11	24.95
Thresholds of Significance[2]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

Refer to Appendix E for CalEEMod output sheets
[1] Overall Construction maximum daily emissions are not the same as the sum of all phases because of scheduling the phases.
[2] Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

Table 3.2-8. Near-Term 7 Projects Maximum Unmitigated Construction Emissions (lbs/day)

Emission Source	VOCs (ROGs)	NO_x	PM_{10}*	$PM_{2.5}$*
Demolition	4.35	45.73	2.30	2.15
Building Construction	1,010.53	343.78	14.42	13.44
Site Preparation	5.15	54.72	2.95	12.68
Grading	6.56	74.91	3.59	3.30
Paving	1.00	9.38	0.47	0.32
Architectural Coating	964.18	1.47	0.07	0.07
Overall Construction[1]	1,991.77	529.99	23.80	31.96
Thresholds of Significance[2]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

Refer to Appendix E for CalEEMod output sheets
[1] Overall Construction maximum daily emissions are not the same as the sum of all phases because of scheduling the phases.
[2] Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

Table 3.2-9. Near-Term Irvine Project Maximum Unmitigated Construction Emissions (lbs/day)

Emission Source	VOCs (ROGs)	NO_x	PM_{10}*	$PM_{2.5}$*
Demolition	4.10	42.76	2.14	1.99
Building Construction	12.61	41.22	1.77	1.66
Site Preparation	4.90	51.83	2.76	2.54
Grading	6.17	69.68	3.32	3.06
Paving	1.66	17.22	0.95	0.87
Architectural Coating	840.82	2.32	0.16	0.16
Overall Construction[1]	870.26	225.03	11.10	10.28
Thresholds of Significance[2]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

Refer to Appendix E for CalEEMod output sheets
[1] Overall Construction maximum daily emissions are not the same as the sum of all phases because of scheduling the phases.
[2] Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

As indicated in the tables above, overall unmitigated construction emissions would exceed BAAQMD thresholds for VOCs and NO_x for the Project. MM AQ-1 and MM AQ-2 would be implemented to offset potentially significant impacts summarized above would reduce the emissions of NO_X, SO_X, CO, VOC, particulate matter, diesel particulates, and TAC, during construction activities; however, emissions would likely still exceed the BAAQMD construction thresholds as shown in Tables 3.2-10 through 3.2-12 below.

Table 3.2-10. Mitigated Project Construction Emissions (lbs/day)

Onsite Construction Emission Source	VOCs (ROGs)	NO_x	PM_{10}*	$PM_{2.5}$*
Demolition	2.58	74.77	1.87	1.87
Building Construction	17.25	375.38	14.43	14.43
Site Preparation	2.46	68.85	1.92	1.92
Grading	3.78	101.89	2.76	2.76
Paving	0.91	19.70	0.65	0.65
Architectural Coating	529.52	1.36	0.10	0.10
Overall Construction[1]	553.50	641.95	21.73	21.73
Thresholds of Significance[2]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

Refer to Appendix E for CalEEMod output sheets
Overall Construction maximum daily emissions are not the same as the sum of all phases because of scheduling the phases.
Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

Table 3.2-11. Mitigated Construction Emissions for Near-Term 7 Projects (lbs/day)

Onsite Construction Emission Source	VOCs (ROGs)	NO_x	PM_{10}*	$PM_{2.5}$*
Demolition	4.35	45.73	2.30	2.15
Building Construction	1,010.53	343.78	14.42	13.44
Site Preparation	5.15	54.72	2.95	2.71
Grading	6.56	74.91	3.59	3.31
Paving	1.00	9.38	0.47	0.43
Architectural Coating	964.18	1.47	0.07	0.07
Overall Construction[1]	1,991.77	529.99	23.08	22.11
Thresholds of Significance[2]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

Refer to Appendix E for CalEEMod output sheets
Overall Construction maximum daily emissions are not the same as the sum of all phases because of scheduling the phases.
Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

Table 3.2-12. Mitigated Construction Emissions for Near-Term Irvine Project (lbs/day)

Onsite Construction Emission Source	VOCs (ROGs)	NO_x	PM_{10}*	$PM_{2.5}$*
Demolition	1.34	33.54	0.94	0.94
Building Construction	8.99	84.71	2.37	4.24
Site Preparation	1.30	34.50	0.97	0.97
Grading	1.96	51.04	1.39	1.39
Paving	0.96	19.76	0.66	0.66
Architectural Coating	840.63	2.67	0.11	0.11
Overall Construction[1]	855.18	226.22	6.44	8.31
Thresholds of Significance[2]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

Refer to Appendix E for CalEEMod output sheets.
Overall Construction maximum daily emissions are not the same as the sum of all phases because of scheduling the phases.
Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

As indicated in the tables above, overall construction emissions would exceed BAAQMD thresholds for VOCs and NO_x for the Project. Therefore, impacts related to temporary regional emissions of construction-related air pollutants would be significant and unavoidable.

Mitigation Measures

The potential for exceedance of BAAQMD thresholds of significance during construction would be reduced with the following Mitigation Measures (MMs); however, implementation of these mitigation measures would not reduce construction emissions to below the BAAQMD thresholds (see Table 3.2-7 and Table 3.2-8).

MM AQ-1. Fugitive Dust Plan. New development and redevelopment within the Project shall comply with the following construction-related measures to reduce fugitive dust:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material offsite shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer‘s specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. A publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District‘s phone number shall also be visible to ensure compliance with applicable regulations.

BAAQMD recommends that all proposed projects, where construction-related emissions would exceed the applicable thresholds, implement the following additional construction mitigation measures identified below.

MM AQ-2. Construction-Related Emissions Reduction Plan. New development and redevelopment within the Project shall comply with the following construction-related measures to reduce emissions generation:

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour (mph).
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on 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.
6. All trucks and equipment, including tires, shall be washed prior to the vehicle leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. The idling time of diesel powered construction equipment shall be minimized to 2 minutes.
10. The Project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet average of 20 percent NO_X reduction and 45 percent particulate matter reduction compared to the most recent California 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.

11. Low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings) shall be used.
12. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and particulate matter.
13. All contractors shall be required to use equipment that meets California ARB's most recent certification standard for off-road heavy duty diesel engines.

Residual Impacts

MM AQ-1 and MM AQ-2 would be implemented to offset potentially significant impacts summarized above and would reduce the emissions of NO_X, SO_X, CO, VOC, particulate matter, diesel particulates, and TAC, during construction activities; however, emissions would likely still exceed the BAAQMD construction thresholds. Therefore, construction impacts of the Project, Near-Term 7 Projects, and The Near-Term Irvine Project would remain significant and unavoidable.

Impact AQ-2: Project-generated traffic, together with other cumulative traffic in the area, would incrementally increase CO levels in the vicinity of intersections. Therefore, this impact is significant and unavoidable.

Project-generated traffic could contribute to decreased levels of service (LOS) at nearby intersections, resulting in additional vehicle emissions and longer vehicle idling times at and near the Project intersections. Increased congestion and vehicle idling could incrementally increase CO levels in the vicinity of intersections. The Sunnyvale Travel Demand Forecasting Model (STDFM) was used to forecast the 2035 conditions of intersection turning movements, freeway traffic, ramp volumes, and vehicle miles traveled at the Project with implementation of the Project at 28 intersections with poor operational LOS.

Project Intersections

Of the 28 intersections that were analyzed in the Traffic Study (see Appendix H), the following five intersections were found to function at LOS D or worse under existing baseline plus projects conditions (2035).

- Mary Avenue & Central Expressway (#52) – PM Peak Hour
- Lawrence Expressway & Cabrillo Avenue (#25) – AM & PM Peak Hours
- Lawrence Expressway & Benton Street (#27) – AM & PM Peak Hours
- Lawrence Expressway & Homestead Road (#28) – AM & PM Peak Hours
- Lawrence Expressway & Pruneridge Avenue (#29) – AM Peak Hour

As identified in the Traffic Study (Appendix H), four of the five intersections listed above are anticipated to perform at LOS E or F by the year 2035 under existing baseline plus project conditions.

Under existing conditions, at the intersection at Mary Avenue & Central Expressway, the LOS is an acceptable LOS D and LOS E during the AM and PM peak hours, respectively. Under the 2035 Project conditions, the intersection operations would deteriorate to an unacceptable LOS F during both peak hours. Compared to existing conditions, the intersection would have a significant impact during both the AM and PM peak hours.

Near-Term 7 Projects Intersections

Under baseline plus project conditions, the Project would generate significant impacts resulting in increases of CO levels from intersection LOS at the following intersection:

- Lawrence Expressway & Kifer Road (#12) – AM Peak Hour

As identified in the Traffic Study (Appendix H), the intersection listed above would be anticipated to perform at LOS E or F by the year 2025 under baseline plus project conditions.

Near-Term Irvine Project Intersections

Under baseline plus project conditions, the Project would generate significant impacts resulting in increases of CO levels from intersection LOS at the following intersection:

- Lawrence Expressway & Kifer Road (#12) – AM & PM Peak Hour

As identified in the Traffic Study (Appendix H), the intersection listed above would be anticipated to perform at LOS E or F by the year 2025 under baseline plus project conditions. The Project, Near-Term 7, and the Near-Term Irvine Projects would generate significant CO level impacts at several intersections in the Project area. Compared to existing conditions, the intersections discussed above would have a significant impact related to increases of CO levels during both the AM and PM peak hours. Implementation of the Project would contribute to impacts related to increases in CO levels in the vicinity of intersections as discussed above. Therefore, impacts would be significant.

Mitigation Measures

As discussed in Section 3.10, *Transportation, Circulation, and Traffic*, MM T-6a and MM T-6b would apply to this Project in effort to further reduce impacts.

Residual Impacts

As no other mitigation measures are available to reduce these emissions to less than significant, impacts would be significant and unavoidable.

Impact AQ-3: Onsite construction-related emissions would affect sensitive receptors. Implementation of mitigation measures would not reduce this impact to a less-than-significant level. Therefore, this would be a significant and unavoidable impact.

The Project area contains and is near sensitive receptors including residences, schools, medical facilities, family day cares, and places of worship. As shown in Table 3.2-3, there are 19 sensitive receptors located within a 1.0-mile radius of the Project. Additional sensitive receptors (e.g., family daycare homes) may exist near the Project area but are unknown given permit exemption status. The sensitive receptors located closest to potential construction would depend on where the construction and development would take place within the Project area. During the development of the greater Project area, there will be specific Project construction sites that are closest to sensitive receptors located within the Project area, and there will be Project construction sites that are closest to sensitive receptors in the community surrounding the Project area. As discussed under Impact AQ-1, construction emissions estimates were generated using CalEEMod.

There are no BAAQMD CEQA thresholds of significance for sensitive receptors. However, construction emissions for the Project would exceed thresholds for VOCs and NO_x. Because the Basin is currently in nonattainment for ozone (for which VOCs and NO_X are precursors) and particulate matter under national and state standards, development in the Project area could impact surrounding sensitive receptors. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors. These emissions would occur primarily during building construction and architectural coating phases. Therefore, impacts related to sensitive receptors from temporary construction-related emissions for the Project would be potentially significant.

Mitigation Measures

MM AQ-1 and MM AQ-2 would be implemented during construction activities; however, emissions would likely still exceed the BAAQMD construction thresholds. Therefore, construction-related emissions impacts of the Project to sensitive receptors would remain significant and unavoidable.

Residual Impact

As no other mitigation measures are available to reduce these emissions to less-than-significant levels, this impact would be significant and unavoidable.

Impact AQ-4: Implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, this would be a less than significant impact.

Generally, a project would conflict with or potentially obstruct implementation of an air quality plan if the project would contribute to population growth in excess of that forecasted in the BAAQMD's adopted 2010 Clean Air Plan. A project is deemed inconsistent with the air quality plan if it would result in population and/or employment growth that exceeds growth estimates in the applicable air quality plan. In turn, the 2010 Clean Air Plan relies upon growth projections generated by the ABAG, which in turn, relies upon cities' adopted general plan growth projections. Consequently, compliance with the City's General Plan typically results in compliance with the Clean Air Plan.

Specifically, the BAAQMD's CEQA Guidelines state that projects or plans consistent with the 2010 Clean Air Plan should support the primary goals of the plan. These goals are:

- Attain air quality standards;
- Reduce population exposure and protect public health in the Bay area; and
- Reduce GHG emissions and protect the climate.

Additionally, a project consistent with the 2010 Clean Air Plan would include applicable control measures as outlined in the plan, and would not disrupt or hinder the implementation of any identified control measure, increase the frequency or severity of existing air quality violations or cause, or contribute to new air quality violations.

Implementation of the Project would introduce new residential housing that would directly induce population growth within the Project area; however, this type of growth is consistent with regional planning documents and aligns with policies contained in the City's General Plan LUTE, all of which promote compact infill development in transit rich areas. For example, the 2012 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Compass Blueprint 2% Strategy, and the Regional Comprehensive Plan (RCP) promote locating jobs and housing near major transit systems to reduce daily vehicle trips and regional peak-hour traffic congestion. The Project implements and is consistent with these regional planning goals to create transit-oriented development around transit stations that include small businesses, urban housing, and restaurants within a walkable distance to reduce the demand for automobile travel; focusing future growth in urban centers and existing cities to reduce vehicle miles traveled and associated energy demand and air pollutant/ GHG emissions.

The 2010 Clean Air Plan was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of BAAQMD, and to improve air quality within the region. Projects considered to be consistent with the Clean Air Plan would not interfere with attainment, because this growth is included in the projections used to formulate the plan. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the Clean Air Plan would not jeopardize attainment of the identified air quality levels, even if they exceed the BAAQMD's recommended daily emissions thresholds. As stated above, the Project is consistent with the 2010 Clean Air Plan and would therefore not increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations.

Therefore, implementation of the Project would result in growth that is consistent with both local and regional policies. Such growth would be fully consistent with the urban infill, trip reduction, and transit oriented development goals contained in the Clean Air Plan. Therefore, the Project would not comprise a barrier to successful implementation of the 2010 Clean Air Plan, and this impact would be less than significant.

Impact AQ-5: Implementation of the Project would result in a considerable net increase of multiple criteria pollutants for which the air basin is currently in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors). This would be a potentially significant impact. Implementation of mitigation measures would not reduce this impact to a less-than-significant level. Therefore, this would be a significant and unavoidable impact.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state nonattainment pollutant. Because the Basin is currently in nonattainment for ozone (for which VOCs and NO_X are precursors) and particulate matter under national and state standards, development in the Project area could cumulatively exceed an air quality standard or contribute to an existing or projected air quality exceedance.

Operation

Operation of the Project would generate emissions that exceed the thresholds of significance recommended by the BAAQMD for Ozone. Because the SFBAAB is in nonattainment for O_3, operational emissions from the Project would make a cumulatively considerable contribution to criteria pollutant emissions. Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities in the Project area after build-out. Stationary source emissions would be generated by space and water heating devices, and the operation of landscape maintenance equipment. Mobile emissions would be generated by motor vehicles traveling to and from development sites. Estimated emissions included reductions that would be achieved through the pedestrian, bicycle, TDM, and other transit improvements that would be provided through implementation of the Project.

The analysis of daily operational emissions generated by the Project, the Near-Term 7 Projects, and the Near-Term Irvine Projects were prepared using the CalEEMod computer model recommended by the BAAQMD. The results of the CalEEMod calculations for the daily operational emissions of the Project are presented in Tables 3.2-13, 3.2-14, and 3.2-15 (refer to Appendix E for CalEEMod outputs). The emissions shown below reflect the net increase in emissions anticipated to be generated from buildout of the Project.

Table 3.2-13. Maximum Estimated Project Operational Emissions (lbs/day)

Emission Source	VOCs (ROG)	NOx	*PM_{10}	*PM2.5
Area	68.04	0.21	0.10	0.10
Energy	1.19	10.76	0.82	0.82
Mobile	56.12	99.58	2.59	2.39
Maximum Daily Emissions	125.35	110.55	3.51	3.31
Thresholds of Significance[1]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

[1] Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

Table 3.2-14. Maximum Estimated Operational Emissions for Near-Term 7 Projects (lbs/day)

Emission Source	VOCs (ROG)	NOx	*PM_{10}	*PM2.5
Area	39.82	0.11	0.05	0.05
Energy	0.65	5.93	0.45	0.45
Mobile	39.61	67.21	1.42	1.31
Maximum Daily Emissions	80.08	73.25	1.92	1.81
Thresholds of Significance[1]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

[1] Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

Table 3.2-15. Maximum Estimated Operational Emissions for Near-Term Irvine Project (lbs/day)

Emission Source	VOCs (ROG)	NOx	*PM_{10}	*PM2.5
Area	35.23	<0.01	<0.01	<0.01
Energy	0.51	4.68	0.36	0.36
Mobile	39.27	80.90	1.28	1.18
Maximum Daily Emissions	**75.01**	**85.58**	**1.64**	**1.54**
Thresholds of Significance[1]	54	54	82	54
Above Thresholds?	Yes	Yes	No	No

[1] Source: BAAQMD Air Quality Significance Thresholds (lbs/day)
* Exhaust emissions only.

As seen in the tables above, some pollutant emissions would be reduced after buildout of the Project. This reduction would result from reductions in vehicle miles traveled and improvements in technology that reduce vehicle air emissions. Because the Project would exceed BAAQMD thresholds for the pollutants for which the SFBAAB is currently in nonattainment, the Project would make cumulatively considerable contributions of these pollutants during operation of the Project.

Construction

Emissions resulting from construction activities necessary to implement the Project would result in short-term air quality impacts. Construction-related emissions would include NO_x and particulate matter from diesel exhaust and fugitive dust. Because the Basin is in nonattainment for both PM_{10} and $PM_{2.5}$, Project implementation could result in a cumulative contribution to existing nonattainment status for these pollutants (refer to Table 3.2-7 and Table 3.2-8). As concluded in Impact AQ-1, existing policies and proposed mitigation measures would reduce the impacts of construction-related emissions, but not to a less-than-significant level. Therefore, construction activities would result in a cumulatively considerable net increase of multiple criteria pollutants for which the Air Basin is non-attainment, and the impact would be potentially significant.

Construction emissions for the Project would exceed thresholds for VOCs and NOx. As shown in Table 3.2-10, onsite construction emissions for the Project with the implementation of the above mitigation measures were generated using CalEEMod. These emissions would occur primarily during the building construction and architectural coating phases. Therefore, impacts related to temporary construction-related emissions for the Project would be potentially significant.

Mitigation Measures

MM AQ-1 and MM AQ-2 would be implemented during construction activities; however, emissions would likely still exceed the BAAQMD construction thresholds. Therefore, construction impacts of the Project would remain significant and unavoidable.

Residual Impacts

Construction

Implementation of the proposed mitigation measures would reduce temporary construction emissions of VOC and NOx; however, emissions would still be above BAAQMD thresholds of significance. Therefore, temporary construction air quality impacts for the Project would be significant and unavoidable.

Operation

As no other mitigation measures are available to reduce these emissions to less-than-significant levels, this impact would be significant and unavoidable.

Impact AQ-6: Implementation of the Project would not create objectionable odors affecting a substantial number of people. This would be a less than significant impact.

Construction

Potential sources of odor associated with the Project may result from construction equipment exhaust and application of asphalt and architectural coatings during construction activities. Construction that would occur during Project implementation would be both temporally and geographically intermittent. Standard construction requirements would be imposed upon the Applicant to minimize odors from construction. Therefore, impacts associated with construction-generated odors would be less than significant.

Operation

According to the BAAQMD CEQA Guidelines, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The allowable uses prescribed by the Project include a range of typical urban uses, such as office, research and development, retail, recreation (e.g., fitness activities, etc.), and residential. Potential sources of odor could occur from cooking activities within restaurants and the temporary storage of typical household solid waste (refuse) associated with residential (long-term operational) uses. However, these

odors would be similar to existing housing and food service uses in the surrounding areas, would typically not be considered offensive, and would be confined to the immediate vicinity of new buildings characterized by those uses. Additionally, it is expected that any new project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. As such, development anticipated to occur under the Project would not facilitate uses that are significant sources of objectionable odors. This impact would be less than significant.

Cumulative Impacts

Cumulative impacts related to air quality are related to air emissions occurring in the City, inclusive of the Project area, as well as within the overall SFBAAB.

Cumulative impacts to air quality could result from growth that would be consistent with the 2010 Clean Air Plan, which was prepared to accommodate growth, reduce the high levels of pollutants within the areas under the jurisdiction of BAAQMD, and improve air quality in the region. Projects considered consistent with the 2010 Clean Air Plan would not interfere with attainment, because this growth is included in the projections used to formulate the plan. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the 2010 Clean Air Plan would not jeopardize attainment of identified air quality levels, even if they exceed the BAAQMD's recommended daily emissions thresholds. As stated above, the Project is consistent with the 2010 Clean Air Plan and would therefore not increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations. Therefore, cumulative impacts would be less than significant.

As discussed above, the SFBAAB is in nonattainment for O_3, $PM_{2.5}$, and PM_{10}. Therefore, any substantial increases in the amount of O_3 precursors and particulate matter in the region would be considered considerable contribution to potentially significant cumulative impacts, including those attributed to construction emissions. Because the exact size, design, and timing of future development projects in the Project area is unknown, cumulative construction emissions cannot be quantified (refer to Impact AQ-1 above). However, as described in Impact AQ-1 above, the potential for exceedance of thresholds based on potential annual rates and location of construction which indicate that, for mid- to large-sized projects, project-level measures may be unavailable to reduce emissions to a level below the significance thresholds. The contribution of future development project-related emissions may be significant and are therefore considered cumulatively considerable. This cumulative impact is considered to be significant and unavoidable.

The analysis of operational air quality emissions provided above serves as a cumulative level of analysis for land use changes anticipated to occur at the Project area. Based on air quality modeling results, the Project would exceed BAAQMD thresholds for pollutants for which the SFBAAB is currently in nonattainment, and therefore would be significant and unavoidable. However, it should be noted that BAAQMD significance thresholds for criteria air pollutants do not distinguish between project-level EIRs and program-level EIRs. The Project is an implementation

plan for the LUTE that address potential land use changes at the Project area on a programmatic level. Therefore, the application of the BAAQMD thresholds to a program-level EIR is highly conservative. Furthermore, the Project is fully consistent with the AQMP's strategies to reduce regional air pollutant emissions.

Near-Term 7 and Irvine Projects

Implementation of both the Near-Term 7 and Near-Term Irvine Projects would generate cumulatively significant impacts as emissions would exceed BAAQMD thresholds for pollutants for which the SFBAAB is currently in nonattainment, and therefore would be significant and unavoidable.

Under cumulative Project conditions, both the Near-Term 7 and Near-Term Irvine Projects would generate significant impacts on several intersections in the Project area as described above. Implementation of the Near-Term 7 and Near-Term Irvine Projects would contribute to cumulatively substantial impacts related to increases in CO levels in the vicinity of intersections discussed above under Impact AQ-2. Therefore, cumulative Project-related CO impacts would be significant and unavoidable.

3.3 CULTURAL RESOURCES AND HISTORIC STRUCTURES

This section describes existing cultural resources and historic structures within the Peery Park (Project area) vicinity, and analyzes the potential impacts to cultural resources that could result from implementation of the Peery Park Specific Plan (Project). The following discussion and analysis focuses upon cultural resources, particularly resources recognized by the City of Sunnyvale (City) as containing historic significance, as well as the potential for undiscovered subsurface prehistoric, archaeological, or paleontological resources within the Project area. Cultural resources are defined as follows:

- *Historical resource* is defined by the California Environmental Quality Act (CEQA) Guidelines as a building, site, structure, object, or district, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance, or is eligible for listing or is listed in the *California* Register of Historical Resources (CRHR).
- *Historic properties* is a term defined by the National Historic Preservation Act (NHPA) as any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such property (NPS 2015).
- *Paleontological resource* is defined as fossilized remains of vertebrate and invertebrate organisms, fossil tracks and trackways, and plant fossils. A unique paleontological site would include a known area of fossil-bearing rock strata (NPS 2010).
- *Unique archaeological resource* is defined in CEQA Guidelines as an artifact, object, or site associated with an important historic or prehistoric event, contains a special quality or characteristic, or provides information on scientific progress, environmental adaptations, group ideology, or other human advancements.

3.3.1 Environmental Setting

The Project area is within an existing light industrial district in the northwestern portion of the City in Santa Clara County, south of the San Francisco Bay area. The Project area is roughly bounded by State Route 237 (SR 237) to the north and northwest, Mathilda Avenue to the east, Central Expressway to the south, and Mary Avenue to the west, with a limited area extending west of Mary Avenue towards the Sunnyvale Golf Course. The Project area contains approximately 450 acres and is almost completely developed by multiple industrial and commercial structures, roads, landscaping, and open surface parking lots.

Prehistory Setting

There is evidence of human occupation in the San Francisco Bay area as long as 20,000 years ago. The potential existence of prehistoric remains within the Project area could be from various past cultural eras; however, they would most likely represent past occupation by the Ohlone (also known as the Costanoan). The Ohlone tribes were descendants of the earliest inhabitants of the area and maintained villages within territories that encompassed The City. As many as 10,000

Ohlones inhabited the area in 1770, living a hunting and gathering lifestyle. The Ohlones established approximately forty villages in the San Francisco Bay area comprised of an average of 250 people each. They resided in hut-like dwellings made of lashing bundles of tule rush and willows. The Ohlone population and way of life was severely disrupted with the settlement of Spanish missionaries in 1769. Under Spanish colonization, the Ohlone were transformed from hunters and gatherers to agricultural workers and manual laborers (California History Center 1988).

Due to the relatively long history of urban development in the City, the full extent of Ohlone or other prehistoric occupation of the Project area is difficult to accurately characterize. Primary information on the Ohlone comes from accounts of early Spanish explorers and missionaries, after the Ohlone culture had encountered drastic changes due to Spanish, Mexican, and other European settlement (Garcia and Associates 2010). Although no prehistoric sites are known to exist within the Project area, given the project's location within the San Francisco Bay area, there is potential for subsurface Native American prehistoric resources to exist within the Project area which may not have been evaluated or discovered during original development of the area.

Historical Setting

Initial Spanish settlement in the Sunnyvale region began with the establishment of missions in the San Francisco Bay area. As a result of the Mexican Revolution of 1821, California became Mexican territory and Mexican land grants divided the Sunnyvale region into several ranches, which were consolidated into the Rancho Pastoria de Los Borregas in 1842. California became a U.S. territory in 1848 as a result of the Mexican American War and the Treaty of Guadalupe Hidalgo. In 1850, Missouri settler James Murphy Jr, purchased 4,800 acres of the rancho that encompassed present day Cities of Sunnyvale and Mountain View. Murphy established some of the earliest farms and fruit orchards in the Santa Clara Valley, and as such, agriculture remained the primary industry in the City through the nineteenth and early twentieth century (California History Center 1988; Garcia and Associates 2010).

World War II marked the turning point in the region from agriculture to industry due to the increased demand for manufacturing. Large agricultural lands within the Project area became canneries and factories. Approximately 0.5 miles north of the Project area, the Sunnyvale Naval Air Station, later renamed Moffett Federal Airfield, served as the City's heavy manufacturing base. Steady growth accompanied this transition in the City and neighboring communities by converting agricultural regions to industrial and urban uses (California History Center 1988). By the 1970s the City had seen a majority of its agricultural land converted to urban uses, and little undeveloped land remained. From the 1970s onwards, Santa Clara Valley began to emerge as an economic center for high-tech industries, attracting clusters of software, dot-com, and venture capitalist companies.

In its current developed state, the Project area was developed primarily in the 1960s and 1970s with a range of industrial uses. In the 1970s, citizens of the City began to recognize the loss of important historical resources and their importance to community character, and started working

with the City to survey remaining historical structures and properties. As a result, the City developed the Historic Resources Inventory and Heritage Preservation Commission to document and preserve landmarks and heritage resources within the City (California History Center 1988).

Paleontological Resources

Paleontological resources are the evidence of once-living organisms as preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). In general, fossils are considered to be older than recorded human history or greater than 5,000 years old and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology 2010).

Fossils in the San Francisco Bay area primarily consist of marine species, including fish, mollusks, zooplankton, and crustaceans; however, larger Pleistocene fossils have been discovered, including mammoth, giant ground sloth, horse, and camels (National Park Service 2008). While there are no known paleontological resources in the City, paleontological resources discovered in Santa Clara County consist mostly of plant, microfossil, and vertebrate fossil specimens. Thus, paleontological deposits could be uncovered at unknown depths within the Project area.

Archaeological Resources

Archaeological resources represent and document activities, accomplishments, and traditions of previous civilizations and link current and former inhabitants of an area. Archaeological resources may date from the historic or prehistoric period, and include deposits of physical remains of the past (e.g., artifacts, manufacturing debris, dietary refuse, and the soils in which they are contained) or areas where prehistoric or historic activity measurably altered the earth.

The potential to uncover Native American remains exists in locations throughout California. During prehistoric times, the City, including the Project area, provided an especially favorable environment for Native American settlement given its moderate climate and location along the San Francisco Bay. Prehistoric archaeological deposits could provide important information about the occupation, settlement practices, economy, trade, and life of Native Americans at this location during ancient times. While the Project area is almost completely developed, previously recorded archaeological sites in the Santa Clara Valley present the potential for subsurface Native American archaeological resources to exist within the Project area, which may not have been evaluated or discovered during original development of the Project area (Garcia and Associates 2010).

Historical Resources within the Project area

The City recognizes two main types of protected structures – Local Landmarks and Heritage Resources. A Local Landmark is designated as an important property or tree which provides the community with a reminder of its heritage, and has the highest level of protection given by the City. A Heritage Resource is a structure, site, or feature that is designated for preservation and

requires review of proposed development by the City's Heritage Preservation Commission, per Sunnyvale Municipal Code Chapter 19.96 Heritage Preservation. In 1979, the City created the original Local Landmarks and Heritage Resources Inventory, recognizing important properties and trees which have architectural or historic significance. Currently, 11 structures have Local Landmark status, 63 properties are designated Heritage Resources, and 15 trees are designated as Heritage Trees (City of Sunnyvale 2015). In addition, the City contains two Historic Districts, the Historic Downtown District and the Historic Murphy Avenue District. Plans for modification or development of Local Landmarks, Heritage Resources, or Historic Districts must be reviewed and approved by the Heritage Preservation Commission. Removal of a Heritage Tree must also be approved by the Heritage Preservation Commission.

Within the Project area there are only two remaining historical structures, as shown in Table 3.3-1, which are considered historical resources as defined by CEQA Section 15064.5. Both, the Mellow's Nursery and Farm and the Libby Water Tower, are located in the southern edge of the Project area.

Table 3.3-1. Cultural and Historic Resources in the Project area

Resource	Location	Acres	Resource Value/Description
Libby Water Tower	444 California Avenue, within central courtyard of Raytheon Industrial Campus	1.75	**Local Landmark (LL)**: The McNeill & Libby Cannery opened in 1907 and became the largest cannery in the world. The property was redeveloped and is currently used as a Raytheon Industrial Campus, but the water tower was preserved in a central courtyard. The original water tower for the old Libby's cannery was replaced in 1965 with the existing tower and is the only original remaining structure from the cannery; as such, it is a designated City Landmark.
Mellow's Nursery and Farm	221 N. Mathilda Avenue	4.3	**Heritage Resource (HR)**: Prior to its permanent closure in early 2015, the Mellow's Nursery and Farm had operated since the late 1880s. The existing dwelling onsite was constructed in 1915. The property had been the last in the Project area to produce crops and plant nursery products and is known to have contributed to the City's historic fruit tree industry, including the Libby Cannery operations.

Source: (City of Sunnyvale 2015).

Libby Tower

The Libby Tower, originally built in 1906 and replaced with the existing tower in 1965, is the only remaining structure of the original McNeill & Libby Cannery. The cannery opened in 1907 and was once a major employer in the City. By 1923, Libby supported a workforce of over 8,000 employees and was the largest canning and freezing operation in the world at the time. Libby Cannery gained recognition as a progressive employer that provided housing to many of its workers. The company played a role in the City's growth as many cannery workers moved to the City to settle permanently. While little is left of the original cannery, the Libby Tower is a principal reminder of McNeill & Libby's long-term contribution to the City's growth and economic expansion (California History Center 1988).

The Libby Can Water Tower, a Local Landmark within the Project area, is the remaining structure of Sunnyvale's historic canning industry.

The original cannery was replaced with commercial development; however, the City made a large effort to preserve the tower. Libby Tower is located within the southern portion of the Project area, known as the Raytheon Industrial Campus. The tower sits within a low density commercial area characterized by one to two-story buildings and surface parking lots. Libby Tower is positioned in the middle of a circular grass courtyard enclosed by trees, and equipped with benches, picnic tables and walkways. In 2012, the City Council approved a Special Development Permit for a 106,617-sf office and research-development building on the Libby Tower site and the new building was completed in 2014. The development application did not include any modifications to the tower; however, in 2015 the Community Development Department issued an administrative permit to the property owner of the Libby Tower site that allowed them to do some paint repair work to the tower.

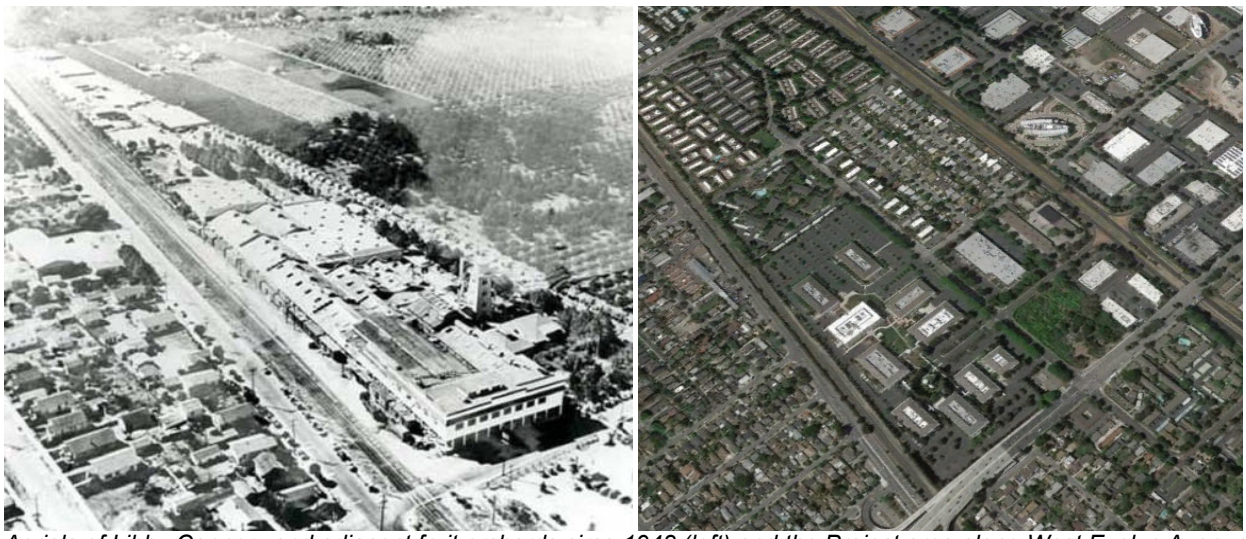
Mellow's Nursery and Farm

The 4.3 acre Mellow's Nursery and Farm located at 221 N. Mathilda Avenue is designated as a Heritage Resource by the City. Mellow's Nursery was an operational fruit orchard and nursery, with a Craftsman style farmhouse built around 1915, which currently remains intact onsite and exemplifies the architecture prevalent in that era.

Mellow's Nursery and Farm, a Heritage Resource within the Project area, is remnant of Sunnyvale's agricultural past. The farm was establish in the 1880s and the residence onsite was built in 1915.

The Mellow family originally settled in Santa Clara Valley in the 1800s, establishing their first farm in Mountain View and then expanding their farming activities through the years, providing produce to local canneries (California History Center 1988). The Mellow family established the nursery in the

1880s, and while ownership of the property changed hands in July 2014, the Mellow family continued to maintain an agricultural operation onsite until early 2015 (Denato-Weinstien 2014). Mellow's Nursery is one of the last remaining agricultural lands within Sunnyvale and remains a vestige to the city's agricultural past. As such, in a 1991 survey the property was found to be eligible for NRHP under Criterion 1. The property has been subject to past historical evaluations and in 1979 was included in the City's first historic resource inventory. The nursery was designated a historic resource with association as the residence of Walter E. Crossman, a man who had played a key role in the City's development and considered one of the founders of the City. The house onsite was found significant for its stylistic qualities as a historic Colonial Revival cottage. A current survey of the property conducted by Archives & Architecture, LLC (Appendix F), evaluated the property and past surveys and found the property still obtaining historical value. The current study found the property to be eligible for the California Register under Criterion 1, and also under Criteria 2 and 3. The property on site is the only remaining building known to be owned by Walter C. Crossman. Because of his initial development of the town, his vision, and work integrated into the City, the property meets the Criteria 2 of the California Register. In addition, the circa 1906 Wolf & McKenzie designed house was found to be a distinctive representation of an early 20th Century Neoclassical cottage, Therefore, the property would be eligible for the California Register under Criterion 3. Under the City's Heritage Preservation Ordinance, the property also meets the Criteria to be a designated resource under Section 19.96.060 of the municipal code.



*Aerials of Libby Cannery and adjacent fruit orchards circa 1948 (left) and the Project area along West Evelyn Avenue in 2015 (right) show the redevelopment of the Libby Cannery and conversion of agricultural lands to industrial uses. Sourc*e: (City of Sunnyvale 2015).

3.3.2 Regulatory Setting

The regulatory background outlined below offers an overview of federal, state, and local guidelines and regulations used to assess the historic, paleontological, or archaeological significance and eligibility of a building, structure, object, site, or district.

Federal Policies and Regulations

National Historic Preservation Act, as Amended (1966). The NHPA defines the Federal Government's role in historic preservation and establishes partnerships between states, local governments, Indian tribes, and private organizations and individuals. The NHPA authorizes the Secretary of the Interior to expand and maintain the National Register of Historic Places and establishes the Advisory Council on Historic Preservation (ACHP) as well as state and tribal historic preservation offices. It also requires federal agencies to consider the effects of their undertakings on historic resources and to give the ACHP a reasonable opportunity to comment on those undertakings.

National Register of Historic Places. The NRHP was established by the NHPA to help identify and protect properties that are significant cultural resources at the national, state, and/or local levels. Four criteria have been established to determine if a resource is significant to American history, architecture, archaeology, engineering, or culture and should be listed in the NRHP. These criteria include:

1. It is associated with events that have made a significant contribution to the broad patterns of our history;
2. It is associated with the lives of persons significant in our past;
3. It embodies the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
4. It yields, or may be likely to yield, information important in prehistory or history.

Districts, sites, buildings, structures, and objects of potential significance that are at least 50 years in age must meet one or more of the above criteria to be eligible for listing in the NRHP. However, the NRHP does not prohibit the consideration of properties less than 50 years in age whose exceptional contribution to the development of American history, architecture, archaeology, engineering, and culture can be clearly demonstrated under National Register Criteria Consideration G.

Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601). Native American Graves Protection and Repatriation Act (NAGPRA), enacted on November 16, 1990 and the regulations (43 CFR Part 10) that allow for its implementation, establishes a means for American Indians, including members of Indian Tribes, Native Hawaiian organizations, and Native Alaskan villages and corporations to request the return or "repatriation" of human remains and other cultural items presently held by federal agencies or federally assisted museums or

institutions. NAGPRA also sets forth provisions regarding the intentional excavation and removal, inadvertent discovery, and illegal trafficking of Native American human remains and cultural items. All federal agencies that manage land and/or are responsible for archaeological collections from their lands or generated by their activities must comply with the NAGPRA.

The statue requires federal agencies to produce inventories and written summaries of cultural items in their collections or controlled by them (even though the items are held in non-federal repositories); inform lineal descendants, Indian Tribes and Native Hawaiian organizations that may be affiliated with these items in their holdings; work with Native American groups identified during the summary and inventory processes; and, consult with Tribes or Native Hawaiian organizations when planned archaeological excavations may encounter cultural items or when cultural items are discovered inadvertently on federal or Tribal lands. Human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony must be expeditiously returned to the lineal descendants or affiliated Indian Tribe or Native Hawaiian organization if requested, upon presentation of a valid claim.

American Indian Religious Freedom Act. The American Indian Religious Freedom Act, Title 42 United States Code Section 1996, protects Native American religious practices, ethnic heritage sites, and land uses.

State

California Register of Historical Resources. The CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources and/or tribal cultural resource of the state and to indicate which resources are to be protected, to the extent prudent and feasible, from substantial adverse change." Criteria of eligibility for the CRHR (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) include the following:

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.

Additionally, a historic and/or tribal cultural resource eligible for listing in the CRHR must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic or tribal cultural resource and to convey the reasons for its significance. Historical resources that have rehabilitated or restored may be evaluated for listing.

Resources included in a local register of historical resources (pursuant to Section 5020.1[k] of the Public Resources Code), or identified as significant in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code), also are considered "historical resources" for the purposes of CEQA. Sites, features, places, landscapes, sacred places, and objects with value to a California Native American tribe and included in a local register of historic resources are considered "tribal cultural resources" for the purpose of CEQA (meeting the criteria in Pub. Res. Code Section 21074). The CRHR automatically includes "all properties formally determined eligible for, or listed in, the National Register of Historic Places," and certain specific California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI) that have been evaluated and been recommended for inclusion on the CRHR. 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. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources, or identified in a historical resources survey, does not preclude a lead agency from determining that the resource may be a historical resource as defined in Pub. Res. Code Section 5020.1(j) or Section 5024.1.

State CEQA Guidelines Section 15064.5. State CEQA Guidelines Section 15064.5 designates a resource as historical if it meets the following criteria:

- A resource is listed, or is eligible to be listed on the CRHR;
- A resource is included in a local register;
- A resource that the lead agency finds to have historical significance; or
- A resource that may have cultural, historical, archaeological, agricultural, architectural, educational, social, political or scientific value, where its value is supported by sufficient evidence.

Local

City of Sunnyvale Heritage Preservation Guidelines. The Heritage Preservation sub-element of the City General Plan, establishes the criteria for identifying cultural resources within the City. The City has approached the delineation of cultural resources by relating them to their heritage value. As stated in the Heritage Preservation Sub-element, the term *heritage* encompasses a broader concept than the term *historical*. A community's heritage includes not only its record of historical events and the inventory of its historical buildings, sites and artifacts, but also the cultural legacy of that history. Heritage resources are important because they document the cultural history of a particular place and serve to illustrate the relationship between the present and the past. Each heritage resource enriches the history of a place and adds to a complex pattern of growth and development over time. The following goals and policies apply:

> ***Goal CC-5. Protection of Sunnyvale's heritage.*** To enhance, preserve and protect Sunnyvale's heritage including natural features, the built environment and significant artifacts.

Policy CC-5.1. Preserve existing landmarks and cultural resources and their environmental settings.

Policy CC-5.3. Identify and work to resolve conflicts between the preservation of historic resources and alternative land uses.

Policy CC-5.5. Archaeological resources should be preserved whenever possible.

City of Sunnyvale Municipal Code. The City has adopted the "2010 California Historical Building Code" (Ord. 2937-10 Section 2) as the historical building code of the City. The purpose of the California Historical Building Code (CHBC) is to "provide regulations for the preservation, restoration, rehabilitation, relocation or reconstruction of buildings or properties designated as qualified historical buildings or properties." The following applies to the Project:

19.96.030. Responsibilities. The heritage preservation commission shall have the responsibility to:

(a) Recommend criteria for and supervise a comprehensive survey of improvements, buildings, structures, signs, features, landscape, trees, sights, places, areas or other artifacts of architectural, artistic, cultural, engineering, aesthetic, political or social significance to the citizens of Sunnyvale;

(b) Provide recommendations and other assistance concerning development and maintenance of a local inventory of the above described heritage resources of the city including the nomination of neighborhoods to be considered by the city council for HH - heritage housing district consideration;

(c) Recommend criteria for designation of heritage resources, landmark sites, and landmark districts;

(d) Recommend heritage resources for landmark site or landmark district status;

(e) Review and comment upon the conduct of matters undertaken by the city, county or state which have a bearing upon heritage resources including, but not limited to, land use, municipal improvement, and housing;

(f) Assist in the preparation of standards for the commission to use in reviewing applications for permits which significantly affect any landmark or landmark district, including permits to construct, change, alter, modify, remodel, or demolish the foregoing;

(g) Review all applications for permits regarding heritage resources, heritage resource districts, landmark site or landmark district designated structures that involve changing use, exterior alteration or demolition, and approve, disapprove, or approve as modified said applications. All related environmental documentation shall also be reviewed;

(h) Participate in, promote, and conduct public information and explanatory programs pertaining to heritage resources;

(i) Cooperate with other interests and programs that are developed by both public and private agencies in the fields of museums and the development of city archives;

(j) Promote the restoration, maintenance and operation of heritage resources owned by the city;

(k) Investigate and report to the city council on public or private fund sources and mechanisms available to promote preservation of heritage resources in the city;

(l) Recommend to the city council the purchase of appropriate interests in property for purposes of preservation of heritage resources;

(m) Make other recommendations, perform studies and make deliberations deemed desirable or necessary to the effective functioning of the commission;

(n) Encourage citizen participation in support of heritage resources;

(o) Make available to the public copies of all recommendations, studies, standards and criteria produced in the exercise of the above functions;

(p) Approve demolitions and new construction of replacement structures in any HH heritage housing district. (Ord. 2780-05 Section 1; Ord. 2623-99 Section 1; prior zoning code Section 19.80.040).

Section 19.96.065. Ranking of heritage resources, alteration process. (a) Within the overall category of historic resources, the city recognizes three levels of significance, ranked in descending from most significant as follows:

(1) Local landmark resource/local landmark district;
(2) Designated heritage resource/designated heritage resource district; and
(3) Heritage resource/heritage resource district.

(b) Designated heritage resources and heritage resource districts are those resources that have been designated by both the city and the state or federal government as historically significant. Any person desiring to reconstruct, demolish, relocate or modify a designated heritage resource/district must first apply for a resource alteration permit, as described in Section 19.96.090, as well as comply with all state or federal requirements.

(c) No person shall carry out or cause to be carried out on a landmark or in a landmark district any material change in exterior appearance of such landmark or landmark district through alteration, construction, relocation, or demolition without a landmark alteration permit issued by the heritage preservation commission as described in Section 19.96.090.

(d) No person shall carry out or cause to be carried out on a heritage resource or in a heritage resource district any material change in exterior appearance of such resource or district through alteration, construction, relocation, or demolition without a resource alteration permit issued by the heritage preservation commission as described in Section 19.96.095. Minor modifications to heritage resources or heritage resource districts may be processed by city staff through the miscellaneous plan permit process set forth in Chapter 19.82 of this code (Ord. 2780-05 Section 1).

3.3.3 Impacts and Mitigation Measures

Significance Criteria

Based upon the criteria derived from Appendix G of the State CEQA Guidelines, the Project would have a significant effect on cultural or historical resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in the State CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to the State CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

When a project may cause a substantial adverse change to a historical resource, CEQA requires the lead agency to consider the possible impacts before proceeding (PRC Sections 21084 and 21084.1). CEQA considers a substantial adverse change to a historical or archaeological resource as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical impact is impaired.

Methodology

The section analyzes proposed goals and policies within the Project area to determine whether or not implementation of the Project would result in significant impacts to cultural or historical resources. The analysis further identifies and describes how the proposed goals and policies, in addition to existing regulations and standards (e.g., Heritage Preservation Guidelines), provide enforceable requirements and/or performance standards that avoid or minimize significant impacts and uphold the City's standing as an environmentally conscious community.

The Project's impacts on paleontological and archaeological resources are assessed based on the potential presence of these resources within the Project area. No paleontological resources, archaeological resources, or geological units that would likely contain paleontological resources have been identified in the Project area.

Impacts to Historical Resources

Impact CR-1: Implementation of the Project would result in potential impacts to the City-designated Local Landmark, Libby Can Water Tower. Compliance with resource protection policies in the City of Sunnyvale Heritage Preservation Guidelines and Sunnyvale Municipal Code would reduce impacts to less than significant.

The Project area contains one Local Landmark, Libby Tower, considered a historical resource as defined by the State CEQA Guidelines Section 15064.5. Libby Tower is important part of the community's identity and serves as a destination for locals and visitors to view the landmark, the

last remaining structure associated with the McNeill & Libby cannery, which opened in the Project area in 1907.

While the Project does not propose the removal of the Libby Tower, the Project would encourage the construction of new developments that would have the potential to impact Libby Tower through adjacent grading, demolition, or construction activities. This would result in damage to a community historical resource. Impacts related to the visual character of Libby Tower are addressed in Section 3.1, *Aesthetics and Visual Resources.*

Any future development that may result in impacts to the Libby Tower would be subject to review by the Heritage Preservation Commission. Compliance with Municipal Code and General Plan policies protecting the tower would ensure protection and preservation of the historical resource and its existing setting. Therefore, assuming compliance with established resource protection policies, impacts related to Libby Tower would be less than significant.

Impact CR-2: Implementation of the Project would result in impacts to the City-designated Heritage Resource, Mellow's Nursery and Farm. Demolition, redevelopment or alterations to the property would result in a significant and unavoidable impact.

Mellow's Nursery and Farm have been assigned Heritage Resource recognition by the City. The nursery was in operation for more than a century and represented the City's historic cultural landscape, which was once filled with fruit orchards and agriculture. Mellow's Nursery is one of the last remaining agricultural lands in the City. Mellow's Farm had a major role in the agricultural production in the City and provided produce to the local canneries. In addition, the property is known to be the last remaining property once owned by Walter E. Crossman, a man identified as the founder of the City. Mr. Crossman's development company and its efforts to expand the City contributed greatly to the early development of the town. As described in the report prepared by Archives & Architecture, LLC (Appendix F), the historical significance of the property makes it eligible for listing on the NRHP under Criterion 1.

The Mellow's Nursery property was sold in July 2014 and operation of the nursery and farm discontinued. In the recent survey conducted by Archives & Architecture, LLC, the house located onsite was found to still be a significant historical resources as the circa 1906 Wolfe & McKenzie designed house has a distinctive representation of an early 20th Century Neoclassical cottage. Therefore, due to the historical features of the whole property and its relation to Walter E. Crossman as described in Section 3.5.1 *Environmental Setting,* the property is also found to be eligible for California Register under Criteria 1, 2, and 3.

Since the change of property ownership in 2014, an application for redevelopment of this site has been submitted to the Community Development Department and implementation of the Project would allow the potential for redevelopment or alteration of the property. Being one of the 8 near-term project sites identified within the Project area, the current plan for the site is to rehabilitate the historic house and relocate it onsite. However, since the individual project merits are not part of the Project, any preservation or relocation activities would be evaluated as a separate project

for the Mellow's Nursery and Farm site as stated in MM CR-2. The site is considered a historical resource as defined by CEQA in Section 15064.5 and is identified as a heritage resource by the City and protected by the City's Municipal Code, *California Historical Building Code*; therefore, demolition, redevelopment, or alteration of the property would result in significant and unavoidable impacts to this historical resource.

Mitigation Measure

MM CR-1. **Historical Record of Property**. In the event of demolition, redevelopment, or alteration of Mellow's Nursery and Farm, a historical record including photographs and artifacts shall be incorporated into the Sunnyvale Heritage Park Museum. A qualified historian shall complete thorough photographic and historic documentation of Mellow's Nursery and Farm to be incorporated into historical records prior to any development.

MM CR-2. Preservation and Relocation of the Mellow's Nursery House. Future development of the Mellow's Nursery site shall consider preserving and relocating the historic house on site. If such action is feasible, a subsequent cultural resource evaluation shall be prepared to determine if the relocation and rehabilitation of the historic house on site retains its historic qualities and complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Residual Impact

Under MM CR-1, Mellow's Nursery would be thoroughly documented with photographs and historical information, and would be incorporated into the Sunnyvale Heritage Park Museum. While this would capture the history and document the character of Mellow's Nursery and Farm, demolition, redevelopment, or alteration of Mellow's Nursery and Farm would still result in significant and unavoidable impacts. Under MM CR-2, potential future development may result in adequate preservation of the historical significance of the house; however, since it is unknown and a subsequent cultural resource evaluation would be required for any future development project proposing preservation, the impact under the Project being analyzed in this EIR remains significant and unavoidable.

Impacts to Paleontological Resources

Impact CR-3: Construction activities anticipated to occur under the proposed Project could potentially uncover paleontological resources in geologic deposits during earthwork activities. If improperly handled, such resources could be adversely impacted. With mitigation, impacts would be reduced to less than significant.

At present, no paleontological resources have been identified within the Project area. The Project area is within an urban environment and is currently developed with mainly industrial and commercial uses, surface parking, and landscaping. Therefore, the likelihood of encountering intact paleontological resources within the Project area is low. Additionally, no unique geological features have been identified within the Project area. However, previous discoveries in Santa Clara County indicate the potential to disturb previously undiscovered paleontological resource

remains. Incorporation of MM CR-3 and MM CR-4 would reduce this impact to less than significant.

Mitigation Measures

MM CR-3. Paleontological Monitoring. Construction activities involving excavation or other soil disturbance to a depth greater than 6 feet within the Project area shall be required to retain a qualified Paleontological Monitor as defined by the Society for Vertebrate Paleontology (SVP) (2010) equipped with necessary tools and supplies to monitor all excavation, trenching, or other ground disturbance in excess of 6 feet deep. Monitoring will entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected if necessary.

The Paleontological Monitor will periodically assess monitoring results in consultation with the Principal Paleontologist. If no (or few) significant fossils have been exposed, the Principal Paleontologist may determine that full-time monitoring is no longer necessary, and periodic spot checks or no further monitoring may be recommended. The City shall review and approve all such recommendations prior to their adoption and implementation.

MM CR-4. Inadvertent Discovery of Fossils. If fossils are discovered during excavation, the Paleontological Monitor will make a preliminary taxonomic identification using comparative manuals. The Principal Paleontologist or his/her designated representative will then inspect the discovery, determine whether further action is required, and recommend measures for further evaluation, fossil collection, or protection of the resource in place, as appropriate. Any subsequent work will be completed as quickly as possible to avoid damage to the fossils and delays in construction schedules. If the fossils are determined to be significant under CEQA, but can be avoided such that no further impacts will occur, the fossils and locality will be documented in the appropriate paleontological resource records and no further effort will be required. At a minimum, the paleontological staff will assign a unique field number to each specimen identified; photograph the specimen and its geographic and stratigraphic context along with a scale near the specimen and its field number clearly visible in close-ups; record the location using a global positioning system (GPS) with accuracy greater than 1 foot horizontally and vertically (if such equipment is not available at the site, use horizontal measurements and bearing(s) to nearby permanent features or accurately surveyed benchmarks, and vertical measurements by sighting level to point(s) of known elevation); record the field number and associated specimen data (identification by taxon and element, etc.) and corresponding geologic and geographic site data (location, elevation, etc.) in the field notes and in a daily monitoring report; stabilize and prepare all fossils for identification, and identify to lowest taxonomic level possible by paleontologists, qualified and experienced in the identification of that group of fossils; record on the outside of the container or bag the specimen number and taxonomic identification, if known. Breathable fabric bags will be used in packaging to avoid black mold.

Upon completion of fieldwork, all significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful

removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to an accredited museum repository for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of the Project proponent.

At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the Project. The report will include a summary of the field and laboratory methods, an overview of the Project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to the designated museum repository.

Residual Impact

Implementation of MM CR-3 and MM CR-4 would avoid potentially significant impacts resulting from damages to previously unknown or undiscovered paleontological resources or unique geologic features during construction activities. After mitigation, impacts would be less than significant.

Impacts to Archaeological Resources

Impact CR-4: Construction activities anticipated to occur under the Project could potentially uncover significant prehistoric or historic archaeological deposits during earthwork activities. If improperly handled, such resources could be adversely impacted. With mitigation, impacts would be reduced to less than significant.

Many archaeological resources have been identified throughout the City, especially Native American habitation sites and known burial sites (Garcia and Associates 2010). Furthermore, the Project area is within the southern region of San Francisco Bay where human habitation dates back 20,000 years. The area was a favorable environment for Native American settlements and as previous discoveries have presented, there is potential for prehistoric archaeological deposits in the City. While the Project will not directly affect known archaeological resources, implementation of the Project would allow for new land uses, development, and redevelopment. The likelihood of encountering intact undiscovered archaeological resources within the Project area is considered low due to the heavily developed nature of the area; however, there is a possibility that buried archaeological resources may be located during construction activities. Construction activities have the potential to directly (i.e., grading) or indirectly (i.e., adverse effects to historical setting from adjacent construction) impact undiscovered archaeological resources.

Due to the nature of the resources and the logistical constraints of conducting test excavations in an urban built environment, comprehensive archaeological testing at this property is impractical. In addition, depending on the geographical extent of a project, phasing of construction, and the level of historical detail about the Project area, there may be substantial limits to the ability to

predict the location of potentially significant deposits, which in turn limits the effectiveness of standard archaeological testing techniques alone to identify subsurface cultural resources.

Land use changes anticipated to occur under the Project, including construction of new buildings, streetscape enhancements, and circulation/mobility improvements (such as new roadways), would involve grading and excavation in areas that could potentially uncover significant subsurface archaeological remains, including artifact-rich waste dumps, trash pits, sheet refuse, privies, and wells, as well as undocumented structural remains. If improperly handled, buried archaeological deposits could be damaged. The protection of such resources would be assured through implementation of mitigation measures MM CR-5 and MM CR-6. This impact would be less than significant with mitigation.

Mitigation Measures

MM CR-5: Archaeological Data Recovery: For projects that inadvertently discover buried prehistoric or historic-period archaeological resources, the City shall apply a program that combines resource identification, significance evaluation, and mitigation efforts into a single effort. This approach would combine the discovery of deposits (Phase 1), determination of significance and assessment of the project's impacts on those resources (Phase 2), and implementation of any necessary mitigation (Phase 3) into a single consolidated investigation. This approach must be driven by a Treatment Plan that sets forth explicit criteria for evaluating the significance of resources discovered during construction and identifies appropriate data recovery methods and procedures to mitigate project effects on significant resources. The Treatment Plan shall be prepared prior to issuance of building permits by a Registered Professional Archaeologist (RPA) who is familiar with urban historical resources, and at a minimum shall include:

- A review of historic maps, photographs, and other pertinent documents to predict the locations of former buildings, structures, and other historical features and sensitive locations within and adjacent to the specific development area;
- A context for evaluating resources that may be encountered during construction;
- A research design outlining important prehistoric and historic-period themes and research questions relevant to the known or anticipated sites in the study area;
- Specific and well-defined criteria for evaluating the significance of discovered remains; and
- Data requirements and the appropriate field and laboratory methods and procedures to be used to treat the effects of the project on significant resources.

The Treatment Plan shall also provide for a final technical report on all cultural resource studies and for curation of artifacts and other recovered remains at a qualified curation facility, to be funded by the developer. To ensure compliance with City and state preservation laws, this plan shall be reviewed and approved by the Historic Landmarks Commission and the City of Sunnyvale Planning Division prior to issuance of building permits (Sunnyvale Planning Commission 2012).

MM CR-6: Inadvertent Discoveries: In the event of any inadvertently discovered prehistoric or historic-period archaeological resources during construction, the developer shall immediately cease all work within 50 feet of the discovery. The proponent shall immediately notify the City of Sunnyvale Planning and Community Development Department and shall retain a Registered Professional Archaeologist (RPA) to evaluate the significance of the discovery prior to resuming any activities that could impact the site. If the archaeologist determines that the find may qualify for listing in the California Register of Historic Resources (CRHR), the site shall be avoided or a data recovery plan shall be developed pursuant to MM CR-5. Any required testing or data recovery shall be directed by an RPA prior to construction being resumed in the affected area. Work shall not resume until authorization is received from the City.

Residual Impact

MM CR- 5 and MM CR-6 would ensure that appropriate precaution and protection measures are taken to avoid potentially significant impacts to unknown or undiscovered archaeological resources during construction activities. After mitigation, impacts would be less than significant.

Impact CR-5: Construction activities anticipated to occur under the Project may potentially uncover Native American human remains. In the unlikely event of this occurrence, construction activities would immediately cease in the vicinity of the discovery and remains would be handled in accordance with existing State regulations. Therefore, impacts would be less than significant.

Many archaeological resources have been identified throughout Sunnyvale, especially Native American habitation sites and known burial sites (Garcia and Associates 2010). Since human remains are frequently uncovered in Native American residential sites, the possibility exists that such remains could be uncovered during development of the Project. Construction activities have the potential to directly (i.e., grading) or indirectly (i.e., adverse effects to historical setting from adjacent construction) impact undiscovered human remains.

California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Pub. Res. Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the proposed project area, disturbance of the site shall be halted. An RPA shall inspect the remains and confirm that they are human, and if so shall immediately notify the City's Planning Division and contact the County coroner in accordance with Pub. Res. Code Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC). As provided in Pub. Res. Code Section 5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Pub. Res. Code Section 5097.98.

Assuming compliance with existing regulations prescribed in California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Pub. Res. Code Section 5097.98, impacts to human remains would be less than significant.

Cumulative Impacts

The cumulative setting associated with the Project includes areas surrounding the Project area. In general, cultural or historic impacts anticipated and described in CEQA Appendix G are site specific and not cumulative in nature. However, implementation of the Project may encourage growth within the surrounding area, which would contribute towards potential conflicts with known archaeological and historic resources. These resources include known Native American habitation or burial sites and artifacts, and City designated landmarks, heritage resources and heritage trees. Furthermore, construction activities associated with regional development have the potential to disturb uncovered paleontological and archaeological resources. However, individual future developments would be subject to environmental review and adhere to state and local policies pertaining to cultural resources.

3.4 GREENHOUSE GAS EMISSIONS

This section analyzes the Project's impacts related to greenhouse gas (GHG) emissions. The section estimates the GHG emissions that would result from construction and operation of the Project, including generation of vehicle trips. Project-related GHG emissions are estimated using the California Emission Estimator Model (CalEEMod) in order to assess conformance with defined thresholds. Data for this section were taken from the adopted City of Sunnyvale (City) Land Use and Transportation Element (LUTE), which is currently undergoing update revisions; the Sunnyvale Climate Action Plan (CAP), approved in 2014; and the traffic data prepared by Hexagon Transportation Consultants, Inc. (see Appendix H).

3.4.1 Environmental Setting

Overview of Climate Change

Climate change refers to major changes in temperature, precipitation, or wind patterns, among others, that occur over several decades or longer. These changes are caused by a number of natural and anthropogenic (i.e., human-related) factors. Natural factors include oceanic processes, variations in solar radiation received by Earth, plate tectonics and volcanic eruptions. The primary anthropogenic driver of climate change is the release of GHGs into the atmosphere. Emissions from anthropogenic activities, such as electricity production and internal combustion engine vehicle use, have elevated the concentration of these gases in the atmosphere.

The Earth's atmosphere consists of a variety of gases that regulate the Earth's temperature by trapping solar energy and maintaining existing average global temperatures; these gases are cumulatively referred to as GHGs. Human activities, such as producing electricity and driving internal combustion vehicles, have contributed to elevated concentrations of these gases in the atmosphere. Since the industrial revolution, human production and release of GHGs has added enough GHGs to the atmosphere to result in an increase in average global temperatures. This change in the global climate has resulted in a number of physical and environmental effects, such as changes in rainfall patterns, smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

Potential Effects of Global Climate Change

Climate change has resulted in a number of potential adverse effects including sea level rise, flooding, increased weather variability, intensified storm events, reduced reliability of water supplies, reduced quality of water supplies, and increased stress on ecosystems that would reduce biodiversity. Additionally, climate change may have impacts to human health due to heat waves and extreme weather events, reduced air quality, and increased climate-sensitive diseases, including food-, water-, and animal-borne diseases.

Adverse effects from climate change would be distributed all across the globe. Sensitive communities, such as low-lying nations that are more susceptible to impacts from sea level rise, may be more heavily impacted than communities in other regions. In other words, the effects of climate change would have global consequences, which may manifest in different ways at the local scale.

GHGs

GHGs consist of a variety of gases that have the potential to trap heat, mainly water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and chlorofluorocarbons (CFCs). Water vapor and O_3 and their relationship to climate change are not clearly understood and defined, so these GHGs are not currently regulated. Therefore, methodologies and regulations approved by the Intergovernmental Panel on Climate Change (IPCC), US Environmental Protection Agency (USEPA), and the California Air Resources Board (ARB) focus on CO_2, CH_4, N_2O, and CFCs. CFCs have been banned and have no natural source, so these GHGs are not included in this analysis. The following provides a brief description of each of the remaining GHGs and their sources:

CO_2 The natural production and absorption of CO_2 occurs through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. Globally, the largest source of CO_2 emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. CO_2 is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. When in balance, total CO_2 emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s, human activities have increased CO_2 concentrations in the atmosphere by 31 percent as of 2013 (IPCC 2013a).

CH_4 CH_4 is emitted from a variety of both human-related (anthropogenic) and natural sources. Anthropogenic sources include the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 50 to 65 percent of global CH_4 emissions are related to human activities. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires (IPCC 2013b).

N_2O Concentrations of N_2O also began to rise at the beginning of the Industrial Revolution, reaching 324.2 parts per billion (ppb) by 2011. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce N_2O. In addition to agricultural sources, some industrial processes (e.g., fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N_2O (IPCC 2013a).

Because the impact each GHG has on climate change varies, the common metric of Carbon Dioxide Equivalents (CO_2e) is used to report a combined impact from all of the GHGs. This metric scales the global warming potential of each GHG to that of CO_2. GHG emissions are typically

expressed in metric tons ($MTCO_2e$), million metric tons ($TgCO_2e$), or billion metric tons ($GtCO_2e$) (IPCC 2014; USEPA 2013a).

Existing GHG Emissions from Human Activity

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations). In 2011, atmospheric CO_2 concentrations were found to have increased by more than 31 percent above the pre-industrial concentrations present prior to 1750 (IPCC 2013a).

Global GHG Emissions

As of 2014, global GHG emissions were estimated at 49 $GtCO_2e$ per year, with CO_2 making up 76 percent of the total anthropogenic GHG emissions. This is an overall increase in GHG emissions of 71 percent from the 28.7 $GtCO_2e$ of emissions in 1970 (IPCC 2014). Annual anthropogenic GHG emissions have increased by 10 $GtCO_2e$ between 2000 and 2010, with this increase directly coming from energy supply (47 percent), industry (30 percent), transport (11 percent), and buildings (3 percent) sectors. About half of cumulative anthropogenic CO_2 emissions between 1750 and 2010 have occurred in the last 40 years. In 1970, cumulative CO_2 emissions from fossil fuel combustion, cement production, and flaring since 1750 were 420 $GtCO_2e$, since 1970 to 2010, that cumulative total tripled to 1300 $GtCO_2e$ (IPCC 2014).

US GHG Emissions

In 2012, the US emitted 6,525 $TgCO_2e$. Total US emissions have increased by 4.7 percent from 1990 to 2012, and decreased by 3.4 percent from 2011 to 2012. Fossil fuel combustion accounted for 94.2 percent of CO_2 emissions and 78.0 percent of total US GHG emissions in 2012. Of the five major sectors generating emissions through direct fossil fuel combustion—electricity generation, transportation, industrial, residential, and commercial—electricity generation accounts for approximately 40 percent and transportation accounts for 34.4 percent of these emissions. Approximately 82 percent of the energy consumed in the US was produced through combustion of fossil fuels, while the remaining 18 percent came from other energy sources such as hydropower, biomass, nuclear, wind, and solar energy. In 2012, total GHG emissions by sector were 32 percent for the electric power industry, 28 percent for transportation, 20 percent for industry, 9 percent for agriculture, 5 percent for commercial, and 5 percent for residential[1] (USEPA 2013).

State of California GHG Emissions

In 2012, California generated approximately 459 $GtCO_2e$), or about 6.8 percent of total US emissions, second only to Texas. This is due primarily to the large population and geographic size of California compared to other states. By contrast, California has the fifth lowest per-capita GHG emission rates in the country, due to its mild climate and the success of its energy-efficiency

[1] The remaining 1 percent of emissions was generated by US Territories.

and renewable energy programs. State commitments to these strategies and programs have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise. Reductions in 2008 and 2009 have also been attributed to the economic recession and higher fuel prices, with marked declines in on-road transportation, cement production, and electricity consumption (California ARB 2014).

Transportation is the source of approximately 37 percent of the state's GHG emissions, followed by industrial sources at 22 percent, and electricity generation (both in-state and out-of-state) at 21 percent. Agricultural sources account for 8.3 percent, while residential and commercial sources account for 6.9 and 4.9 percent, respectively. The remaining 0.04 percent is attributed to unspecified sources (California ARB 2014).

City of Sunnyvale Emissions

The most recent available GHG emissions inventory for the City was conducted in 2008 as a baseline for the Sunnyvale CAP (City of Sunnyvale 2014). Sources included for the inventory were electricity, natural gas, gasoline, and diesel consumption, wastewater treatment, as well as solid waste generation within the City. These categories by sector incorporate residential, commercial/industrial, transportation, community waste, landfill gas, water, off-road, and Caltrain sectors (City of Sunnyvale 2014). Total emissions in 2008 were estimated at approximately 1,270,170 $MTCO_2e$, approximately 15 percent above the City's goal of 1,079,645 $MTCO_2e$ by 2020 (City of Sunnyvale 2014). The commercial/industrial energy sector is the largest contributor at 39 percent, producing approximately 502,210 $MTCO_2e$ in 2008 (City of Sunnyvale 2014). Emissions from the transportation sector were the next largest contributor, accounting for 35 percent of the total emissions, or approximately 442,610 $MTCO_2e$. The residential sector accounted for 16 percent of the total emissions (198,140 $MTCO_2e$), and emissions from the community's solid waste comprised 6 percent of the total (76,970 $MTCO_2e$). As a single source group, landfill gas emitted from the City's closed landfill, off-road equipment, water consumption, and Caltrain trips to and from the City accounted for approximately 4 percent of total community-wide emissions (50,240 $MTCO_2e$) (City of Sunnyvale 2014).

3.4.2 Regulatory Setting

Global climate change is addressed through the efforts of various federal, state, regional, and local government agencies, as well as national and international scientific and governmental conventions and programs. These agencies work collaboratively and individually to understand and regulate the effects of GHG emissions and resulting climate change through legislation, regulations, planning, policymaking, education, and a variety of programs. The significant agencies, conventions, and programs focused on global climate change are discussed below.

International/Federal Regulations

International Protocols

The US participated in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol was the first treaty made under the UNFCCC on December 1, 1997 and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol were met, global GHG emissions could have been reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008-2012. The US has not ratified the Protocol and is not bound by the Protocol's commitments. The Kyoto Protocol expired at the end of 2012, and efforts are currently underway to negotiate a new agreement with broader international support. The 2015 United Nations Climate Change Conference was held in Paris, from November 30 to December 11, 2015. It was the 21st yearly session of the Conference of the Parties (COP 21) to the 1992 UNFCCC and the 11th session of the Meeting of the Parties to the 1997 Kyoto Protocol. The conference objective was to achieve a legally binding and universal agreement on climate, from all the nations of the world; 195 nations supported the agreement to take steps to limit global temperature increase to 2 degrees Celsius, while aiming to keep the increase under 1.5 degrees Celsius.

US Environmental Protection Agency (USEPA)

The USEPA is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce US GHG emissions. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

On May 13, 2010, the USEPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 $MTCO_2e$ per year for GHG emissions from major industrial facilities. The USEPA has not yet established a threshold for other sectors.

Federal Heavy-Duty National Program

In August 2011, the USEPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced the first-ever program to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses. The USEPA and the NHTSA have each adopted complementary standards under their respective authorities covering model years 2014-2018, which together form a comprehensive Heavy-Duty National Program. The goal of the joint rulemaking is to present coordinated federal standards that help manufacturers build single vehicle fleets and engines that are able to comply with both. The Heavy-Duty National Program is projected to reduce fuel use and GHG emissions from all types and sizes of work trucks and buses. Vehicles covered by this program comprise the transportation segment's second largest contributor to oil consumption and GHG emissions.

State Policies and Regulations

California Air Resources Board

The California ARB, a part of the California EPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the California ARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The California ARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts. The California ARB has also recently adopted a statewide GHG emissions limit for 2020 (427 $MTCO_2e$), an emissions inventory, and requirements to measure, track, and report GHG emissions by major industries (Governor's Office of Planning and Research [OPR] 2008).

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels

Renewable Portfolio Standard

Established in 2002 under Senate Bill (SB) 1078, accelerated in 2006 under SB 107 and expanded in 2011 under SB 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Assembly Bill 1493

Assembly Bill (AB) 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the California ARB to develop and adopt the nation's first GHG emissions standards, also known as Pavley 1, for automobiles. In 2004, the State of California submitted a request for a waiver from federal clean air regulations, as it is authorized to do under the Clean Air Act, to allow the state to require reduced tailpipe emissions of CO_2. In late 2007, the USEPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the state brought suit against the USEPA related to this denial. In January 2009, President Obama instructed the USEPA to reconsider the Bush Administration's denial of California's and 13 other states' requests to implement global warming pollution standards for cars and trucks. In June 2009, the USEPA granted California's waiver request, enabling the state to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

The California Global Warming Solutions Act of 2006 (AB 32) recognizes that California is a major contributor to US GHG emissions. AB 32 acknowledges that such emissions cause significant adverse impacts to human health and the environment, and therefore must be identified and mitigated where appropriate. AB 32 also establishes a state goal of reducing GHG emissions to 1990 levels by 2020 – a reduction of approximately 30 percent from projected state emission levels and 15 percent from current state levels, with even more substantial reductions required in the future (OPR 2008).[2]

The California ARB has adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit set by AB 32. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health.

Senate Bill 375

The adoption of SB 375 (Steinberg, Chapter 728, Statutes of 2008) on September 30, 2008 created a process whereby local governments and other stakeholders must work together within their region to achieve the reductions specified in AB 32 through integrated development patterns, improved transportation planning, and other transportation measures and policies.

On September 23, 2010, the California ARB adopted the vehicular GHG emissions reduction targets that require a 7- to 8-percent reduction by 2020 and a 13- to 16-percent reduction by 2035 relative to emissions in 2005 for each Metropolitan Planning Organization (MPO). The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) MPOs would implement Sustainable Communities Strategies (SCS) which would consist of a 25-year integrated regional land use and transportation plan for the Bay Area that must meet two statutory targets: climate protection and adequate housing.

Senate Bill 97

SB 97, adopted in 2007, amends CEQA to establish that GHG emissions and their effects are appropriate subjects for CEQA analysis, and directs the OPR to develop draft CEQA Guidelines for evaluating and mitigating GHG emissions and global climate change effects. In March 2010, the California Office of Administrative Law codified into law CEQA amendments that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. The California Resources Agency adopted the Guidelines in January 2009 (OPR 2008).

---

[2] California ARB has determined the statewide levels of GHG emissions in 1990 to be 427 $GtCO_2e$

Executive Order S-13-08

Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. The first result is the 2009 California Adaptation Strategy (CAS) report which summarizes the best known science on climate change impacts in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

California Code of Regulations (CCR) Title 24

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2008 standards are the most recent version which went into effect on January 1, 2010.

CCR Title 24, Part 11: California's Green Building Standard Code (CALGreen) establishes mandatory green building code requirements as well as voluntary measures (Tier 1 and Tier 2) for new buildings in California. The mandatory provisions in CALGreen will reduce the use of volatile organic compound (VOC)-emitting materials, strengthen water efficiency conservation, increase construction waste recycling, and increase energy efficiency. Tier 1 and Tier 2 are intended to further encourage building practices that minimize the building's impact on the environment and promote a more sustainable design.

Regional Policies and Regulations

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines were developed to assist lead agencies in evaluating air quality impacts for projects and plans in the San Francisco Bay Area Air Basin (SFBAAB). The guidelines were updated in 2010 to include guidance on assessing GHG and climate change impacts as required under CEQA Section 15183.5(b) and to establish thresholds of significance for impacts related to GHG emissions. These thresholds can be used to assess plan-level and project-level impacts and allow a lead agency to determine that a project's impact on GHG emissions is less than significant if it is in compliance with a Qualified Greenhouse Gas Reduction Strategy. The standard elements of a GHG reduction strategy include the following steps:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic range.
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.

- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specify measures or a group of measures, including performance standards, which substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Monitor the plan's progress.
- Adopt the GHG reduction strategy in a public process following environmental review.

Local Policies and Regulations

City of Sunnyvale General Plan

The City's General Plan is structured as an overall Community Vision with five supporting subsections focused on topics such as Community Character, Safety and Noise, and Environmental Management. The sections contain policies and programs to be used by the planning staff and decision makers to guide physical development in the direction of the City Vision. The *Housing Element* of the General Plan contains applicable goals and policies regarding building energy efficiency in order to reduce GHG emissions. The applicable goal and policy are identified below (City of Sunnyvale 2011).

> **Goal HE-6: Sustainable Neighborhoods.** Maintain sustainable neighborhoods with quality housing, infrastructure and open space that fosters neighborhood character and the health of residents.
>
> > **Policy HE-6.6:** Encourage use of sustainable and green building design in new and existing housing.

City of Sunnyvale Land Use and Transportation Element

The LUTE focuses on land use, transportation, and related items within the City. It is intended to achieve a sustainable and integrated system of land use and transportation in the City within the larger context of the greater metropolitan Bay Area. Its goals and policies provide the structure and tools to achieve many of the goals of the CAP by translating them into land use policy and direction. The LUTE includes a variety of strategies to reduce GHG emissions, energy use, water use, and solid waste generation. The following are selected policies related to GHG emissions as detailed in the LUTE.

> **Policy 12:** Reduce greenhouse gas emissions that effect climate and the environment through land use and transportation planning and development.
>
> **Policy 13:** Actively maintain and implement a greenhouse gas emissions reduction plan such as a Climate Action Plan that outlines impacts, policies and reduction measures related to public and private land use and transportation.

City of Sunnyvale Climate Action Plan

The City adopted its CAP in May 2014 to provide guidance on creating a sustainable, healthy, and livable Sunnyvale. The CAP is an overarching document focusing on other sectors of sustainable development in addition to transportation and land use. The CAP outlines transportation, land use, energy, and waste reduction measures to achieve the City's GHG reduction target and proposes a timeline for implementation. It includes a baseline GHG inventory, GHG inventory projections, and GHG reduction recommendations to help the City achieve the AB 32 goal of a 15 percent reduction in emissions below baseline year 2008 emissions by 2020 (City of Sunnyvale 2014).

3.4.3 Project Impacts and Mitigation Measures

Significance Criteria

The 2015 CEQA Guidelines do not establish a quantitative threshold of significance for GHG impacts; instead, lead agencies have the discretion to establish such thresholds for their respective jurisdictions. GHG analysis is typically based on the cumulative impact of emissions. The following thresholds of significance are based on Appendix G of the 2015 CEQA Guidelines. For purposes of this EIR, impacts related to GHG emissions from the Project would be significant if the Project elements would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

A lead agency may look to thresholds developed by other public agencies or other expert entities, such as the California Air Pollution Control Officers Association (CAPCOA), so long as the threshold chosen is supported by substantial evidence.

The BAAQMD updated their guidelines in 2010 to include guidance on assessing GHG and climate change impacts as required under CEQA Section 15183.5(b) and to establish thresholds of significance for impacts related to GHG emissions. These Project-Level and Plan-Level thresholds include:

Project-Level Thresholds: The BAAQMD applies these thresholds to development projects. The Near-Term 7 Projects and Near-Term Irvine Project are evaluated using these thresholds.

Operation

Non-stationary source operational GHG emissions:

- Compliance with a Qualified Greenhouse Gas Reduction Strategy;
- 1,100 $MTCO_2e$ per year
- 4.59 $MTCO_2e$ per service population (sp) (employees) per year

Stationary source operational GHG emissions:

- 10,000 $MTCO_2e$ per year

Plan-Level Thresholds: As a Specific Plan, the Project would be subject to the following thresholds.

Construction

There are no BAAQMD thresholds of significance for construction emissions for Plan-Level projects. The BAAQMD has not established a quantitative threshold relative to construction-related emissions. Lead agencies are instructed to quantify, disclose, and determine significance of all construction generated GHG emissions (BAAQMD 2012). They are encouraged to incorporate Best Management Practices to reduce GHG emissions during construction, as applicable. Best Management Practices may include, but are not limited to: using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials. Based on these instructions, emissions are considered significant unless Best Management Practices are implemented to reduce GHG emissions during construction, as feasible (BAAQMD 2012).

Operation

- Compliance with a Qualified Greenhouse Gas Reduction Strategy
- 4.59 $MTCO_2e$ per service population (sp) (employees) per year

Non-stationary source projects include most types of residential, commercial, and other development; this threshold is the most relevant to the Project. BAAQMD has not yet proposed a threshold for construction GHG emissions, but state guidance is typically to amortize construction emissions over the project's lifetime, adding construction emissions to future operational emissions.

The thresholds BAAQMD adopted were called into question January 9, 2012, in *California Building Industry Associated v. BAAQMD*, Alameda Superior Court Case No RG10548693. The case was based on the claim that adopting the thresholds would create impacts to land use and development patterns requiring analysis under CEQA. The claim argued that creation and adoption of GHG thresholds was, by itself, a project under CEQA. The Alameda County Superior Court issued a judgment on March 5, 2012, finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds, and issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD had complied with CEQA.

The court did not determine whether the thresholds are or are not based on substantial evidence and thus valid standards of measurement for GHG generation. The case was based entirely on whether or not creation and adoption of the thresholds qualified as a project under CEQA, and

whether or not there could potentially be impacts to land use and development patterns because of the adoption of the thresholds. Those issues are not relevant to the scientific soundness of the BAAQMD's analysis of what levels of pollutants should be deemed significant, or the threshold to use in assessing any air quality-related impact the project would have on the existing environment. Therefore, as the lead agency, the City elected to rely on the thresholds within the *Options and Justification Report* (dated October 2009) prepared by the BAAQMD. These thresholds are based on substantial evidence identified in Appendix D of the Guidelines and represent the best available science on the subject of what constitutes significant GHG effects in the SFBAAB for this project. Therefore, GHG generation for this Project would be considered significant if it were to generate 1,100 $MTCO_2e$ per year for operational GHG emissions.

Methodology

GHG emissions associated with the construction and operation of the Project were estimated using the CalEEMod software. Trip generation was derived from the Project-specific traffic study (Appendix H). The methodology and assumptions used in this analysis are detailed below for construction and operation activities. Refer to Appendix E for model output and detailed calculations.

Construction

Construction equipment generates GHGs such as CO_2, CH_4, and N_2O through the combustion of fossil fuels. CH_4may also be emitted during the fueling of heavy equipment. The raw materials used to construct the new building and the waste material from demolished buildings can sequester and release carbon, respectively. However, since the exact nature of the origin or make-up of the construction materials is unknown, only operation of construction vehicles and equipment is considered in the analysis of construction GHG emissions.

Operation

The following activities are typically associated with the operation of office and high-tech industrial land uses that would contribute to the generation of GHG emissions:

Vehicular trips. Vehicle trips generated by the mixed-use office and high-tech industrial uses would result in GHG emissions through combustion of fossil fuels. CO_2emissions were determined based on the trip rates provided in the traffic analysis and average length of trips in the City. Estimated emissions from the combustion of natural gas and other fuels is based on the number and square footage of the office and high-tech industrial spaces. CH_4 and N_2O emissions were estimated using the total vehicle miles traveled as determined by CalEEMod and USEPA emissions factors for on-road vehicles. The trip generation rates calculated in the Project-specific traffic study (Appendix H) were used to reflect the effectiveness of the Transportation Demand Management (TDM) and trip reduction strategies envisioned in the LUTE. Since the trip rates assume a robust TDM program, the applicants of development projects would be required to prepare and implement a TDM plan that achieves the targeted levels of trip reductions consistent with the Project.

On-site use of natural gas and other fuels. Natural gas would be used by the proposed mixed-use development to heat the office and high-tech industrial spaces. This would result in a direct release of GHGs.

Electricity use. Electricity is generated by a combination of methods, which include combustion of fossil fuels. Use of electricity for operation of a project would contribute to the indirect emissions associated with electricity production. Estimated emissions from the consumption of electricity are based on the number and square footage of the office and high-tech industrial spaces, along with standard electrical consumption rates from the CalEEMod software model.

Water use and Wastewater generation. The amount of water used and wastewater generated by a project has indirect GHG emissions as a result of the energy used to supply, distribute and treat water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both $CH_4$and N_2O depending on the treatment method.

Solid waste. Emissions calculated for solid waste reflect the indirect GHG emissions associated with waste that is disposed of at a landfill. Disposal rates from the California Department of Resources Recycling and Recovery (CalRecycle) are used to estimate amount of disposal for individual land uses. GHG emissions associated with the decomposition of waste are quantified based on amount of degradable organic carbon. CO_2 emissions are also quantified based on associated CH_4, if applicable.

Impact GHG-1: The Project would generate GHG emissions from both mobile and operational sources, as well as short-term GHG emissions from construction, but emissions would exceed the 1,100 tons CO2e/year threshold. Therefore, this would be a significant impact.

GHG emissions associated with the Project were estimated for construction, operation, and related transportation. Table 3.4-1 and Table 3.4-2 describe total annual emissions for construction and operation of the Project that were modeled (Appendix E).

Table 3.4-1. GHG Emissions from Construction of the Peery Park Specific Plan Project

Construction Phase	GHGs (MTCO2e) Peery Park Specific Plan
Demolition	477.66
Site Preparation	672.55
Grading	507.09
Building Construction	31,710.1
Paving	157.02
Architectural Coating	71.69
Total	33,596.11
Amortized over 30-years	1,119.87/year

Table 3.4-2. Combined Annual GHG Emissions for the Peery Park Specific Plan Project

Category	GHGs (MTCO2e) Peery Park Specific Plan
Operation	11,504.88
Transportation	18,539.15
Construction (amortized)	1,119.87
Total	31,116.90

Construction activities for the Project would result in temporary GHG emissions. Construction-related GHG emissions were further divided into the main phases of activity and amortized over an anticipated 30-year period to provide an average annual estimate.

Operations-related emissions associated with the Project would arise from motor vehicles, natural gas consumption, as well as solid waste handling and electricity generation.

The maximum annual GHG emissions for the construction and operation of the Project are estimated to be 31,116 $MTCO_2e$, well above the 1,100 $MTCO_2e$ threshold. Therefore, this impact would be significant.

Near-Term Project Analysis

As a part of the proposed long-term implementation of the Project, in the near-term term, eight development projects are anticipated to occur (refer to Chapter 2, *Project Description*). Consequently, in addition to the GHG analysis prepared for the Project, Hexagon (2015) prepared two additional analyses for the 1) “7 Projects”; and 2) “Irvine Company Project” (see Appendix H), which analyze the individual near-term impacts of these projects. The long-term transportation-related impacts associated with the Project, as well as the near-term impacts associated with the eight development projects expected to occur as a part of the Project are described in Section 3.10. *Transportation, Circulation, and Traffic*.

This section analyzes the GHG emissions estimated for construction, operation, and related transportation for the eight development projects. Total annual emissions for construction and operation of the near-term projects would be modeled using CalEEMod.

Near-Term 7 Projects Location and Detail Summary

The locations and details of each of the Near-Term 7 projects are summarized in Table 3.4-3.

Table 3.4-3. Near-Term 7 Projects Location and Detail Summary

Location	Existing Square Feet (sf) /Units	Existing Land Use	Proposed Square Feet (sf) /Units	Proposed Land Use
696 N. Mathilda Avenue	1,650 sf 9,800 sf	Vacant Building	4,387 sf	Restaurant with drive-thru
615 N. Mathilda Avenue	109,305 sf	Light Industrial, Restaurant with drive-thru and Research and Development	264,530 sf	Office Research and Development
221 N. Mathilda Avenue	1,300 sf / (1 unit)	Nursery	127,000 sf	Office
520 Almanor Avenue	80,000 sf	Industrial	207,200 sf 4,000 sf	Office Retail
845 W. Maude Avenue	19,998 sf	Industrial	39,233 sf	Office
Simeon Project	164,870 sf 33,948 sf	Industrial Industrial	451,717 sf 200,376 sf	Office/Industrial Office/Industrial
728 San Aleso	54,668 sf	Office/Industrial	116 units	Residential

Short-Term Impacts

Construction

Short-term increases in GHG emissions would primarily result from fuel combustion in construction equipment, construction worker commute trips, and hauling/delivery truck trips. Construction-related GHG emissions result from CO_2, CH_4, and N_2O that is released during the combustion of gasoline or diesel fuel in on- and off-road vehicles and equipment. Table 3.4-4 presents a summary of construction-related GHG emissions from the Near-Term Projects.

Table 3.4-4. Near-Term 7 Projects Construction GHG Emissions

Construction Phase	GHGs ($MTCO_2e$) Near-Term Projects
Demolition	57.81
Site Preparation	38.59
Grading	135.48
Building Construction	10,944.30
Paving	36.27
Architectural Coating	16.07
Total	11,228.52
Amortized over 30-years	374.28/year

Construction activities for the Near-Term 7 projects would result in temporary GHG emissions. Construction-related GHG emissions were further divided into the main phases of activity and amortized over an anticipated 30-year period which resulted in an average annual estimate of 374 $MTCO_2e$.

Long-Term Impacts

Operational

Operational increases in GHG emissions would primarily result from motor vehicles, natural gas consumption, as well as solid waste handling and electricity generation. Table 3.4-5 presents a summary of operation-related GHG emissions from the Near-Term 7 projects.

Table 3.4-5. Near-Term 7 Projects Operational GHG Emissions

Category	GHGs ($MTCO_2e$) Near-Term Projects
Mobile Sources	10,275.90
Area Sources	1.46
Energy Sources	3,955.26
Solid Waste Sources	492.42
Water Sources	1,026.41
Operational Subtotal	15,751.45

As shown in above Table 3.4-5, operational emissions associated with the Near-Term 7 projects are estimated to be 15,751 $MTCO_2e$, well above the 1,100 $MTCO_2e$ threshold.

Near-Term 7 Projects Combined Annual GHG Emissions

The maximum annual GHG emissions for the construction and operation of the Near-Term 7 projects are estimated to be 16,939 $MTCO_2e$, well above the 1,100 $MTCO_2e$ threshold. Therefore, the Projects' total contribution of GHG emissions would result in a significant and unavoidable impact on the environment. Table 3.4-6 presents a summary of both construction- and operation-related GHG emissions from the Near-Term 7 Projects.

Table 3.4-6. Near-Term 7 Projects Combined Annual GHG Emissions

Category	GHGs (MT CO_2e) Peery Park Specific Plan
Operation	5,475.55
Transportation	10,275.90
Construction (amortized)	1,188
Total	16,939.45

Residual Near-Term 7 Projects Impacts

Residual GHG emission impacts would be significant for the Near-Term 7 Projects.

Near-Term Irvine Project Location and Detail Summary

The location and details of the Near-Term Irvine project are summarized below in Table 3.4-7.

Table 3.4-7. Near-Term Irvine Project Location and Detail Summary

Location	Existing Square Feet (sf) /Units	Existing Land Use	Proposed Square Feet (sf) /Units	Proposed Land Use
IC Mary East	353,917 sf	Industrial	846,000 sf	Office
IC Mary West	201,554 sf	Industrial	423,000 sf	Office

Short-Term Impacts

Construction

Short-term increases in GHG emissions would primarily result from fuel combustion in construction equipment, construction worker commute trips, and hauling/delivery truck trips. Construction-related GHG emissions result from CO_2, CH_4, and N_2O that is released during the combustion of gasoline or diesel fuel in on- and off-road vehicles and equipment. Table 3.4-8 presents a summary of construction-related GHG emissions from the Near-Term Irvine Company project.

Table 3.4-8. Near-Term Irvine Project Construction GHG Emissions

Construction Phase	GHGs (MT CO_2e) Near-Term Projects
Demolition	57.03
Site Preparation	37.98
Grading	133.26
Building Construction	897.78
Paving	37.88
Architectural Coating	15.30
Total	1,179.23
Amortized over 30-years	39.31/year

Construction activities for the Near-Term Irvine project would result in temporary GHG emissions. Construction-related GHG emissions were further divided into the main phases of activity and amortized over an anticipated 30-year period which resulted in an average annual estimate of 39 $MTCO_2e$.

Long-Term Impacts

Operational

Operational increases in GHG emissions would primarily result from motor vehicles, natural gas consumption, as well as solid waste handling and electricity generation. Table 3.4-9 presents a summary of operation-related GHG emissions from the Near-Term Irvine Project.

Table 3.4-9. Near-Term Irvine Project Operational GHG Emissions

Category	GHGs (MT CO_2e) Near-Term Projects
Mobile Sources	9,430.57
Area Sources	0.02
Energy Sources	4,685.10
Solid Waste Sources	536.88
Water Sources	777.38
Operational Subtotal	15,429.95

Near-Term Irvine Project Combined Annual GHG Emissions

The maximum annual GHG emissions for the construction and operation of the Near-Term Irvine project are estimated to be 15,469 $MTCO_2e$, well above the 1,100 $MTCO_2e$ threshold. Therefore, the projects' total contribution of GHG emissions would result in a significant and unavoidable impact on the environment. Table 3.4-10 presents a summary of both construction- and operation-related GHG emissions from the Near-Term Irvine project.

Table 3.4-10. Near-Term Irvine Project Combined Annual GHG Emissions

Category	GHGs (MT CO_2e) Peery Park Specific Plan
Operation	5,999.38
Transportation	9,430.57
Construction (amortized)	39.31
Total	**15,469.26**

Residual Near-Term Irvine Project Impacts

Residual GHG emission impacts would be significant for the Near-Term Irvine project.

Mitigation Measures

In addition to Mitigation Measures AQ-1 and AQ-2, the following mitigation measure would apply to this impact:

MM GHG-1. The following measures shall be implemented to reduce impacts from vehicle emissions:

- To the greatest extent feasible, ensure new development within the Project area implements City programs to reduce GHG emissions, including requiring preparation of transportation demand management (TDM) plans for new development, which provide incentives to employees to carpool/vanpool, use public transportation, telecommute, walk, bike, as well as other approaches to reduce vehicle trips. Further, priority parking shall be assigned for car- and van-pooling employees, as supported by the City's TDM program requirements.
- Limit idling time for commercial vehicles, including delivery and construction vehicles.

Residual Impacts

Implementation of the above-mentioned mitigation measures would help reduce impacts related to GHG emissions. As no other mitigation measures are available to reduce these emissions to less than significant levels, residual impacts would be significant and unavoidable.

Impact GHG-2: The Project would be potentially inconsistent with Greenhouse Gas Reduction Policy 12. Therefore, impacts would be significant and unavoidable.

Compliance with the City's standards in the LUTE and CAP would ensure that the Project GHG emissions would conform to local, state, and federal requirements (Table 3.4-11). The City has specific policies and regulations for new construction to ensure that the City meets its GHG emission reduction goals, as outlined in LUTE Policy 12. The Project elements are designed to meet City policies and regulations, and include several design measures intended to reduce overall GHG impacts. Additionally, the Project elements are subject to City approvals to ensure that they meet the City's guidelines for transportation and sustainable design.

The required sustainable features and TDM programs would also ensure that the Project elements are consistent with AB 32, SB 375, and recommendations of the State Attorney General, Office of Planning and Research, and Climate Action Team. However, while the Project would be consistent with most applicable plans, policies, and regulations, the Project would be potentially inconsistent with Greenhouse Gas Reduction Policy 12 due to operation-related emissions that would arise from motor vehicles. Therefore, impacts would be significant and unavoidable.

Residual Impacts

Even though the Project is consistent with most applicable plans, policies, and regulations, the Project would be inconsistent with Greenhouse Gas Reduction Policy 12. Therefore, the Project would result in significant and unavoidable GHG emission levels.

Table 3.4-11. Sunnyvale Clean Air Plan and Land Use and Transportation Plan Consistency Summary

Policy	Relationship to Project
Sunnyvale Climate Action Plan (CAP)	
Decrease Energy Consumption (EC)-2 New Construction and Remodels Require green building practices in new residential and commercial development and remodels	*Consistent.* The Project would implement strategies to decrease energy use, water consumption, solid waste, and GHG emissions. Additionally, the Project may encourage the implementation of Green Streets techniques to improve air quality, provide species habitat, minimize urban heat island effect, reduce storm water run-off, and improve the pedestrian environment.
Off-Road Equipment (OR)-2 Construction Equipment Reduce emissions from heavy-duty construction equipment by limiting idling and utilizing cleaner fuels, equipment, and vehicles	*Consistent.* The Project would reduce emissions from heavy-duty construction equipment by limiting idling and utilizing the Best Available Technology, equipment, and vehicles as described in Section 3.2, *Air Quality*.
Sunnyvale Land Use and Transportation Element (LUTE)	
Green Development Policy 11 Enhance the public health and welfare by promoting the environmental and economic health of the city through sustainable practices in design, construction, maintenance, operation and deconstruction of buildings, including measures in the Climate Action Plan	*Consistent.* The Project sets forth key principles for new development to provide significant community benefits to ensure an economically sustainable district that adheres to the City's strong environmental sustainability principles.
Greenhouse Gas Reduction Policy 12 Reduce greenhouse gas emissions that affect climate and the environment through land use and transportation planning and development	*Potentially inconsistent.* The Project is located within an urban environment and will include service and retail commercial uses, recreational uses, and limited residential uses within walking distance of each other reducing the need for automobiles. However, operation-related emissions associated with the Project would arise from motor vehicles and would result in approximately 18,539 MTCO2e, well above the 1,100 MTCO2e threshold.
Greenhouse Gas Reduction Policy 13 Actively maintain and implement a greenhouse gas emissions reduction plan such as a CAP that outlines impacts, policies and reduction measures related to public and private land use and transportation	*Not Applicable.* This policy is directed at city-level planning and development decisions not at specific projects or specific area plans. The Project would be subject to applicable policies and regulations within the Climate Action Plan.
Alternative/Renewable Energy Systems Policy 18 Provide Sunnyvale residents and businesses with opportunities to develop private, renewable energy facilities	*Consistent.* The Project would allow for alternative or renewable energy systems for future development within the Project area.
Effective Integration of Transportation and Land Use Planning Policy 19 Use land use planning, including mixed and higher intensity uses, to support alternatives to the single occupant automobile such as walking and bicycling, and to attract and support high investment transit such as light rail, buses, and commuter rail	*Consistent.* The Project would encourage greater densities that present opportunities for increased ridership on existing transit lines as well as expanded transit service options.

Table 3.4-11. Sunnyvale Clean Air Plan and Land Use and Transportation Plan Consistency Summary (Continued)

Policy	Relationship to Project
Effective Integration of Transportation and Land Use Planning Policy 22 Follow CEQA requirements, Congestion Management Program (CMP) requirements and additional City requirements when analyzing developments' transportation impacts and assessing the need for offsetting transportation system improvements or limiting transportation demand	*Consistent.* The Project was prepared in accordance with the Guidelines for Implementation of CEQA, published by the Resources Agency of the State of California (Title 14, California Code of Regulations 15000 et. seq.), and the City's procedures for implementing CEQA. Additionally, the Project incorporates a TDM plan to manage and decrease the number of vehicular trips. Each development within the Project area would be required to prepare a TDM plan.
Bay Area Air Quality Management District (BAAQMD)	
Energy and Climate Control Measures (ECM)-1 Energy Efficiency Provide 1) education to increase energy efficiency; 2) technical assistance to local governments to adopt and enforce energy – efficient building codes; and 3) incentives for improving energy efficiency at schools	*Not Applicable.* This policy is directed at city-level planning and development decisions not at specific projects or specific area plans.
Energy and Climate Control Measures (ECM)-2 Renewable Energy Promote distributed renewable energy generation (solar, micro wind turbines, cogeneration, etc.) on commercial and residential buildings, and at industrial facilities	*Consistent.* The Project would allow for alternative and/or renewable energy systems for future development within the Project area.
Energy and Climate Control Measures (ECM)-3 Urban Heat Island Mitigation Mitigate the "urban heat island" effect by promoting the implementation of cool roofing, cool paving, and other strategies	*Consistent*. The Project would implement Green Streets techniques to improve air quality, provide species habitat, minimize urban heat island effect, reduce storm water run-off, and improve the pedestrian environment.
Energy and Climate Control Measures (ECM)-4 Tree-Planting Promote planting of low-VOC-emitting shade trees to reduce urban heat island effects, save energy, and absorb CO_2 and other air pollutants	*Consistent.* The Project will plant trees along sidewalks as well as within the parking lanes in curbed islands between every two parking stalls in an effort to reduce urban heat island effects, save energy, and absorb CO_2 and other air pollutants.

Cumulative Impacts

Analysis of GHG emissions is cumulative in nature because impacts are caused by cumulative global emissions; additionally, climate change impacts related to GHG emissions do not necessarily occur in the same area as the Project is located. Therefore, the preceding analysis is inherently related to cumulative impacts, and in this analysis the Project was found to have a significant impact on the environment related to GHG emissions, resulting in a significant and unavoidable impact.

3.5 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing setting of Peery Park (Project area) as it relates to hazards and hazardous materials, and analyzes the potential impacts that could result from implementation of the Peery Park Specific Plan (Project). The primary issues pertaining to hazards include aircraft-related hazards associated with the Moffett Federal Airfield. Primary issues pertaining to hazardous materials includes the transport, storage, use, and disposal of hazardous materials and the release of hazardous materials during construction. Impacts to hazards and hazardous materials were evaluated based on review of available maps and information provided on government websites, previous Environmental Site Assessments (ESA), previous Environmental Impact Reports (EIRs) supplied by the City of Sunnyvale (City) for other projects within the vicinity, the Moffett Federal Airfield Comprehensive Land Use Plan (CLUP), and other documents provided by the City.

The Project area is located in an established industrial area in the City. Hazardous material handlers and generators include industries, businesses, public and private institutions, and households. Businesses handle, transport, store, and dispose of hazardous materials and in some cases, past uses or spills may have caused contamination of soil, groundwater, or structures. Gasoline stations and other facilities that utilize or store solvents, chemicals or other hazardous materials are other potential sources of hazardous materials in urban areas. These sources of hazardous materials, if encountered during construction by workers or the general public, can cause exposures that may result in adverse environmental and health effects.

3.5.1 Existing Setting

Hazardous Materials

Under Title 22 of the California Code of Regulations (CCR), the term hazardous substance refers to both hazardous materials and hazardous wastes and both are classified according to four properties: toxicity, ignitability, corrosiveness, and reactivity (CCR Title 22, Chapter 11, Article 3). A hazardous material is defined as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Products as diverse as gasoline, paint solvents, film solvents, household cleaning products, refrigerants and radioactive substances are categorized as hazardous materials.

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (CCR Title 22, Chapter 11, Article 2, Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific CCR Title 22 criteria. While hazardous substances are regulated by multiple agencies, as described in the Regulatory Framework subsection below, cleanup requirements of hazardous

wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over the project. The handling, transportation, and disposal of such materials and wastes are of concern in all communities. Improper handling of hazardous materials or wastes may result in significant effects to human health and the environment.

The transportation of hazardous materials through the City and all surrounding regions is regulated by the California Highway Patrol (CHP) and California Department of Transportation (Caltrans). As a regional transportation corridor, US Highway 101 provides regional routes through the Project area and may be used for transport of certain types of hazardous materials (e.g., gasoline, natural gas) between surrounding communities.

Past industrial or commercial activities on a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials and released during building demolition activities. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks.

Soil and Groundwater Contamination

The Project area has supported a range of industrial land uses since its development during the 1960s and 1970s, including existing or historic heavy service commercial, office, R&D, aviation, engineering, or institutional uses. These types of uses have potential to create hazards or exposure to hazardous materials through handling, transporting, storage, and disposal of hazardous materials in the Project area. In some cases, past uses or spills have caused contamination of soil, groundwater, or structures. There are 15 hazardous material clean-up properties within the Project area in various stages in the remediation process, including two properties in need of corrective action and one property in need of State response. Additionally, there are 13 former leaking underground fuel tanks (LUFT) (DTSC 2015).

Database	Number of hazardous sites in the Project area
Envirostor Database	15 hazardous waste properties 2 in need of corrective action 1 in need of State response 13 LUFTs
NPL Database	No NPL facilities in the Project area
CERCLIS	1 RCRA Corrective Action Site
Source: (DTSC 2015; EPA 2015a).	

The National Priorities List (NPL) database, also known as Superfund, is a subset of the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) and identifies facilities for priority cleanup. The source of this database is the EPA. To appear on the NPL, sites must have met or surpassed a predetermined hazard ranking system score, been chosen as a state's top priority site, pose a significant health or environmental threat, or be a site where the EPA has determined that remedial action is more cost effective than removal action. While there are six NPL facilities that have been identified in the City, none are located within the Project area (EPA 2015b).

The CERCLIS listings identify sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment. CERCLIS contains facilities which are either proposed for or on the NPL and facilities which are in the screening and assessment phase for possible inclusion on the NPL. There are 17 CERCLIS facilities within the City. One of these sites is located within the Project area at 305 Soquel Way, which is labeled as Resource Conservation and Recovery Act (RCRA) Corrective Action Enforcement & Compliance. Another RCRA Corrective Action Site is located within a quarter mile of the Project area and is located at 1058 W Evelyn Avenue. The RCRA Corrective Action Sites list is maintained for sites, which are undergoing "a corrective action." A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from an RCRA facility (EPA 2015a).

Hazardous Building Materials

A number of existing buildings in the Project area were constructed in the 1960s and 1970s. Based on their age, these older buildings may contain asbestos, lead-based paints (LBP) and toxic finishes, molds, and/or polychlorinated biphenyls (PCBs) that could be released during demolition and renovation activities. Typical hazardous materials of concern for existing older structures in the Project area include:

Asbestos is a mineral fiber that is carcinogenic and harmful to respiratory health. Because of its fiber strength and heat resistance, it was widely used in a variety of building construction materials for insulation and as a fire-retardant, as well as in friction and heat-resistant products. Use of asbestos in the manufacturing of these products was common in California, however, the use of asbestos in manufacturing products was banned in 1977 throughout California. Older buildings constructed prior to 1978 could contain asbestos-containing materials (ACM). Asbestos can be released when ACMs are disturbed by cutting, sanding, or other remodeling activities. Improper attempts to remove these materials can release asbestos fibers into the air, increasing asbestos levels and affecting indoor air quality. Review of available information, including existing Phase I

ESAs (Appendix G), indicates that ACMs may be present in older buildings in the Project area within materials such as roof mastic, sheet flooring and mastic, and sprayed-on fireproofing.

Lead is a recognized harmful environmental pollutant that can pose a hazard when exposed through air, drinking water, food, contaminated soil, deteriorating paint, and dust. Lead was widely used in paint, gasoline, water pipes, and many other products prior to documentation of its health hazards. In 1978, California banned the use of lead-based paint (LBP). Older buildings constructed prior to 1978 could contain LBP. If LBP is improperly removed from surfaces by dry scraping or sanding, LBP can be absorbed into the body and could pose a potential public health risk. Based on the age of the buildings within the Project area, it is likely that some of the older buildings may contain LBP.

Mold can impair indoor air quality. The presence of visible water damage, damp materials, visible mold, or mold odor in buildings increases the potential risks of respiratory disease for occupants. According to the California Department of Public Health, known health risks include the development of asthma, allergies, and respiratory infections, the triggering of asthma attacks, and increased wheeze, cough, difficulty breathing, and other symptoms (California Department of Public Health 2011).

Polychlorinated Biphenyls (PCBs) are synthetic chemicals that were manufactured for use in various industrial and commercial applications - including oil in electrical and hydraulic equipment, and plasticizers in paints, plastics and rubber products - because of their non-flammability, chemical stability, high boiling point and electrical insulation properties. When released into the environment, PCBs persist for many years and bioaccumulate in organisms. The EPA has classified PCBs as probable human carcinogens. In 1979, the EPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain existing PCB-containing equipment.

Radon is a naturally-occurring odorless, tasteless, and invisible gas produced from the decay of uranium in soil and water (EPA 2015c). Structures placed on native soils with elevated levels of radon can be impacted by the intrusion of radon gas into breathing spaces of the overlying structures, which can cause lung cancer. The County of Santa Clara (County) is listed as a Zone 2 County with a predicted average indoor radon screening level between 2 and 4 picocuries per liter. This is considered a moderate level by the EPA. The EPA recommends remedial action for areas with levels above 4 picocuries per liter (pCi/L) (EPA 2015d). The City is designated to be in a moderate potential zone with level between 2 and 4 pCi/L (EPA 2015e).

Aviation Hazards

The City is located adjacent to Moffett Federal Airfield. To address potential land use conflicts and hazards associated with the operations of aircraft near civilian populations, Santa Clara County Airport Land Use Commission (ALUC) developed the CLUP for the Moffett Federal Airfield and vicinity areas (County of Santa Clara 2012). The CLUP is intended to ensure that new land uses do not affect Moffett Federal Airfield's continued operation. The Project area is located within

the Moffett Federal Airfield safety zone, which is subject to development restrictions to minimize potential land use conflicts and hazards. There are many existing facilities within the Project area that are located within the approach path associated with the two runways at Moffett Federal Airfield. The location of these facilities place employees and visitors at risk of aircraft accidents. However, the Navy's usage of Moffett Federal Airfield as a Naval Air Station ended in 1994 and aircraft operations have dropped considerably, greatly reducing the risk of aircraft-related accidents (City of Sunnyvale 2011a; County of Santa Clara 2012). The Project area is not in the vicinity of a private airstrip.

Wildland Fires

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and causing destruction to life and property. Wildfires can occur in undeveloped areas and spread to urban areas where structures and other human development are more concentrated. The City has a relatively low risk factor for fire loss and past fire experience has demonstrated the City to be a relatively fire-safe community. The City maintains a trained and well equipped fire service to respond to fires and other incidents. While the potential for extraordinary disaster always exists, and while the aging process of the City and its buildings will have some adverse impact on fire loss, the overall environment is comparatively fire-safe.

3.5.2 Regulatory Setting

A number of federal, state, and local laws and regulations have been enacted to ensure the safe handling and use of hazardous materials, as well as to manage and remediate sites contaminated by hazardous substances.

Federal

U.S. Environmental Protection Agency

The USEPA's laws and regulations ensure the safe production, handling, disposal and transportation of hazardous materials. Specific regulations include those regarding asbestos, brownfields, toxic substances, underground storage tanks, and Superfund sites, as discussed below.

Clean Water Act (33 USC Section 1251 et seq.)

The federal Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the act, the EPA implements pollution control programs such as setting wastewater standards for industry and setting water quality standards for all contaminants in surface waters (EPA 2015f).

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. Industrial, municipal, and other facilities must obtain permits through the EPA's National Pollutant Discharge Elimination System (NPDES) permit program if

their discharges go directly to surface waters. In California, the EPA has authorized the state to administer the NPDES permit program.

Resource Conservation and Recovery Act (42 USC Section 6901 et seq.)

The RCRA gives the EPA the authority to control hazardous materials from “cradle to grave,” including the generation, transportation, treatment, storage, and disposal of hazardous materials. The RCRA also sets forth a framework for the management of nonhazardous solid wastes.

The federal Hazardous and Solid Waste Amendments are the 1984 amendments to the RCRA that focus on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program (EPA 2015g).

Comprehensive Environmental Response, Compensation, and Liability Act (42 USC Section 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides a federal “superfund” to clean uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, the EPA identifies parties responsible for any release and ensures their participation in the cleanup.

The EPA is authorized to implement CERCLA in all 50 states and in US territories, though Superfund site identification, monitoring, and response activities are coordinated through the state environmental protection or waste management agencies. The Superfund Amendments and Reauthorization Act of 1986 reauthorized CERCLA to continue cleanup activities around the country and included several site-specific amendments, definition clarifications, and technical requirements (EPA 2015h).

Occupational and Safety Health Act (29 USC Section 651 et seq.)

The Occupational and Safety Health Act is intended to ensure worker and workplace safety by requiring that employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. The Occupational Safety and Health Administration (OSHA) is a division of the United States Department of Labor that oversees the administration of the act and enforces standards in all 50 states.

Toxic Substances Control Act (15 USC Section 2601 et seq.)

The Toxic Substances Control Act (TSCA) provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The TSCA addresses the production, importation, use, and disposal of specific

chemicals, including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint (EPA 2015i).

Various sections of the TSCA provide authority to:

- Require, under Section 5, pre-manufacture notification for “new chemical substances” before manufacture.
- Require, under Section 4, testing of chemicals by manufacturers, importers, and processors where risks or exposures of concern are found.
- Issue Significant New Use Rules, under Section 5, when it identifies a “significant new use” that could result in exposures to, or releases of, a substance of concern.
- Maintain the TSCA Inventory, under Section 8, which contains more than 83,000 chemicals. As new chemicals are commercially manufactured or imported, they are placed on the list.
- Require those importing or exporting chemicals, under Sections 12(b) and 13, to comply with certification reporting and/or other requirements.
- Require, under Section 8, reporting and recordkeeping by persons who manufacture, import, process, and/or distribute chemical substances in commerce.
- Require, under Section 8(e), that any person who manufactures (including imports), processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment to immediately inform the EPA, except where the EPA has been adequately informed of such information.

U.S. Department of Transportation

Federal Hazardous Materials Transportation Law and Hazardous Materials Regulations (49 USC Section 5101 et seq.)

The federal hazardous materials (hazmat) transportation law is the basic statute regulating hazardous materials transportation in the United States. Section 5101 of the federal hazmat law states that the purpose of the law is to protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce.

The Hazardous Materials Regulations are administered by the Pipeline and Hazardous Material Safety Administration (PHMSA) and implement the federal hazmat law. The Hazardous Materials Regulations govern the transportation of hazardous materials via highway, rail, vessel, and air by addressing hazardous materials classification, packaging, hazard communication, emergency response information, and training. They also issue procedural regulations, including provisions on registration and public sector training and planning grants (49 CFR Parts 105, 106, 107, and 110). The PHMSA issues the Hazardous Materials Regulations (U.S. Department of Transportation 2012).

The Federal Motor Carrier Safety Administration (FMCSA) issues regulations concerning highway routing of hazardous materials, hazardous materials endorsements for a commercial driver's license, highway hazardous material safety permits, and financial responsibility requirements for motor carriers of hazardous materials.

Clean Air Act (42 USC Section 7401 et seq.)

Administered by the EPA, the federal Clean Air Act (CAA) regulates hazardous air pollutants from stationary and mobile sources via national ambient air quality standards (NAAQS). Section 112 of the CAA requires issuance of technology-based standards for major sources and certain area sources.

Major sources are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An area source is any stationary source that is not a major source. For major sources, Section 112 requires that the EPA establish emission standards which require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as maximum achievable control technology, or MACT standards (EPA 2015j).

State

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) regulates hazardous materials in the state and is authorized by the EPA to enforce and implement federal hazardous materials laws and regulations. The Department of Toxic Substance Control (DTSC), a department of the CalEPA, protects from exposures to hazardous waste primarily under the authority of RCRA and the California Health and Safety Code. DTSC programs include dealing with aftermath clean-ups of improper hazardous waste management, evaluation of samples taken from sites, enforcement of regulations regarding use, storage and disposal of hazardous materials, and encouragement of pollution prevention.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs (CalEPA 2015):

- The Hazardous Waste Generator (HWG) program and Hazardous Waste Onsite Treatment activities
- The Aboveground Petroleum Storage Act (APSA) program
- The Underground Storage Tank (UST) program
- The Hazardous Materials Release Response Plans and Inventory (HMRRP) program

- California Accidental Release Prevention (CalARP) program
- The Hazardous Materials Management Plans and the Hazardous Materials Inventory Statement (HMMP/HMIS) requirements

The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Unified Program requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification.

The state agencies responsible for these programs set the standards, while local governments implement the standards. CalEPA oversees implementation of the Unified Program as a whole, and the local Certified Unified Program Agency is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements. Most CUPAs have been established as a function of a local environmental health or fire department. The Sunnyvale Department of Public Safety, Hazardous Materials Compliance Unit (HMCU), is the CUPA for the City (City of Sunnyvale 2015a).

Occupational Safety

The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the CFR. Cal/OSHA regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that MSDSs be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

Utility Notification Requirements

Title 8, Section 1541 of the CCR requires excavators to determine the approximate locations of subsurface installations such as sewer, telephone, fuel, electric, and water lines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (§4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to §4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center are in compliance with this section of the code. Underground Services Alert of Northern California (known as USA North)

receives planned excavation reports from public and private excavators and transmits those reports to all participating members of USA North that may have underground facilities at the location of excavation. Members will mark or stake their facilities, provide information, or give clearance to dig.

Local

The City of Sunnyvale is an actively participating jurisdiction of the *Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area*[1]. This plan outlines processes and mitigations to reduce the potential loss of life, property damage, and environmental degradation from natural disasters, as well as outlines steps to accelerate economic recovery from those disasters. This City does not maintain an individual emergency response or evacuation plan; however emergency response capabilities and procedures are outlined in the General Plan (City of Sunnyvale 2011b).

City of Sunnyvale Municipal Code

As authorized by the State of California Environmental Protection Agency (Cal EPA), the City assumes authority and responsibility within the City for implementation of the unified hazardous waste and hazardous materials management regulatory program (Unified Program) established by Health and Safety Code, Division 20, Chapter 6.11, Section 25404, et seq. As specified in Title 20 of the Sunnyvale Municipal Code, the City has exclusive, local jurisdiction within its boundaries to administer and enforce the requirements of the Unified Program.

The City also adopts and enforces the International Fire Code (IFC), including those sections amended by the State of California and additional amendments set forth in Title 16.52 of the Sunnyvale Municipal Code. The IFC contains numerous requirements related to the safe storage and use of hazardous materials both inside and outside of buildings. The IFC as amended in SMC Title 20 requires permits for certain hazardous activities and operations and inspections are conducted by Sunnyvale Hazardous Materials Inspectors to determine whether such activities or operations can be conducted in a manner that complies with the regulations.

City of Sunnyvale Local Hazard Mitigation Plan

The City's 2005 Local Hazard Mitigation Plan focuses on the nine likely hazards to occur in the Bay Area. The nine hazards comprise five earthquake-related hazards—faulting, shaking, landslides, liquefaction, and tsunamis—and four weather-related hazards—flooding, landslides, wildfires, and drought. The Local Hazard Mitigation Plan continues to be examined and analyzed for future needed changes that may develop in the area of recovery. The 2011 update to this plan is undergoing public review (City of Sunnyvale 2015b).

[1] Association of Bay Area Governments 2010. Taming Natural Disasters: Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area. 2010 Update (ABAG 2010).

Moffett Federal Airfield Comprehensive Land Use Plan

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Other airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

The City lies in the landing pattern of Moffett Federal Airfield and, during south winds, planes take off over heavily developed areas. Risk of future accidents exists even though the Navy's usage of Moffett Field as a Naval Air Station ended in 1994. The Moffett Federal Airfield Comprehensive Land Use Plan was adopted in 2012 by the Santa Clara County Airport Land Use Commission. This plan sets standards for land use around Moffett Airfield.

3.5.3 Impacts and Mitigation Measures

Significance Criteria

This analysis evaluates the Project's impacts from hazards to human health and hazardous materials based on the standards identified in State CEQA Guidelines Appendix G. The Project area does not contain and is not proximate to a private airstrip; therefore, the CEQA threshold pertaining to the hazards from a private airstrip has been determined to have no impact as described through the initial study process. The CEQA threshold pertaining to risk of loss, injury, or death involving wildland fires was determined to have no impact as described through the initial study process. The City has determined that a hazards and hazardous materials impact is considered significant if implementation of the Project would:

- 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 and 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 one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, 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.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Methodology

The impact analysis examines proposed goals and policies within the Project area to determine whether implementation of the Project would result in significant hazards and hazardous material impacts. The analysis further identifies and describes how the proposed goals and policies, in addition to existing regulations and standards (e.g. General Plan Safety and Noise Element), provide enforceable requirements and/or performance standards that avoid or minimize significant impacts and uphold the City's standing as an environmentally conscious community.

Impact HAZ-1: Demolition and construction activities associated with the Project could create hazards to the public and environment through the release of hazardous building materials and hazardous materials within the existing building onsite. However, with mitigation, this impact would be less than significant.

Demolition of Structures Containing Hazardous Building Materials

Implementation of the Project would involve demolition that could potentially result in accidental release of hazardous materials. Construction workers and the public could be exposed to lead and asbestos that are present within structures to be demolished. The majority of existing buildings in the Project area were constructed in the 1960s and 1970s. Based on their age, these structure may have been constructed with hazardous building materials such as lead and asbestos. In addition, fluorescent light tubes containing mercury vapors, fluorescent light ballasts containing PCBs, and PCB-containing electrical equipment may be present in the buildings. Further, several buildings that would be demolished through implementation of the Project, may store or use hazardous materials and therefore demolition could expose hazardous materials if not handled appropriately. Hazardous building materials may be present in buildings pre-dating the 1980s and in structures that are known to store or use hazardous materials (ERS 2011).

Demolition or adaptive reuse of existing older buildings in the Project area may involve removal of lead based paint, asbestos or other potentially hazardous materials.

If asbestos is present, there is a potential for release of airborne asbestos fibers when the asbestos-containing materials are disturbed, unless proper asbestos abatement precautions are taken. Such a release could expose the construction workers, occupants of the facilities within the Project area, and adjacent residents to airborne asbestos fibers. Similarly, if lead-based paint is present and has delaminated or chipped from the surfaces on the building materials, there is a potential for the release of airborne lead particles, unless proper lead abatement procedures are followed. Any renovation or demolition would be required by law to follow Bay Area Air Quality Management District (BAAQMD) and California Department of Occupational Safety and Health (Cal/OSHA) regulations regarding abatement of asbestos-containing materials and the Cal/OSHA Lead in

Construction Standard for the abatement of lead-based paint. If PCBs are present in the building to be demolished, leakage could expose workers to unacceptable levels of PCBs (greater than 5 parts per million, based on Title 22, California Code of Regulations). Together, these regulations require sampling, safe work practices, and appropriate disposal that would protect workers from harmful exposures to these substances during construction activities and prevent contamination of surrounding soil or water. This impact would be less than significant with compliance with existing laws and regulations, potential adverse effects related to the release of hazardous building materials would be less than significant.

Demolition of Facilities Used for Storage or Use of Hazardous Materials

Existing businesses within the Project area may use hazardous materials such as solvents, chemicals or other hazardous materials to support normal business operations. In the absence of proper precautions, proposed demolition of these existing buildings could disturb hazardous materials currently stored and used in the buildings which could expose workers and occupants of the Project area to hazardous materials or result in an accidental release to the environment. However, the storage and use of hazardous materials is heavily controlled and regulated. Such businesses are subject to the hazardous materials management requirements specified in Title 20 of the Sunnyvale Municipal Code as well as other federal, state, and local regulations. Prior to demolition, hazardous materials stored at these locations would be removed and the hazardous materials facilities in these buildings would be closed in accordance with applicable laws and regulations designed to address hazardous materials and protect human health and the environment, including a closure permit from the County (County of Santa Clara 2015).

In accordance with the closure permit, the business owner or project applicant would prepare a closure plan, prior to demolition, describing activities that would be conducted to demonstrate that hazardous materials that were stored, dispensed, handled, or used at the site have been transported, disposed of, or reused in a manner that eliminates any threat to public health and safety. The plan would include a description of the size and type of facility to be closed (including a site plan), the chemicals used at the facility, the procedures to be used for decontamination of the facility and equipment (if required), and the proposed method for disposal of all hazardous wastes generated from cleaning operations. In addition, the plan shall include a description of the planned disposal of hazardous materials and wastes from the facility in accordance with all state and federal laws, along with a description of the planned sampling program to demonstrate that the facility has been completely decontaminated. Upon completion of closure, the business owner or project applicant would be required to submit a post-closure report documenting compliance with the closure plan, confirming appropriate disposal of all hazardous materials, and documentation of all sampling conducted, including analytical results. Compliance with these regulatory requirements, including preparation of a Phase I Environmental Site Assessment and/or additional technical investigations if required by local or state agencies would ensure that impacts related to exposure to hazardous materials stored or used in the existing buildings would be less than significant with mitigation.

Mitigation Measures

MM HAZ-1: Phase I Environmental Site Assessment (Phase I ESA). Prior to demolition, project applicants in the Project area shall prepare a Phase I ESA. Consistent with local, state and federal regulations, the Phase I ESA shall be subject to City review and address the following:

a. **Asbestos-Containing Materials (ACM), Lead-Based Paints (LBP), and polychlorinated biphenyls (PCBs)**. Prior to the issuance of any demolition permit, the Applicant shall conduct a comprehensive survey of ACM, LBP, and PCBs. If such hazardous materials are found to be present, the Applicant shall follow all applicable local, state, and federal codes and regulations, as well as applicable best management practices, related to the treatment, handling, and disposal of ACM, LBP, and PCBs to ensure public safety.

b. **Potential Onsite Hazardous Materials or Conditions**. A visual survey and reconnaissance-level investigation of the existing site shall be conducted to determine if there are any structures or features within or near the buildings that are used to store, contain, or dispose of hazardous materials. For any development within the Project area that has not been subject to a Phase I ESA or successful remediation efforts in the past, a Phase I ESA shall be performed to determine the likelihood of contaminants in areas beyond what has already been assessed in accordance with EPA ASTM Practice E 1527-05 as may be amended. If the Phase I ESA finds that contaminated soil or other hazardous materials are suspected to be present within the area, the Applicant shall follow all applicable local, state and federal codes and regulations, as well as applicable best management practices, related to the treatment, handling, and disposal of each hazardous material.

Residual Impact

Implementation of the recommended mitigation measure and compliance with federal, state, and local regulations related to the transport, use, storage, and cleanup of hazardous materials would reduce the risk of hazardous impact to less than significant. Additionally, with implementation of the mitigation measures, land use changes anticipated to occur under the Project would facilitate the safe removal of potentially hazardous building materials and the cleanup of contaminated properties, thus reducing the level of risk on a particular site and within the Project area as a whole, compared to existing conditions.

Impact HAZ-2: Operations associated with implementation of the Project would increase the routine transport, use, and disposal of hazardous materials, but would be less than significant.

The Project would facilitate an additional 2.2 million square feet of development for a total of 9.7 million square feet within the Project area. The new uses developed under the Specific Plan could involve the use of hazardous materials or the generation of hazardous waste. If accidentally released during storage, use, or transport, these materials and wastes could cause human health

effects to occupants of the Project area, as well as surrounding populations, and could cause adverse environmental effects if released into the environment.

While it is possible that implementation of the Project could result in greater use of hazardous materials and generation of hazardous waste because of the increased area of industrial use, any new business would be required to comply with the Sunnyvale Municipal Code requirements for the proper storage and handling of hazardous materials as well as the requirements for regulated materials that could produce toxic gases which incorporate state and federal requirements (City of Sunnyvale 2015c). Permitted facilities would also be required to follow City Code requirements for reporting and cleanup of a release of hazardous materials which would ensure that any substantial release is appropriately contained and cleaned up. Compliance with City requirements would ensure that hazardous materials are stored and handled safely, and that if a release did occur it would be appropriately reported and cleaned up.

In addition, transportation of hazardous materials would be subject to the requirements of federal, state, and local regulations. This regulatory framework provides specific guidance and measures for the proper handling and transporting of hazardous materials. The measures include safety training and methodologies for conducting such activities. With compliance of the guidelines and requirements of the established regulatory framework, the potential for exposing the public to the release of hazardous materials into the environment would be significantly reduced. Therefore, operational impacts related to the use, storage, and transportation of hazardous materials would be less than significant.

Impact HAZ-3: Implementation of the Project would expose additional workers and visitors to aircraft-related safety hazards by locating additional development within the approach path of the Moffett Federal Airfield, but this impact would be less than significant.

The Project is within close proximity to the Moffett Federal Airfield. In particular, the north most corner of the Project is located approximately 0.5 miles from the southern end of one of the Moffett Federal Airfield's runways. The proximity to the approach paths present a potential aircraft-related hazard to the public and workers within the region. Construction of tall buildings within the proximity of an airport increases the hazard associated with aircraft accidents. Placement of tall buildings within or near the approach path interferes with the ability of planes to land safely, placing passengers of the planes and people using the facilities on the ground at risk. In addition, height limitations are required to protect the operational capability of airports, thus preserving an important part of National and State aviation transportation systems. The FAA Part 77 surfaces established in the Moffett Federal Airfield CLUP identify heights above which structures may constitute a safety hazard, based on the type of approach to the particular runways at Moffett Federal Airfield. The Project would regulate the heights and location of buildings, to be consistent with the FAA Part 77 surfaces and would focus future taller development away from the approach paths to the runways at Moffett Federal Airfield. Therefore, aircraft hazards associated with building heights would be less than significant.

The risk of an aircraft accident increases with proximity to the runway and its approach path, and development is generally discouraged in the zones to the runways to prevent placing people at risk of an accident. The Project area is currently developed with office buildings in close proximity to the runways, some of which directly underlie the approach paths. Therefore, these uses are currently subject to aircraft-related hazards. As the Project would increase the intensity of the uses and associated daytime populations in the areas beneath the approach path, it would place a greater number of people at risk to aircraft accidents, increasing the existing aircraft hazard. The square footage of industrial uses in these areas would increase, as the Project would allow for taller and larger buildings, and the new office uses would consist of a greater worker density than the existing uses. However, each development project would incorporate the CLUP policies regarding recommended building density.

Further, the Project would facilitate development of recreation and open spaces and may focus some of these facilities near the airport or beneath the approach paths to reduce the amounts of dense development near the approach paths of runways. However, such development would still make users susceptible to risks associated with aircraft accidents. The Navy's usage of Moffett Federal Airfield as a Naval Air Station ended in 1994 and operations have dropped considerably, greatly reducing the risk of aircraft-related accidents. Additionally, the Moffett Federal Airfield CLUP designates specific uses allowed and prohibited within safety zones associated with the runways at Moffett Federal Airfield. Large portions of the Project area are within several of these safety zones. As such, all land uses and future development under the Project would need to review the standards in the CLUP to verify consistency with uses allowed by the Moffett Federal Airfield CLUP. Such uses are further discussed in Section 3.10, *Land Use and Planning*. As the Project would only introduce land uses and development allowed by the Moffett Federal Airfield CLUP and the Santa Clara County ALUC, this impact would be considered less than significant.

Cumulative Impacts

Cumulative land use changes within the City and the Project area would have the potential to expose future area residents, employees, and visitors to chemical hazards through redevelopment of sites and structures that may be contaminated from either historic or ongoing uses. In addition, the increased development would also expose residents, employees, and visitors to potential aircraft related hazards. The severity of potential hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Therefore, specific projects proposed in the City or within the Project area would be required to undergo individual environmental review, including review of potential impacts related to hazards and hazardous materials that are applicable to that particular development site and proposed use. After preparation of a Phase I ESA, if lead and asbestos are found to be present in buildings planned for demolition or renovation, these conditions would require appropriate mitigation to include implementation of standard regulatory conditions and remedial action of contaminated sites. All Phase I ESAs, mitigation measures, and remedial actions proposed to address hazardous buildings materials shall comply with all applicable local, state and federal codes and regulations, as well as applicable best management practices, related to the treatment, handling, and disposal of each hazardous material. Further, because restrictions on development or remediation requirements would be applied in the event that hazardous

materials posed a risk to safety, it is anticipated that cumulative impacts from exposure to hazards or hazardous materials would be less than significant. Additionally, land use changes anticipated to occur under the proposed Project would facilitate the safe removal of potentially hazardous building materials and the cleanup of contaminated properties, thus reducing the level of risk on a particular site and within the Project area as a whole, compared to existing conditions. In addition, all future development would be regulated to reduce the risk of exposure to aircraft related hazards.

3.6 LAND USE AND PLANNING

This section provides information on existing and planned land uses and evaluates potential land use effects associated with the amount, location, and type of future development that could occur under the proposed Project. This section also evaluates the consistency of the proposed Project with applicable programs and policies adopted by the jurisdictions within which the Project area is located. Multiple data sources from the Association of Bay Area Governments (ABAG) and City of Sunnyvale Community Development Department were used to support this analysis in order to address land use and planning issues.

The construction of new office, light industrial, commercial and limited housing as allowed and encouraged by the Project may raise potential land use compatibility, planning, or policy consistency issues. Although the Specific Plan contains multiple goals, policies, developments standards, and design guidelines which address potential issues, this section provides a more detailed review of land use and planning issues.

3.6.1 Environmental Setting

Existing Land Uses

The Project area is located in the northern portion of the City of Sunnyvale (City) and is roughly bounded by US Highway 101 (US 101) to the north, State Route 237 (SR 237) to the northwest, Mathilda Avenue to the east, and Central Expressway to the south. Primary access to the Project area is via US 101, SR 237, and the Central Expressway; and provides access to Mathilda Avenue. The City is surrounded by the cities of Mountain View to the west, Los Altos to the southwest, Cupertino to the south, and Santa Clara to the east. To the north of the City lies Moffett Federal Airfield and the City of San Jose.

The Project area comprises approximately 446 net acres or 450 gross acres, consisting of 223 parcels ranging between 0.02 acres and 21.45 acres in size. Land use activities within the Project area are predominately industrial (approximately 77%). Other land use activities in the area include service, retail, and commercial (approximately 12%), recreational (approximately 10%), and very limited residential (less than 1%).

Peery Park is one of five major workforce centers in the City and provides a range of building qualities and types, though the majority of the existing older structures are Class B and C leasable commercial space (City of Sunnyvale 2011). Existing major industry clusters within the Project area include software, hardware, innovation services, biomedical, and electronic components. Major tenants include Apple, LinkedIn, Blue Coat Systems, Riverbed, Good Technology, Hewlett Packard, Ariba, the Parkinson's Institute, Mercedes-Benz, and Synopsys (City of Sunnyvale 2015a). In addition to light industrial and office uses, the Project area also includes a small shopping/commercial center, auto repair/service stations, restaurants, a religious institution, a

clubhouse, recreational facilities, medical offices, parking lots/structures, and four single-family housing units.

Land use designations within the Project area are illustrated in the City's General Plan. The General Plan designates most land uses within the Project area as industrial, with the exception of a small Neighborhood Commercial designation at the Project area's eastern boundary (City of Sunnyvale 2011). The Project area is also located within the planning area covered by regional plans that guide development, including the Association of Bay Area Governments (ABAG) Plan Bay Area, the Moffett Federal Airfield Comprehensive Land Use Plan (CLUP), and the Bay Area Air Quality Management District Clean Air Plan (BAAQMD CAP) as described in Section 3.2, *Air Quality*, and Section 3.5, *Hazards and Hazardous Materials*.

Zoning

Zoning designations within the Project area are consistent with General Plan land use designations. Current zoning governs a range of factors including building height, lot coverage, and total building floor-to-area ratio (FAR)[1]. Following the General Plan category under "I", Industrial, over 95% of the Project area is zoned "M-S", Industrial and Service, which limits buildings heights to a maximum of 8 stories (75 feet) over most of the Project area, with a FAR of 35%. Less than 5% of the Project area is designated as C1, Neighborhood Business, which limits maximum building heights to 2 stories or up to 40 feet (Table 3.6-1). Land uses and buildings have a calculable maximum occupancy and/or population density. Based on existing employee densities in the Project area, the M-S Industrial and Service zones support an average employee density of roughly 1:600 gross square feet (City of Sunnyvale 2015b).

Portions of the Project area include three Combining Districts consisting of a modified M-S FAR District permitting increased floor area ratios, and the Planned Development (PD) and Places of Assembly (POA) Districts which govern the land uses as addressed in Table 3.6-1. The M-S FAR District permits increases in building FARs to 70% and 100% over the base M-S Zone District within selected areas along Mathilda Avenue north of Maude Avenue (City of Sunnyvale 2015b). Permitted uses within the industrial and commercial zoning districts provide a broad range of uses subject to varying levels of permit review to ensure land use compatibility (Table 3.6-1). Some existing land uses, such as the clubhouse and the single-family residences, are nonconforming uses on industrial-zoned parcels (City of Sunnyvale 2011).

[1] FAR is the relationship of a building's total floor area to the size of the piece of land upon which it is built. The terms can also refer to limits imposed on such a ratio to regulate the size of a building.

Table 3.6-1. Applicable Zoning Districts and Overlays

Zoning District	Description	Building Stories	Building Height[1]	Lot Coverage	Floor Area Ratio[2]
M-S – Industrial	The M-S industrial and service zoning district is reserved for the construction, use and occupancy of buildings and facilities for offices, research, limited manufacturing, hotels and motels, restaurants, financial uses, retail sales and services, professional services and other uses compatible with the zoning district.	8	75	45%	35% (plus 10% with green building program)
C-1 – Neighborhood Commercial	The C-1 neighborhood business zoning district is reserved for the construction, use and occupancy of commercial buildings providing retail commercial shopping and service facilities to the adjacent neighborhood residential areas.	2	40	35%	None
Combining District		Building Stories	Building Height	Lot Coverage	Floor Area Ratio
70% FAR	See M-S Description	8	75	45%	70% (plus 10% with green building program)
100% FAR	See M-S Description	8	100	45%	100% (plus 10% with green building program)
PD (Planned Development)	The PD combining district provides modifications, additions and limitations to other zoning districts to meet special conditions. This district is also intended to provide opportunities for creative development approaches to achieve superior community design, preservation and public benefit.	Determined by base zoning district and project approvals.			
POA (Place of Assembly)	The POA combining district allows uses that may include sensitive populations which are otherwise not permitted in the M-S zoning district.	Determined by base zoning district.			

Source: Sunnyvale Zoning Code: http://qcode.us/codes/sunnyvale/ Accessed July 2014.

[1] Per section 19.32.030 of the Sunnyvale Zoning Code, some features may exceed the maximum building height in any zoning district by a maximum of 25 feet, except between the face of the main building and any public street, nor in any required side or rear yard.

[2]Some exceptions to the total floor area ratios are allowed by section 19.32, including bicycle support facilities or architectural design features; Commercial storage and warehouse uses are limited to 50% floor area ratio unless otherwise approved by use permit.

Airport Land Use Planning

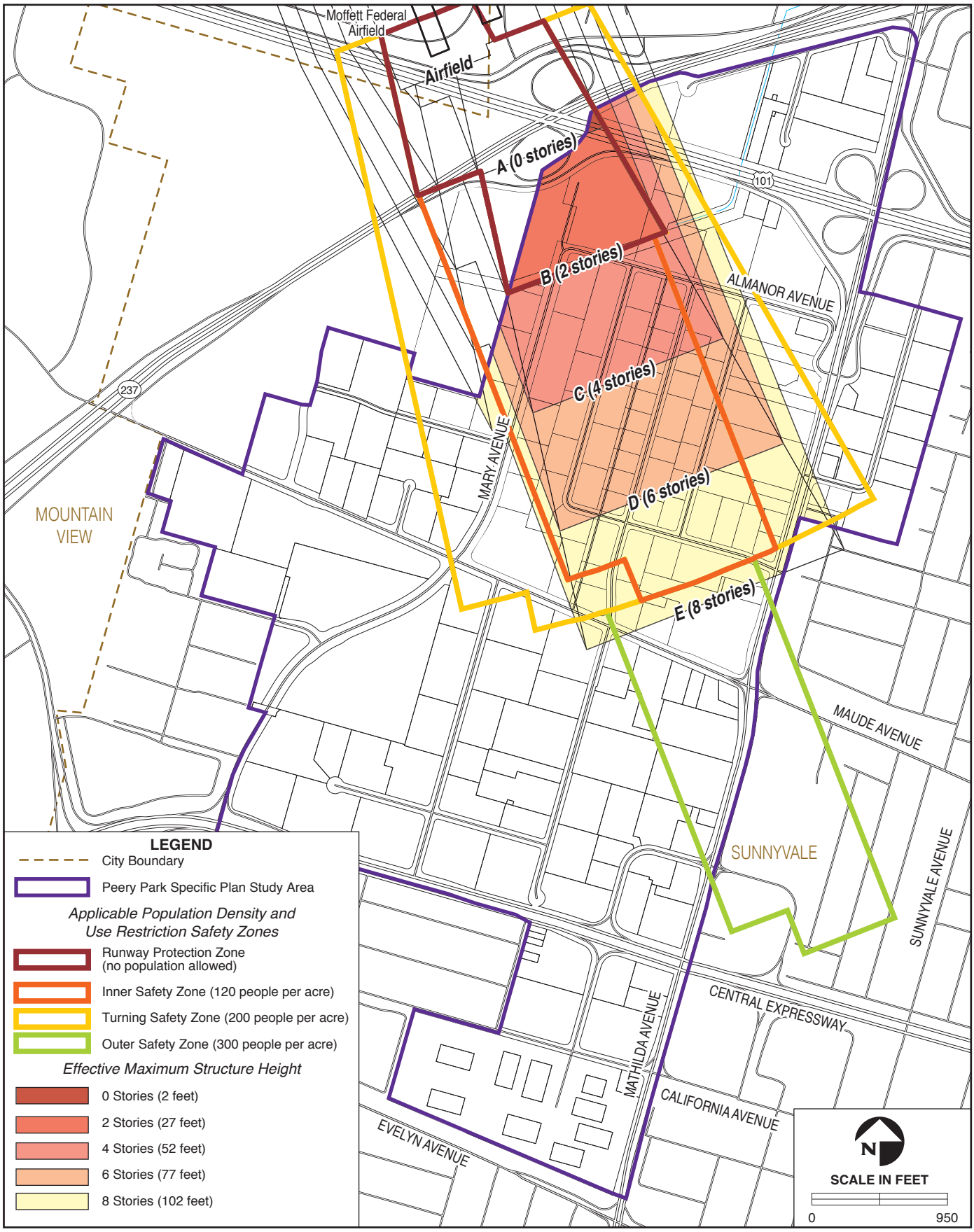
The Project area is located within the Airport Influence Area (AIA) of Moffett Federal Airfield according to the Moffett Federal Airfield CLUP. In particular, approximately 150 acres of the north central portion of the Project area, north of Maude Avenue and west of Mathilda Avenue, lies within established runway protection and safety zones as seen in Figure 3.6-1. As such, parcels within this area may be subject to restrictions in building height, allowable uses, and total inhabited population densities in the interest of safety and airport hazards. The FAA restricts maximum building heights, and the CLUP integrates these restrictions into its advisory document. These restricted heights in the Project area are within and adjacent to runway protection and safety zones. As indicated in Figure 3.6-1, parcels closest to the runway are generally limited to two stories, and those farther from the runway west of Maude Avenue would be permitted to construct buildings of up to eight stories. Building height limitations are governed by imaginary surfaces using a 7:1 transitional surface slope outwards and up from the runway. Existing elevation of most of the Project area is approximately 55 feet above MSL. At this elevation, building heights within the 150-acre area are generally limited to four to eight stories.

The CLUP advises allowable population densities within the runway protection and safety zones in order to minimize potential public exposure to airport operational hazards. While the restrictive Runway Protection Zone is limited to four parcels in the northwest corner of the Project area, the Airport Safety Zones are much larger and cover about 150 acres.

As addressed in Section 3.7, *Noise*, the CLUP contains advisory restrictions on land use and development related to noise level restrictions, associated with exposures of 65-70 dBs Community Noise Equivalent Level (CNEL). These advisory restrictions within the Project area have been addressed by the City within their Noise Sub-Element of the General Plan. The CLUP includes estimated noise contours which identify 65 dBs noise contours over a significant portion of the Project area, as well as 70 dBs noise contours over the northwest corner of the Project area (i.e., noise levels increase based on proximity to the airfield). As such, the Project and future development within these areas may be subject to more interest from the Santa Clara County Airport Land Use Commission (ALUC).

Surrounding Land Uses

Land use activities adjacent to the Project area are varied and highly urbanized, consisting of industrial uses, single- and multi-family residences, commercial and retail services, parks and public facilities. The Project area is bordered by three existing residential neighborhoods and a commercial shopping center, the SNAIL and Lowlanders neighborhoods to the east, and Mountain View to the west across Mary Avenue. The residential neighborhoods are designated as low- to high-density residential in the General Plan. Surrounding land uses north of the Project area include Sunnyvale Golf Course, zoned as a public facility, and Moffett Park, zoned for industrial and commercial uses.



amec foster wheeler

Airport Land Use Constraints Map

FIGURE 3.6-1

The Project area is generally separated from adjacent residential neighborhoods by an existing four to six lane roadways which limit adjacency and connectivity with these areas. Mathilda Avenue, a six-lane arterial road; the Central Expressway, a four-lane grade separated roadway; and Mary Avenue, a six-lane road, isolate the Project area from surrounding areas. While Maude Avenue provides some throughway connectivity through the Project area, major high-speed roads, large blocks, and distances to destinations discourage pedestrian traffic and limits neighborhood connectivity.

3.6.2 Regulatory Setting

Federal Policies and Regulations

Federal Aviation Administration (FAA)

The FAA restricts the heights of buildings throughout the Project area. As noted by the FAA, "the objective of aviation-related land use planning is to guide incompatible land uses away from the airport environs and to encourage compatible land uses to locate around airport facilities" (Federal Aviation Administration 2015). A matter contained within this guidance includes implementation of height restrictions to ensure safe airport operations, and guidance concerning potential noise effects on surrounding land uses and sensitive noise receptors. The height regulations establish a number of imaginary surfaces constructed from the ends of runways, and objects intruding on these imaginary surfaces are considered obstructions to navigable airspace. The nearby Moffett Federal Airfield, located northwest of the Project area, and surrounding area, including a majority of the Project area, are subject to these regulations.

State Policies and Regulations

There are no state planning regulations that apply to land use and planning within the Project area.

Local Policies and Regulations

Moffett Federal Airfield Comprehensive Land Use Plan

The Moffett Federal Airfield CLUP (Santa Clara County Airport Land Use Commission 2012) is intended to safeguard the welfare of both inhabitants in the vicinity of Moffett Federal Airfield and the airfield operators/ occupants themselves. The CLUP is also intended to ensure that surrounding new or proposed land uses do not adversely impact the airfield's ability to continue its operation, as it hosts multiple entities with a variety of federal and non-federal missions. Specifically, the CLUP seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. The implementation of the CLUP is intended to prevent future incompatible development from encroaching on the airfield while allowing for continued development in accordance with the current airport master plan. The following policy areas apply to the Project; however, exceptions may be possible in some cases as the CLUP is an advisory document:

Noise Restriction Area. The Noise Restriction Area is defined by the 65 dBs contour inside which an acoustical analysis is required by the local agency with land use jurisdiction demonstrating how low-density units have been designed to meet an interior noise level of 45 dB CNEL.

Height Restriction Area. The Height Restriction Area is established to protect the airspace around the airfield. The CLUP establishes height restrictions within the Project area from 52-102 feet.

Safety Restriction Area. The Safety Restriction Area is to provide land use safety with respect to people and property on the ground and the occupants of the aircraft. Table 3.6-2 shows open space requirements, population densities, and land uses permitted under the Safety Restriction Area.

Santa Clara County Airport Land Use Commission

The Project area is located within the AIA associated with Moffett Federal Airfield, and is thus subject to overflights by aircraft which may cause annoyance or discomfort to adjacent residents. As such, it is within the airport planning area of the Santa Clara County ALUC. Public Utilities Code Section 21670 authorizes each county to establish an ALUC that is responsible for formulating and maintaining CLUP for areas surrounding a public use airport. Though Moffett Federal Airfield is not a public use airport, its AIA effects are addressed by the Santa Clara County ALUC. The ALUC is responsible for reviewing specific plans, the general plan, and some zoning and building regulations within the airport planning area.

Plan Bay Area

Plan Bay Area is a long-term strategy for sustainability adopted by the ABAG in July 2013 and relates to the nine counties surrounding the San Francisco Bay. The Plan Bay Area sets out to achieve goals related to climate protection, housing needs, open space and agricultural preservation, transportation, economic vitality, and community health and safety. (Association of Bay Area Governments 2013) Although Plan Bay Area was created to guide local land use planning and allocation of regional transportation funds, it is not a regulatory plan.

City of Sunnyvale General Plan

The City's General Plan is the comprehensive long-range and strategic planning document that addresses physical development within the City and articulates the community's vision for the future (City of Sunnyvale 2011). The General Plan includes a description of goals, policies, and actions and was first adopted in 1957. In 2011, the General Plan was consolidated from 22 separate General Plan chapters and sub-chapters that were developed and adopted at different times. This consolidated and streamlined General Plan contains all necessary goal and policy language to address the required chapters in a more concise and easy-to-use document.

Table 3.6-2. Airport Safety Zone Land Uses and Densities

Safety Zone	Maximum Population Density	Open Space Requirements	Land Use
Runway Protection Zone (RPZ)	-0- (No people allowed)	100 percent (No structures allowed)	100 percent (No structures allowed)
Inner Safety Zone (ISZ)	Nonresidential, maximum 120 people per acre (includes open area and parking area required for the building's occupants and one-half of the adjacent street area)	30 percent of gross area open. No structures or concentrations of people within 100 feet of the extended runway centerlines.	No residential. Nonresidential uses should be activities that attract relatively few people. No shopping centers, restaurants, theaters, meeting halls, stadiums, multi-story office buildings, labor-intensive manufacturing plants, educational facilities, day care facilities, hospitals, nursing homes or similar activities. No facilities that generate or store hazardous materials (e.g., gasoline stations).
Turning Safety Zone (TSZ)	Nonresidential, maximum 200 people per acre (includes open area and parking area required for the building's occupants and one-half of the adjacent street area)	20 percent of gross area Minimum dimensions: 300 ft by 75 ft parallel to the runways.	Residential – if non-residential uses are not feasible, allow residential infill to existing density. No regional shopping centers, theaters, meeting halls, stadiums, schools, day care centers, hospitals, nursing homes or similar activities. No facilities that generate or store hazardous materials (e.g., gasoline stations).
Outer Safety Zone (OSZ)	Nonresidential, maximum 300 people per acre (includes open area and parking area required for the building's occupants and one-half of the adjacent street area)	20 percent of gross area	Residential - if non-residential uses are not feasible, allow residential infill to existing density. No regional shopping centers, theaters, meeting halls, stadiums, schools, large day care centers, hospitals, nursing homes or similar activities. No above ground bulk fuel storage.

Table 3.6-2. Airport Safety Zone Land Uses and Densities (Continued)

Safety Zone	Maximum Population Density	Open Space Requirements	Land Use
Sideline Safety Zone (SSZ)	Nonresidential, maximum 300 people per acre (includes open area and parking area required for the building's occupants and one-half of the adjacent street area)	30 percent of gross area	Residential - if non-residential uses are not feasible, allow residential infill to existing density. No regional shopping centers, theaters, meeting halls, stadiums, schools, large day care centers, hospitals, nursing homes or similar activities. No above ground bulk fuel storage.

Source: (Santa Clara County Airport Land Use Commission 2012).

Future development must be consistent with the General Plan. Goals and policies within the General Plan are used by the community, City staff, and decision-makers to guide decisions related to the physical development of the City. This includes land use, infrastructure, and budgetary decisions. The General Plan includes the following vision statement, which establishes a framework for future strategies and actions and a benchmark from which to evaluate future proposals:

It is the aspiration of the people of Sunnyvale to build upon the attributes which the City currently enjoys, so that Sunnyvale of the future will become:

- *A strong, diverse community…that is inclusive of and accessible to people of all cultures, ages, and lifestyles. Neighborhood and citywide events regularly provide residents with opportunities to connect with each other and to actively participate in city government. Sunnyvale offers a variety of housing options for its diverse and changing population.*
- *A community with a vibrant and innovative local economy…comprised of cutting-edge businesses that provide meaningful employment and partnership opportunities. Sunnyvale continues to be the heart of innovation in Silicon Valley.*
- *A regional leader in environmental sustainability…advocating to reduce dependence on non-renewable resources by providing greater transportation options, reducing waste, protecting our natural resources, and promoting alternative energy usage and research. We take environmental preservation and protection seriously and consider how each action will affect Sunnyvale for future generations.*
- *A safe, secure and healthy place for all people…where the health and safety of residents is a primary concern. Sunnyvale is a clean and attractive city with many opportunities for physical activity in a natural environment.*
- *A city managed by a responsible and responsive government…that delivers quality services in a comprehensive, cost-effective manner. The City evolves gracefully with the changing needs of the community and regularly communicates with residents and businesses to engage them in decision-making processes.*

- *A community with a distinctive identity…enhanced by a Downtown that provides a sense of place, convenience and is pedestrian-oriented. New development is concentrated in nodes along major transportation corridors and around transit hubs.*

The City's General Plan consists of a Community Vision and five supporting chapters addressing the physical development of the city. The chapters consist of the following:

Land Use and Transportation Chapter: The Land Use and Transportation Element (LUTE) of the General Plan was amended in 1997; however, the City is currently in the process of updating the LUTE. The update process, which has been guided by the 2009 Sunnyvale Community Vision: A Guiding Framework for General Planning, is intended to result in a new LUTE that provides guidance related to economic development, incorporation of smart growth concepts, green technology and principles, and preservation and enhancement of existing neighborhoods. Upon its adoption, it will also contain a series of focused land use and transportation policies and action strategies to address the City's desire to be a regional leader in environmental sustainability. More specifically, land use policies in the updated LUTE will direct the City to: participate in regional efforts on climate change adaptation plans; prepare for risks and hazards associated with climate change; and consider climate change impacts when reviewing future development or considering changes to City policies. The LUTE will include environmental review pursuant to the California Environmental Quality Act (CEQA) and has not been released to the public. Thus, the background information in this section and the associated environmental review is based on the City's currently adopted LUTE, which contains many goals, policies, and actions related to a strong economy, efficient transportation, and community character that apply to the Project. The most relevant of these goals, policies, and actions are listed in Table 3.6-3 at the end of this section.

- Land use – information on land use categories and the General Plan Land Use Map, with discussion and policies relating to future land use development
- Transportation – goals and policies related to transportation improvements
- Economy – information on current economic conditions and discussion and policies related to future trends and challenges
- Open space – information on open space areas, service needs, and future policies to meet anticipated demand for open space

Community Character Chapter: The Community Character Chapter contains policies and goals related to:

- Design – building and street design, including policies on gateways, public art, special districts, and public facilities
- Heritage Preservation – protection of heritage structures and natural features, including programs to increase knowledge of Sunnyvale's heritage and history
- Library – existing conditions and future issues with expansion of the library and continuous improvement of the library collection

- Arts – facilities for the encouragement of arts programming and activities
- Recreation – issues and trends related to quality recreation programming

Housing Chapter: The Housing Chapter was adopted in 2014 and serves as the City's primary policy document regarding the development, rehabilitation, and preservation of housing.

- Housing Needs Assessment – an evaluation of Sunnyvale's demographic, household and housing stock characteristics, and existing and future regional housing needs (RHNA)
- Housing Constraints – an assessment of potential governmental and market constraints to the development and improvement of housing in Sunnyvale
- Housing Resources – an evaluation of the availability of sites to address Sunnyvale's regional housing growth needs; financial and administrative resources for housing are also presented, as are opportunities for energy conservation and green building
- Housing Plan – an evaluation of accomplishments under Sunnyvale's adopted 2009 Housing Element, and the City's housing goals, policies, programs and quantified objectives for the 2015-2023 planning period

Safety and Noise Chapter: The Safety and Noise Chapter contains policies and goals related to:

- Hazards and disaster preparedness and response – information on existing natural and manmade hazards and policies and plans to mitigate these hazards and prepare for disasters
- Police, fire, and emergency services – information and policies addressing technology for public safety, providing rapid and timely response to emergencies, sustaining professional standards, necessity for an effective fire service response system, and maintaining effective emergency response and communication capabilities
- Noise – information on existing and projected noise conditions with policies and programs to maintain or reduce noise from transportation, land use operations, and single-event noise

Environmental Management Chapter: The Environmental Management Chapter contains policies and goals related to:

- Water supply – information on various sources of potable and nonpotable water, and policies to ensure adequate supplies, water conservation efforts, and water quality
- Wastewater collection and treatment – information on the existing wastewater collection system and the Water Pollution Control Plant and policies for future treatment issues
- Urban runoff – information on sources of urban runoff and treatment methods, as well as policies to minimize quantity of urban runoff and improve quality
- Air quality – information on sources of air pollution and policies for addressing this pollution through transportation and land use programs and policies

- Solid waste – information on collection, recycling programs, and disposal and policies to reduce future waste and increase recycling efforts

Climate Action Plan

The Sunnyvale Climate Action Plan (CAP) contains land use strategies for the City to implement during construction and redevelopment activities and operations. A number of goals and actions are included, covering topics such as GHG emissions reduction strategies, City adaptation strategies to accommodate climate change, and information on how programs associated with these endeavors are implemented. One subsection of the CAP is devoted to improving mobility and GHG emission reduction through land use planning. The stated goal is to utilize land use and planning tools to reduce or eliminate vehicle trips while still completing the activities of our everyday lives.

Land use planning measures considered within the CAP under the land use subsection focus on five aspects of the City where improvements are available and or necessary. The subsection supplies six action item strategies to improve parking, five action items to improve transit-oriented, higher density, and mixed-use development in core and corridor areas, four action items to increase the amount of locally generated and consumed food, two action items to improve the jobs/housing balance and reduce associated long-distance travel, and two action items to encourage the wider distribution of commonly used facilities and services between work and residence.

Zoning Ordinance

The Zoning Map and the Zoning Code (Title 19 of the Zoning Ordinance) are tools that allow the City to regulate the location and development of land uses in a more precise manner than through the more overarching vision of the General Plan. Although not new, the map and code are constantly evolving to reflect the objectives of the Sunnyvale City Council with regard to land use regulations. Changes and updates to the map and code occur almost annually. The Zoning Code identifies and defines zoning districts and development standards, and regulates such issues as uses, setbacks, building heights, building additions, population densities, parking requirements, landscaping, and land use compatibility.

Southern Pacific Corridor Specific Plan

The City has implemented a variety of area plans. The SPCSP was adopted by the City in 1984, and updated in 1994 with the objective to ensure the properties were developed in a compatible manner with adjacent developments. The SPCSP contains policies relating to land use, development requirements (e.g., setbacks, building heights, and FARs), landscaping, site access, parking, and resource preservation. One Site of the SPCSP is contained within the Project area – Site #2. The Site is located at the southernmost edge of the Project area, abutting against the train track route. The Site size is approximately 35 acres, though only the eastern approximate 29 acres of the Site are located within the Project area. (City of Sunnyvale 1994).

Design Guidelines

In an effort to protect the attractiveness and inherent characteristics of the City's distinct neighborhoods, the City has put into place a number of design guidelines to direct the visual impact of future growth and improvements. Those most relevant to the proposed project include the Industrial Guidelines and the City-Wide Design Guidelines. The City also adopted a telecommunications ordinance as part of the Zoning Code to aesthetically guide the location and placement of telecommunications facilities throughout the community. (City of Sunnyvale 2013).

Heritage Preservation Program

In 2008/2009, the City completed a review of potential new heritage housing districts and individual heritage resources in an effort to promote reasonable historic preservation. The City has not adopted any new heritage housing districts since 1979. One new neighborhood studied in 2009 for heritage housing district status was considered ineligible. Another, an Eichler neighborhood, was potentially eligible but ultimately was not designated. It was determined that stronger design guidelines would suffice in preserving some unique neighborhoods regardless of historic status; however, the City remains committed to its Heritage Preservation Program, which is guided by policies outlined in the Heritage Preservation Sub-Chapter of the General Plan.

3.6.3 Impacts and Mitigation Measures

Significance Criteria

Based on significance criteria presented in Appendix G of the State CEQA Guidelines, a Project would have a significant land use impact if the Project would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Methodology

Evaluation of potential land use impacts within the City is based on a review of planning documents pertaining to the City and the Project area, including the Sunnyvale General Plan, Municipal Code, the SPCSP, and the Moffett Federal Airfield CLUP. This analysis determines whether potential inconsistencies with land use plans, goals, policies, and documents would result in environmental impacts related to land use. The final determination regarding whether a project is consistent or inconsistent with an applicable plan or policy document would be made by the decision-making body.

While the General Plan's Land Use and Transportation Element is being concurrently updated, the updated LUTE has not yet been adopted and is subject to future change. Subsequent project

monitoring would account for internal consistency between the proposed specific Plan and updated LUTE, and thus the updated LUTE is not analyzed within this EIR.

The provided impact analysis examines proposed goals and policies within the draft Specific Plan to determine whether implementation of the proposed Project would result in significant population, housing, and employment impacts. The analysis further identifies and describes how the proposed goals and policies, in addition to existing regulations and standards (e.g. Sunnyvale General Plan, CLUP, etc.), provide enforceable requirements and/or performance standards that avoid or minimize significant impacts and uphold the City's standing as an environmentally conscious community.

Division of Established Community and Compatibility with Existing Land Uses

Impact LU-1: Implementation of the Project would not physically divide an established community, nor would it result in substantial land use compatibility issues. Impacts would be less than significant.

Division of an established community would occur as a result of development and construction of physical features that constitute a barrier to easy and frequent travel between constituent parts of a community. At present, residential communities along Mathilda Avenue, Evelyn Avenue, and Central Expressway are located adjacent to the Project area. However, as noted above, the project site is currently somewhat separated or divided from these neighborhoods by major 4-6 lane roadways.

Despite the large scale of the Project area, the specific Plan does not include large-scale infrastructure projects such as freeways or high-volume roadways that would potentially divide any existing community, nor does it substantially alter the general type of land uses on-site. While the site may gradually transit to taller buildings that support more office uses, overall use would remain office and light industrial, consistent with historic land uses.

Further, the current street system, including pedestrian and bike facilities would be improved over time to promote bicycle and pedestrian connectivity. Wider sidewalks, new biked paths and a more walkable pedestrian environment required under Project's goals, policies and development standards would foster connectivity within the Project area as well as with adjacent neighborhoods. Therefore, the Project would be compatible with surrounding land uses and would not physically disrupt or divide adjacent established communities, but instead foster connectivity and creation of a more integrated community.

Consistency with Land Use Plans and Policies

Impact LU-2: Implementation of the Project would generally be consistent with adopted plans and policies due to Peery Park Specific Plan goals, policies and development standards which would ensure consistency with relevant plans and policies. Impacts would be less than significant.

The Project would be subject to existing land use plans and policies. The Project would follow or require review and allowances under the Moffett Federal Airfield Comprehensive Land Use Plan (see Table 3.6-4), Zoning, Southern Pacific Corridor Specific Plan, Design Guidelines of the City, and the Heritage Preservation Program.

The City's existing General Plan contains at least seven chapters which guide future development through multiple goals, policies and objectives, and as such the Project must be consistent with the City's General Plan (see Table 3.6-3 for full discussion). The proposed Project would be consistent with the LUTE vision for an increase of innovative cutting light industrial district supported by multimodal transportation improvements, including pedestrian-centered thoroughfares, established cycling lanes, parking restructuring and improved transit connectivity. An addition of approximately 215 new residential units and allowances for Activity Center subdistricts for restaurants and retail type commercial business within close proximity to employment centers would enhance the mix of uses for the area, resulting in a more balanced mix of land uses. As discussed in Table 3.6-3, the proposed Project would be generally consistent with LUTE policies. Pedestrian-scale ground walkability, restaurant and/or retail uses, increased industrial intensity, streetscape enhancements, and new housing opportunities are incorporated to the Project. Under the necessity for specific plans in locations which require special attention, these elements are generally consistent with LUTE land use policies for the Project area, including locating new residential opportunities near transit corridors, encouraging active multi-modal uses, creating workplace-oriented spaces, encouraging profitable business uses, and balancing industry opportunities with housing (see Table 3.6-3).

The Moffett Federal Airfield CLUP (Santa Clara County Airport Land Use Commission 2012) likewise contains policies and plans which direct the land uses and development that may be allotted in adjacent areas to the airport. The Project may be consistent with the advisory nature of the CLUP, and is discussed further in Table 3.6-4. Building height maximums would range from two to eight stories as allowed within the CLUP, and building occupancy maximums would remain subject to safety restrictions and outlines established by the CLUP. Additionally, design guidelines of the Project would mitigate light and glare issues for air vehicle approach zones and safety zones as shown in the CLUP. Ultimately, as discussed within Table 3.6-4, the Project would be generally consistent with the policies detailed within the CLUP.

Though not a regulatory plan, the Plan Bay Area describes Priority Development Areas (PDA) for improvement and multi-use sustainable developments within access to multi-modal transportation options and creating compact, sustainable communities (Association of Bay Area Governments 2013). While the Project area is not located within a described PDA, it is located adjacent to the Caltrain – Sunnyvale Station that is located within the PDA area. The PDA centers are focused on increased housing, promoting mixed-use projects, walkable districts, affordable housing, high mobility, and improved multi-modal opportunities. The Project area is accessible to a variety of transit corridors, and would provide mixed-use opportunities within the proposed Activity Center subdistrict(s) and clear cyclist routes along N Mathilda and W California Avenues closest to the Caltrain – Sunnyvale Station. Transit improvements would also facilities connectivity with the PDA.

Nearest to the Project area, the Southern Pacific Corridor Specific Plan (SPCSP) (City of Sunnyvale 1994) directs development around the Caltrain – Sunnyvale Station and along the station route. The SPCSP encourages connectivity with the adjacent neighborhoods and access routes, in addition to buffers around the corridor areas. Zoning, development objectives, development standards, and interim use standards are detailed within the SPCSP. While the development, access, parking, setbacks, open space requirements, building height, and additional special requirements are addressed throughout the document, the SPCSP allows interim use standards for existing facilities which are in noncompliance. The 29 acre portion of Site #2 indicated within the SPCSP at the southernmost edge of the Project area would be subject to this information. Future development for affected lands within the Project area would be subject to section 3 of the SPCSP to determine the appropriate development standards, as allowed under the Project.

The Project would replace some of the current regulation contained in Title 19 (Zoning) of the Sunnyvale Municipal Code within the Project area with the development standards detailed in Book 2 of the draft Specific Plan. The Project may allow higher FAR throughout most of the Project area through an incentive zoning program, and would also allow residential development on the eastern border. Each development project would be required to demonstrate what community benefits they are providing to show how they meet the incentive zoning program to go above the baseline FAR allowance. These instances would allow for higher intensity development within the District, while balancing the needs of the community and existing land use parameters.

Conflicts with Habitat Conservation Plan or Natural Community Conservation Plan

Impact LU-3: No Habitat Conservation Plan or Natural Community Conservation Plan has been adopted within the vicinity of the Project area. Therefore, there would be no potential impact related to conflicts with an applicable habitat conservation plan or natural community conservation plan.

No Habitat Conservation Plans or Natural Community Conservation Plans (HCP or NCCP) have been adopted that apply to the Project area or immediately surrounding areas. Therefore, the Project would not result in any impacts to HCPs/NCCPs.

Cumulative Impacts

Development of the proposed Project in conjunction with other pending/future projects would increase commercial, industrial, and housing development within the City. Nevertheless, these land use changes in the Project area are consistent with LUTE and ABAG goals of focusing land use changes in industrial areas of the City near transit to balance housing demand and promote economic growth. The proposed Project, in combination with other pending/future projects in the City, supports LUTE and SCAG goals by promoting new housing along with supporting industrial uses in the Project area, improving the pedestrian and cyclist environment, and promoting multi-modal access to the nearby Caltrain – Sunnyvale Station that connects the City with the South Bay region via the Plan Bay Area plan. This integrated land use-transportation approach, in addition to parking restructuring and streetscape improvements, is expected to increase the use

of public transit and decrease personal vehicle use between new housing, jobs, and transportation services, thus reducing net increases in City traffic, overall vehicle miles traveled, peak-hour congestion, and greenhouse gas emissions, as further described in Section 3.2, *Air Quality*, Section 3.4, *Greenhouse Gas Emissions*, and Section 3.11, *Utilities and Service Systems.*

In addition, all pending and future projects allowed under the Project are required to be consistent with the LUTE and/or the Specific Plan (when adopted) and may be required to undergo Development Review and/or Development Agreement processing and other discretionary land use actions to determine consistency with established land use policies and regulations. In addition, projects wishing to utilize the proposed incentive based zoning program would create a community benefits plan to illustrate their proposal. Therefore, the proposed Project, in combination with other pending/future projects, would not result or contribute considerably to significant cumulative land use impacts. For cumulative impacts that result primarily from development outside of the City's jurisdiction (i.e., in the cities of Mountain View, Palo Alto, or Santa Clara), it should be noted that the City cannot control land use policies or decisions outside of its boundaries; however, regional planning guidance provided by ABAG encourages municipalities to promote growth that would limit and reduce potential cumulative impacts, particularly related to transportation. Within the Project, streetscape enhancements are proposed alongside VTA transit service systems with the intent of accommodating this growth, as further discussed in Table 3.6-3.

Table 3.6-3. Project Consistency with General Plan Relevant Land Use Policies

Related Policies	Consistency Analysis
Transportation	
Policy LT-1.6: Preserve the option of extending Mary Avenue to the industrial areas north of the U.S. Highway 101. Policy LT-1.7a: Locate higher intensity land uses and developments so that they have easy access to transit services. Policy LT-1.10: Support Land Use planning that complements the regional transportation system. Policy LT-1.10c: Encourage mixed-use development near transit centers. Policy LT-5.1: Achieve an operating level-of-service (LOS) of "D" or better on The City-wide Roadways and Intersections, as defined by The Functional Classification of The Street System. Policy LT-5.5b: Allow land uses that can be supported by the planned transportation system.	Consistent. The Mary Avenue extension is still considered within the Specific Plan which also offers increased connectivity utilizing multi-modal transportation options, including the regional Caltrain – Sunnyvale Station, which would be able to support the increased intensity of industrial uses within the Project area. While mixed uses are not proposed near rail transit centers, an activity center is proposed at to the Central Expressway/Mary Avenue intersection, and mixed use ability along the Mathilda Avenue grand boulevard. LOS and additional transportation issues are discussed in Section 3.16, *Transportation, Circulation & Traffic.*
Land Use & Sense of Place	
Policy LT-2.1c: Require appropriate buffers, edges and transition areas between dissimilar neighborhoods and land uses. Policy LT -2.2: Encourage nodes of interest and activity, such as parks, public open spaces, well planned development, mixed-use projects and other desirable uses, locations and physical attractions. Policy LT-2.2b: Encourage development of diversified building forms and intensities. Policy LT-2.2d: Maintain public open space areas and require private open space to be maintained. Policy LT-4.1a: Limit the intrusion of incompatible uses and inappropriate development into city neighborhoods. Policy LT-4.1c: Use density to transition between land use and to buffer between sensitive uses and less compatible uses. Policy LT-4.1d: Anticipate and avoid whenever practical the incompatibility that can arise between dissimilar uses. Policy LT-4.2: Require new development to be compatible with the neighborhood, adjacent land uses and the transportation system. Policy LT-4.2a: Integrate new development and redevelopment into existing neighborhoods.	Consistent. Buffers between residential areas and the Project area (both existing and proposed within the Project area) consist of large avenues, an Activity Center subdistrict, and a specified Neighborhood Transition subdistrict (see "District Maps" Figure). While the Project area is primarily used as an industrial center, the Specific Plan encourages walkable areas and Activity Center subdistrict(s) for mixed-use development – separate in use and form from the surrounding proposed districts, and allow opportunities for workplace-oriented, on-site facilities. Additionally, open space is encouraged within the plan, with benefits for implementing open space into new development projects. The Workplace Transition subdistrict within the proposed plan offers an internal compatibility solution to providing gradual transition areas between the external land uses, Innovation Edge subdistrict, and the internal high-intensity industrial Mixed Industry Core subdistrict. Multi-modal connectivity opportunities

Table 3.6-3. Project Consistency with General Plan Relevant Land Use Policies (Continued)

Related Policies	Consistency Analysis
Policy LT-4.2b: Utilize adopted City design guidelines to achieve compatible architecture and scale for renovation and new development in Sunnyvale's neighborhoods. Policy LT-4.2c: Develop specific area plans to guide change in neighborhoods that need special attention. Policy LT-4.3a: Review development proposals for compatibility within neighborhoods. Policy LT-4.3c: Design streets, pedestrian paths and bicycle paths to link neighborhoods with services. Policy LT-4.6: Safeguard industry's ability to operate effectively, by limiting the establishment of incompatible uses in industrial areas. Policy LT-4.8a: Require high quality site, landscaping and building design for higher intensity industrial development. Policy LT-4.13a: Discourage commercial uses and designs that result in a boxy appearance. Policy LT-4.14d: Encourage employers to provide on-site facilities such as usable open space, health club facilities, and child care where appropriate. Policy LT-5.5b: Require sidewalk installation in subdivisions of land and in new, reconstructed or expanded development.	between the Project area development and existing neighborhoods consist of proposed pedestrian walkway installations, bike route modifications, and implementation of the Neighborhood Transition subdistrict, among a variety of additional aesthetic and mobility tools outlined in the Plan and detailed further in Section 3.16, *Transportation, Circulation & Traffic*. Further, the Plan design guidelines allow for building and development design variation that can prevent an undesirable 'boxy' aesthetic, though retains enough rigidity to remain compatible with the City design guidelines, as further described in Section 3.1, *Aesthetics*.
Housing	
Policy LT -3.3: Maintain lower density residential development areas where feasible. Policy LT-3.3b: Promote and preserve single-family detached housing where appropriate and in existing single-family neighborhoods.	Consistent. Four nonconforming single-family residences are located along the eastern edge of N Pastoria Avenue south of the Central Expressway in the southern region of the Specific Plan area on land zoned for M-S Industrial uses. As the Plan retains the Industrial land use designation for these plots of land, redevelopment would not be inappropriate due to its consistency with the existing General Plan LUTE and redevelopment feasibility goals. Further, implementation of approximately 215 residences would greatly offset any loss of the four nonconforming single-family residences.

Table 3.6-3. Project Consistency with General Plan Relevant Land Use Policies (Continued)

Related Policies	Consistency Analysis
Accessibility	
Policy LT-4.7: Support the location of convenient retail and commercial services (e.g., restaurants and hotels) in industrial areas to support businesses, their customers and their employees. Policy LT-4.8: Cluster high intensity industrial uses in areas with easy access to transportation corridors. Policy LT -4.10: Provide appropriate site access to commercial and office uses while preserving available road capacity.	Consistent. At least one Activity Center subdistrict is proposed for the Project area in a convenient location at the southwesterly corner of the Plan Area. A second Activity Center subdistrict is considered at the northerly edge of the site, completely surrounded by industrial and business facilities. The Project area is accessed by bus routes, light rail, regional transport systems, and a selection of freeways and collector roadway corridors. Transportation corridors and road capacity are further addressed and discussed in Section 3.16, *Transportation, Circulation, & Traffic*.
Land Use Economics	Jobs & Housing balance
Policy LT-6.3a: Support land use policies to achieve a healthy relationship between the creation of new jobs and housing. Policy LT-7.1b: Ensure that rezoning industrial and commercial areas or specific sites will not significantly hurt the City's economic base. Policy LT -7.2: Encourage land uses that generate revenue, while preserving a balance with other City needs, such as housing. Policy LT-7.5: Encourage the attraction and retention of businesses that provide a range of job opportunities. Policy HE-1.4: Continue to require office and industrial development to mitigate the demand for affordable housing.	Consistent. The Project includes an addition of approximately 215 family dwellings on the eastern edge of the site, which would continue the balance between jobs and housing within the area. These dwellings would enable convenient access to regional transport corridors and employment opportunities within the Project area for an increased amount of the workforce, and are further discussed in Section 3.13, *Population and Housing*. As there is no rezoning of industrial land uses, and an increase of business concentration is proposed within the Project, revenue would have an anticipated increase. Introduction of the Activity Center subdistrict(s) would encourage a range of business opportunities even within the industrial district. The Innovation Edge subdistrict would likewise attract higher-end businesses to the District. Increased FARs for the Project area would increase the business capacity for businesses within the Project area and mitigate the demand for affordable housing.

Table 3.6-3. Project Consistency with General Plan Relevant Land Use Policies (Continued)

Related Policies	Consistency Analysis
Sustainability	
Policy LT-6.4: Encourage sustainable industries that emphasize resource efficiency, environmental responsibility, and the prevention of pollution and waste.	Consistent. As described in section 1.3.7 of the Specific Plan, a variety of sustainability goals and development initiatives are addressed within the Project area. the City's goals for resource efficiency and waste prevention would be addressed via solutions such as initiatives for increased open space, improved water and air quality measures, improved multi-modal transportation options, and adherence to the City's Climate Action Plan, Zero Waste Policy, Green Building Program, and Urban Forestry sustainability programs, as further addressed within Section 3.2, *Air Quality*, Section 3.7, *Greenhouse Gas Emissions*, and Section 3.17, *Utilities and Infrastructure*.
Open Space	
Policy LT-8.9: Refrain from engaging in the development of open space and/or recreational facilities without prior assurance that ongoing maintenance needs will be addressed. Policy LT-8.12: Utilize design and development guidelines for all park types within the City's open space system. Policy LT-8.13: Mitigate as feasible the open space need in areas identified as underserved through the acquisition of new parkland and/or the addition of amenities in order to bring sites in line with design and development guidelines. Policy LT-9.2: Support public and private efforts in and around Sunnyvale to acquire, develop, and maintain open space and recreation facilities and services for public use.	Consistent. Section 2.6 of the Plan outlines the open space regulations that would be implemented with the Project. The Plan addresses a myriad of park styles and regulations for each park type, including requirements and provisions for increasing and maintaining public and private open space areas.

Table 3.6-4. Project Consistency with Moffett Federal Airfield CLUP

Related Policies	Consistency Analysis
Tall Structure Compatibility	
T-1, T-2 detail that any structure greater than 200 feet tall could pose a special hazard to aircraft in flight and may require additional approval and/or deemed to be a hazard to normal aircraft operations.	Consistent. There are no proposed buildings or subdistrict height standards greater than 200 feet. Additional approvals are required for abnormal projects which would be internally accounted for via the CLUP.
Safety Compatibility	
S-1 These policies and the Safety Zone Compatibility Policies … shall be used to determine if a specific land use is consistent with the CLUP. Safety impacts shall be evaluated according to the Airport Safety Zones presented on Figure 3.6-1. S-2 Schools, hospitals, nursing homes, and other uses in which the majority of occupants are children, elderly, and/or disabled shall be prohibited within the Runway Protection Zones (RPZs), Inner Safety Zones (ISZs), Turning Safety Zones (TSZs), Sideline Safety Zones (SSZs), and Outer Safety Zones (OSZs) … These uses should also be discouraged in the Traffic Pattern Zones (TPZs). S-3 Amphitheaters, sports stadiums and other very high concentrations of people shall be prohibited within the Runway Protection Zones (RPZs), Inner Safety Zones (ISZs), Turning Safety Zones (TSZs), Sideline Safety Zones (SSZs), Outer Safety Zones (OSZs) and Traffic Pattern Zones (TPZs) presented in Figure 3.6-1. S-4 Storage of fuel or other hazardous materials shall be prohibited in the Runway Protection Zone. Above ground storage of fuel or other hazardous materials shall be prohibited in the Inner Safety Zone and Turning Safety Zone. Beyond these zones, storage of fuel or other hazardous materials not associated with aircraft use should be discouraged. S-5 … open space requirements, for sites which can accommodate an open space component, shall be established at the general plan level for each safety zone where feasible as determined by the local jurisdiction, as individual parcels may be too small to accommodate the minimum-size open space requirement. To qualify as open space, an area must be free of buildings, and have minimum dimensions of at least 75 feet wide by 300 feet ling along the normal direction of flight. The clustering of development	Consistent. The Project design and development guidelines would be subject to safety requirements as detailed within the CLUP, including safety zones and similar mapped areas as detailed in Table 3.6-2 and Figure 3.6-1, and as noted within section 1.3.e of the Specific Plan. Uses for children, elderly and/or the disabled would follow S-2, and high concentration centers are not currently proposed for the areas as proposed within S-3. While social activity uses may be provided within the proposed Activity Center subdistrict(s), the density of attendees would not be considered as “high concentration” as the sports stadium or amphitheater examples, limited by conservative parking opportunities and maximum capacity building standards. Due to the CLUP coverage over the Project area, hazardous material awareness would be subject to S-4, open space requirements would be regulated by S-5, and land use densities would be addressed via S-6. Design and utility guidelines are directed to be consistent with, and adhere to, the S-7 policies. S-8 aircraft gliding concerns are addressed via Project height and design standards. As there are no current land uses in non-compliance of airport safety policies, S-9 would not affect the Project.

Table 3.6-4. Project Consistency with Moffett Federal Airfield CLUP (Continued)

Related Policies	Consistency Analysis
and provision of contiguous landscaping and parking areas will be encouraged to increase the size of open space areas. S-6 The principal means of reducing risks to people on the ground is to restrict land uses so as to limit the number of people who might gather in areas most susceptible to aircraft accidents. S-7 The following uses shall be prohibited in all Airport Safety Zones: -Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator. -Any use that would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport. -Any use which would generate smoke or water vapor, or which would attract large concentrations of birds, or which may otherwise negatively affect safe air navigation within the area. -Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation, communication or navigation equipment. S-8 Buildings that would interfere with an aircraft gliding to an emergency landing in a safety zone open area are not permitted. S-9 In unique cases an exception can be granted, at the discretion of the ALUC, on the basis of mitigation measures proposed by the applicant which would result in the final project improving the overall safety in the safety zones in comparison to the situation existing prior to the project. An example of such a possible mitigation is the removal of existing incompatible structures in exchange for constructing less incompatible structures. The following conditions must be met for this variance to be granted: a. There must be a clear, demonstrable net improvement in safety. b. The mitigation must provide a permanent improvement in safety. For instance, in the example above, the removed structures could not be replaced by other structures at a later date.	

Table 3.6-4. Project Consistency with Moffett Federal Airfield CLUP (Continued)

Related Policies	Consistency Analysis
Overflight Compatibility	
O-1 All new projects within the AIA that are subject to discretionary review and approval shall be required to dedicate an avigation easement to the County of Santa Clara. The avigation easement shall be similar to that shown as Exhibit 1 in Appendix A of the CLUP. (In September of 2002 Assembly Bill AB2776 was signed into law and is to become effective on January 1, 2004. This statute requires that as part of the real estate transfer process, the purchaser be informed if the property is in an Airport Influence Area and if so, the purchaser is to be informed of the potential impacts resulting from the associated airport.)	Conditionally Consistent. Because the Project would result in standards that allow for a higher footprint, building height, and intensity of use, the Project is subject to discretionary review and approval. The Project would be required to dedicate an avigation easement to the County of Santa Clara to remain consistent with O-1.
Reconstruction Compatibility	
R-1 Reconstruction projects that are not subject to a previous avigation easement shall not be required to provide an avigation easement as a condition for approval. R-2 Residential reconstruction projects must include noise insulation to assure interior noise levels of less than 45 dB CNEL. R-3 An application for reconstruction increasing the structure's internal square footage, footprint square footage, height, and/or intensity of use may be approved if the local agency determines that such increase will have no adverse impact beyond that which existed with the original structure. However, a project approved under this policy shall require the property owner to offer and the local agency shall accept an avigation easement to the County of Santa Clara, similar to Exhibit 1 in the Appendix [of the CLUP].	Consistent. While the Project allows for redevelopment of existing industrial buildings, the Project's purpose is not to rebuild a legally established structure. As such, reconstruction policies would not apply. However, the policies detailed in R-1 to R-3 would affect future reconstruction actions that may occur as a result of unknown future events.

3.7 NOISE

This section describes the noise setting within Peery Park (Project area) and the surrounding vicinity, and discusses the potential noise-related impacts that could result from implementation of the Peery Park Specific Plan Project (Project). The primary noise issues include construction-generated noise and ground-borne vibration, operational noise from proposed land uses, operational noise from traffic growth, and noise from aircraft operations at the Moffett Federal Airfield. Noise impacts were determined based on available data provided by the City of Sunnyvale (City) and noise and traffic assumptions and calculations performed by Amec Foster Wheeler for existing and future scenarios, and from the Moffett Federal Airfield Comprehensive Land Use Plan (CLUP).

3.7.1 Environmental Setting

Fundamentals of Sound and Environmental Noise

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Because sound pressure can vary greatly within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. When assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting is typically applied to community noise measurements.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more useable range of numbers in a manner similar to the way that the Richter scale is used to measure earthquakes. In terms of human response to noise, studies have indicated that a noise level increase of 3 dBA is barely perceptible to most people, a 5-dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of

loudness. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are shown in Table 3.7-1.

Table 3.7-1. Representative Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Power saw	—110—	Rock band
Jet fly-over at 100 feet		Crying baby
Subway	—100—	
Gas lawnmower at 3 feet		
	—90—	
Jack hammer		Food blender at 3 feet
	—80—	Garbage disposal at 3 feet
Noisy urban area during daytime		
Gas lawnmower at 100 feet	—70—	Vacuum cleaner at 10 feet
		Normal speech at 3 feet
Heavy traffic at 300 feet	—60—	Sewing machine
Air conditioner		Large business office
Quiet urban area during daytime	—50—	Dishwasher in next room
		Refrigerator
Quiet urban area during nighttime	—40—	Theater, large conference room (background)
Quiet suburban area during nighttime		
	—30—	Library
Quiet rural area during nighttime		Bedroom at night, concert hall (background)
	—20—	
		Broadcast/recording studio
	—10—	
Lowest threshold of human hearing	—0—	Lowest threshold of human hearing

Source: California Department of Transportation, Noise, Air Quality, and Hazardous Waste Management Office, *Technical Noise Supplement* (October 1998).

Noise Exposure and Community Noise

Noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. Rather, community noise varies continuously with time with respect to the contributing sound sources in the environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and changes in atmospheric conditions. What makes

community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short-duration single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment make the community noise level variable from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

Leq: The equivalent sound level is used to describe noise over a specified period of time, typically 1 hour, in terms of a single numerical value. The Leq is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

Lmax: The instantaneous maximum noise level measured during the measurement period of interest.

Lx: The sound level that is equaled or exceeded x percent of a specified time period. The L50 represents the median sound level.

DNL (or "Ldn"): The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises. This noise descriptor is referred to by different agencies and references as either DNL or Ldn. The two notations refer to the same noise descriptor.

CNEL: Similar to the DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants generally experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but instead combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 3 to 4.5 dBA per doubling of distance from the source.

Vibration

Vibration is sound radiated through the ground. The vibration of floors and walls may cause perceptible vibration, rattling of items such as windows or dishes on shelves, or a rumble noise. The rumble is the noise radiated from the motion of the room surfaces. In essence, the room surfaces act like a giant loudspeaker causing what is called ground-borne noise. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does

not provoke the same adverse human reaction. In addition, the rumble noise that usually accompanies the building vibration is perceptible only inside buildings.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration (FTA 2006). Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

Existing Ambient Noise Environment

Noise sources in the Project area include both stationary and mobile sources. Stationary sources emanate from a single point, whereas mobile sources are those that can move around or cannot be attributed to a single point. Mobile noise sources in the Project area include cars and trucks on roads and freeways (particularly US Highway 101 and State Route [SR]-237) and aircraft from San José International Airport and Moffett Federal Airfield. Stationary sources that exist at Peery Park include noise generated from various industrial and commercial facilities. Stationary sources typical of industrial areas include fabrication, large mechanical equipment, and loading areas. Stationary sources associated with commercial facilities includes outdoor dining areas, gasoline stations, car washes, fire stations, drive-through restaurants, air conditioning units, swimming pool pumps, school playgrounds, athletic and music events, and public parks.

The dominant sources of noise in the Project area are transportation facilities, including roadways which are the major source of transportation noise, followed by Moffett Federal Airfield, the Caltrain corridor and San José International Airport, and local freeway traffic (City of Sunnyvale 2011). High noise levels along major roadways such as US Highway 101 and SR-237 generate up to 75 CNEL on the periphery of the Project area, with levels below 65 CNEL on interior areas. Additionally, due to the proximity of the Project area to regional airports (including Moffett Federal Airfield, San José International Airport [SJC], and San Francisco International Airport [SFO]), aviation is a significant source of noise. The Moffett Federal Airfield 60 CNEL to 65 CNEL noise contour covers a significant portion of Project area, as well as the 65 CNEL to 70 CNEL noise contour, and to a lesser degree the 70 CNEL to 75 CNEL cover a small area in the northwestern portion of the Project area. Consistency with these noise constraints is reviewed and approved by the Santa Clara County Airport Land Use Commission (ALUC) (County of Santa Clara Airport Land Use Commission 2012).

To quantify the existing ambient noise environment in the Project vicinity, long-term ambient noise level measurement surveys taken for recent planning documents were used, including the City's General Plan and Land Use and Transportation Element (LUTE). Table 3.7-2 presents the ambient noise measurement results.

Table 3.7-2. Ambient Noise Measurements at Long-Term (LT) Locations, Existing Conditions

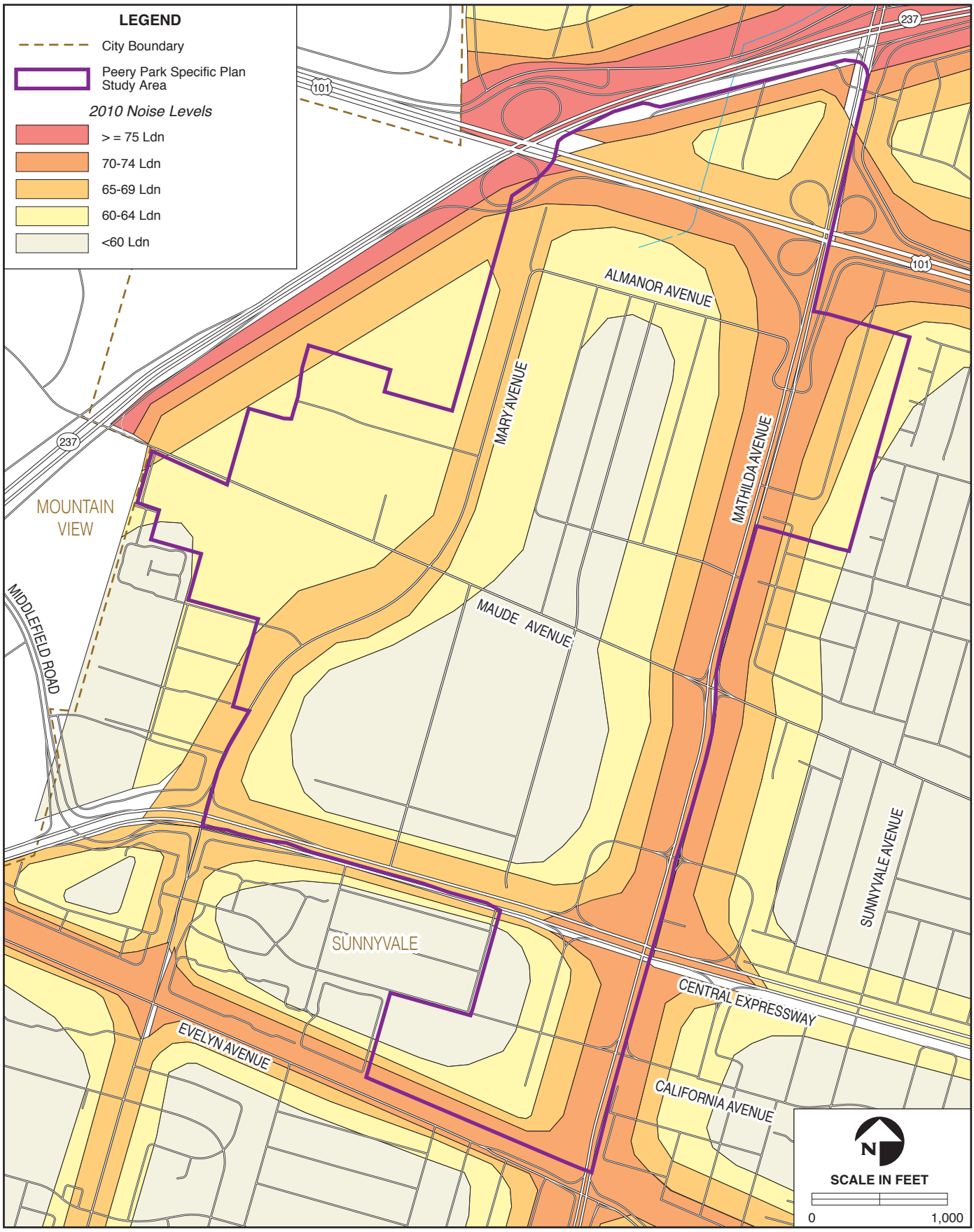
Site	Location	Date/Time	A-Weighted Noise Level						
			L_{max}	L_1	L_{10}	L_{50}	L_{90}	L_{eq}	DNL
LT-1	Evelyn Ave at Sunset Avenue – 120 feet from Caltrain track	5/29/12 – 5/30/12	--	--	--	--	--	--	73
		5/29/12 12:46pm	79	77	74	63	50	68	--
LT-5	Central Expressway, 170 feet to centerline – Murphy Avenue at Arques Avenue	5/30/12 – 5/31/12	--	--	--	--	--	--	61
		5/31/12 1:46pm	70	66	58	55	51	56	--
LT-6	Martin Murphy Park along Sunnyvale Avenue, 50 feet from roadway centerline	5/30/12 – 5/31/12	--	--	--	--	--	--	63
		5/31/12 12:36pm	78	74	67	58	52	63	--
LT-12	Caltrain Station on Frances Street, 150 feet from tracks centerline	6/6/12	--	--	--	--	--	--	70
		6/18/12 4:30pm	89	82	55	52	51	68	--
LT-14	East of Morse Avenue, 180 feet from centerline – in John W. Christian Greenbelt	6/12/12 – 6/13/12	--	--	--	--	--	--	60
		6/15/12 12:20pm	86	82	66	54	52	66	--
LT-15	SR 237, 330 feet from centerline – Plaza Drive at Borregas Drive	6/12/12 – 6/13/12	--	--	--	--	--	--	57
		6/15/12 12:40pm	86	82	64	54	52	67	--

Source: City of Sunnyvale 2012.

Average noise levels along most of the roadways where measurements were made ranged from 57 to 73 dBA L_{eq}. A low of 57 dBA L_{eq} was measured at the corner of Plaza Drive and Borregas Drive and the high of 73 dBA L_{eq} was measured at the Evelyn Ave at Sunset Avenue – 120 feet from the Caltrain track and at the Caltrain Station on Frances Street, 150 feet from tracks centerline (City of Sunnyvale 2012).

Roadway Noise Levels

To quantify existing ambient noise environment associated with traffic in the Project area, data provided in the Draft LUTE EIR was used. Table 3.7-3 presents the existing traffic noise levels along major area roadways and expressways. Existing day-night average noise levels calculated at a reference distance of 75 feet from the center of the near travel lane for highways and expressways relevant to the Project are included in Table 3.7-3 below. Additionally, Figure 3.7-1 depicts roadway noise conditions present in the Project area and vicinity.



amec foster wheeler

Noise Conditions – 2010 Noise Levels

FIGURE 3.7-1

Table 3.7-3. Existing Noise Levels along Sunnyvale Roadways

Roadway Segment	CNEL at 75 ft, Existing
Central Expressway, Mary Ave to Mathilda Ave	72
Maude Ave, Mary Ave to Mathilda Ave	65

* Noise levels for highways and expressways are given at a distance of 75 feet from the center of the near direction of travel.
Source: City of Sunnyvale 2012.

Moffett Federal Airfield

Peery Park is located less than 1 mile southeast of Moffett Federal Airfield and is entirely located within the designated Airport Influence Area, which is defined as "a composite of the areas surrounding the Airport that are affected by noise, height, and safety considerations." Noise contours associated with the airfield extend onto the Project area. While the majority of airfield noise exposure to the Project area is at 65 CNEL and below, there are areas within the 65 CNEL to 70 CNEL noise contour and to a smaller degree, areas within the 70 CNEL to 75 CNEL noise contour (Santa Clara County Airport Land Use Commission 2012).

Sensitive Receptor Land Uses

Sensitive receptors are populations that are more susceptible to the effects of noise than the population at large. Residences, schools, rest homes, hospitals, child care facilities, and churches are generally more sensitive to noise than commercial and industrial land uses. While land uses within the Project area are largely industrial and not considered sensitive, there are four single-family residences within the southern portion of the Project area, on North Pastoria Avenue as well as three other sensitive receptors (two medical facilities and one church) which are listed in Table 3.7-4 below.

Land uses adjacent to the Project area include single-family and multi-family residences, including three residential areas: Lowlanders to the southeast, SNAIL to the west, and Mountain View to the west. With the exception of a small portion of the Grand Boulevard and Neighborhood Transitional subdistricts, the Project area is generally separated from these neighborhoods by major existing roadways. Mathilda Avenue, a six-lane arterial forms the Project's eastern boundary with the SNAIL neighborhood, the Central Expressway – a four-lane grade-separated roadway — lies between the Project area and the Lowlander neighborhood to the south, and SR-237 (four lanes) and Mary Avenue lies between the Project area and Mountain View to the west. There are also lodging uses adjacent to the Project area on the east, along North Mathilda Avenue, and to the north, across US Highway 101. Other nearby sensitive receptors are listed in Table 3.7-4.

Table 3.7-4. Sensitive Receptors Within and Near the Project Area

Name	Distance to Project Area	Type
IntraOp Medical Corporation	Within	Medical Facility
Trinity Church of Sunnyvale	Within	Place of Worship
Parkinson's Institute	Within	Medical Facility
Right Start Preschool	500 feet	Preschool/Daycare
Creative Explorers Preschool	620 feet	Preschool/Daycare
Lulu's Daycare	800 feet	Preschool/Daycare
St. Herman of Alaska Russian Orthodox Church	1,200 feet	Place of Worship
St. Mark Lutheran Church	1,300 feet	Place of Worship
Bambi Family Daycare	1,500 feet	Preschool/Daycare
Bishop Elementary School	1,700 feet	School
Stratford School	1,800 feet	School
St. Thomas Episcopal Church	1,800 feet	School
Plaza De Las Flores	1,900 feet	Senior Apartment Complex
Columbia Middle School	2,000 feet	School
The Rock Church	2,300 feet	Place of Worship
Vargas Elementary School	2,500 feet	School
Sunnyvale Public Library	3,000 feet	Library
Sunnyvale Christian School	3,700 feet	School
The Kings Academy	1 mile	School

3.7.2 Regulatory Setting

Federal Policies and Regulations

Various standards have been developed to address the compatibility of land uses and noise levels. The applicable standards are presented in the following discussion. Special emphasis is placed on land uses that are considered to be sensitive to high noise levels. Typical sensitive receptors in the City include residences, schools, child care centers, places of worship, public libraries, hospitals, long-term health care facilities, convalescent centers, and retirement homes.

Occupational Safety and Health Act

Under the Occupational Safety and Health Act of 1970 (29 USC §651 et seq.), the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (29 CFR §1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list limits on noise exposure levels as a function of the amount of time during which the worker is exposed. The regulations further specify requirements for a hearing conservation program (§1910.95(c)), a monitoring program (§1910.95(d)), an audiometric testing program (§1910.95(g)), and hearing protection §1910.95(i)). There are no federal laws governing community noise.

Federal Highway Administration

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes, requires an assessment of noise and consideration of noise abatement per Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), Procedures for Abatement of Highway Traffic Noise and Construction Noise. The Federal Highway Administration (FHWA) has adopted noise abatement criteria (NAC) for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals when "worst-hour" noise levels approach or exceed 67 dBA Leq. Caltrans has further defined approaching the NAC to be 1 dBA below the NAC for noise-sensitive receivers identified as Category B activity areas (e.g., 66 dBA Leq is considered approaching the NAC).

Federal Transit Administration

The Federal Transit Administration (FTA) has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads. The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day).

Federal Aviation Regulations, Part 150 – Airport Noise Compatibility and Land Use Planning

The Federal Aviation Administration (FAA) has established the Federal Aviation Regulations (FAR) Part 150 to address noise at civilian airports. FAR Part 150 specifically addresses airport noise compatibility planning. These regulations prescribe the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving projects related to those programs. FAR Part 150 directs that noise contours for airports be developed using the FAA's Integrated Noise Model for developing standardized noise exposure maps and predicting noise impacts. The agency must identify incompatible land uses within the noise contours. FAR Part 150 review often leads to operational changes in a project to minimize or mitigate impacts.

State Policies and Regulations

California Government Code Section 65302(f)

California Government Code Section 65302(f) requires that all general plans include a noise element to address noise problems in the community. The noise element must recognize the guidelines established by the Office of Noise Control in the California Department of Health Services and is required to analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight online railroad operations and ground rapid transit systems
- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine tests, and all other ground facilities and maintenance functions related to airport operation
- Local industrial plants, including, but not limited to, railroad classification yards
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment

Noise contours are to be shown for all of these sources and stated in terms of CNEL or Ldn. The noise contours must be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above.

The noise contours are used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise. The noise element is required to include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted Noise Sub-Chapter serves as a guideline for compliance with the state's noise insulation standards.

California Noise Insulation Standards

The State of California establishes minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings as set forth in the 2013 California Building Code (Chapter 12, Appendix Section 1207.11). The noise limit is a maximum interior noise level of 45 dBA DNL. Where exterior noise levels exceed 60 dBA DNL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit. General plans facilitate the implementation of the Building Code noise insulation standards.

Division of Aeronautics Noise Standards

Title 21 of the California Code of Regulations sets forth the state's airport noise standards. In the findings described in Section 5006, the standard states the following: "A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction." Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dB.

Local Policies and Regulations

City of Sunnyvale General Plan, Safety and Noise Element

The Safety and Noise Element of the Sunnyvale General Plan identifies noise and land use compatibility standards for various land uses. It establishes goals, policies, and standards for evaluating the compatibility of proposed land uses with the noise environment. Applicable policies of the sub-element chapter are presented below (City of Sunnyvale 2011).

Goal SN-8: Compatible Noise Environment. Maintain or achieve a compatible noise environment for all land uses in the community (Table 3.7-5).

Policy SN-8.1: Enforce and supplement state laws regarding interior noise levels of residential units.

Policy SH-8.2: Apply Title 24 noise insulation requirements to all new single-family detached homes.

Policy SN-8.3: Attempt to achieve a maximum instantaneous noise level of 50 DBA in bedrooms and 55 DBA in other areas of residential units exposed to train or aircraft noise, where the exterior LDN exceeds 55 DBA.

Policy SN-8.4: Prevent significant noise impacts from new development by applying state noise guidelines and Sunnyvale Municipal Code Noise Regulations in the evaluation of land use issues and proposals.

Policy SN-8.5: Comply with "State of California Noise Guidelines for Land Use Planning" for the compatibility of land uses with their noise environments, except where the City determines that there are prevailing circumstances of a unique of special nature.

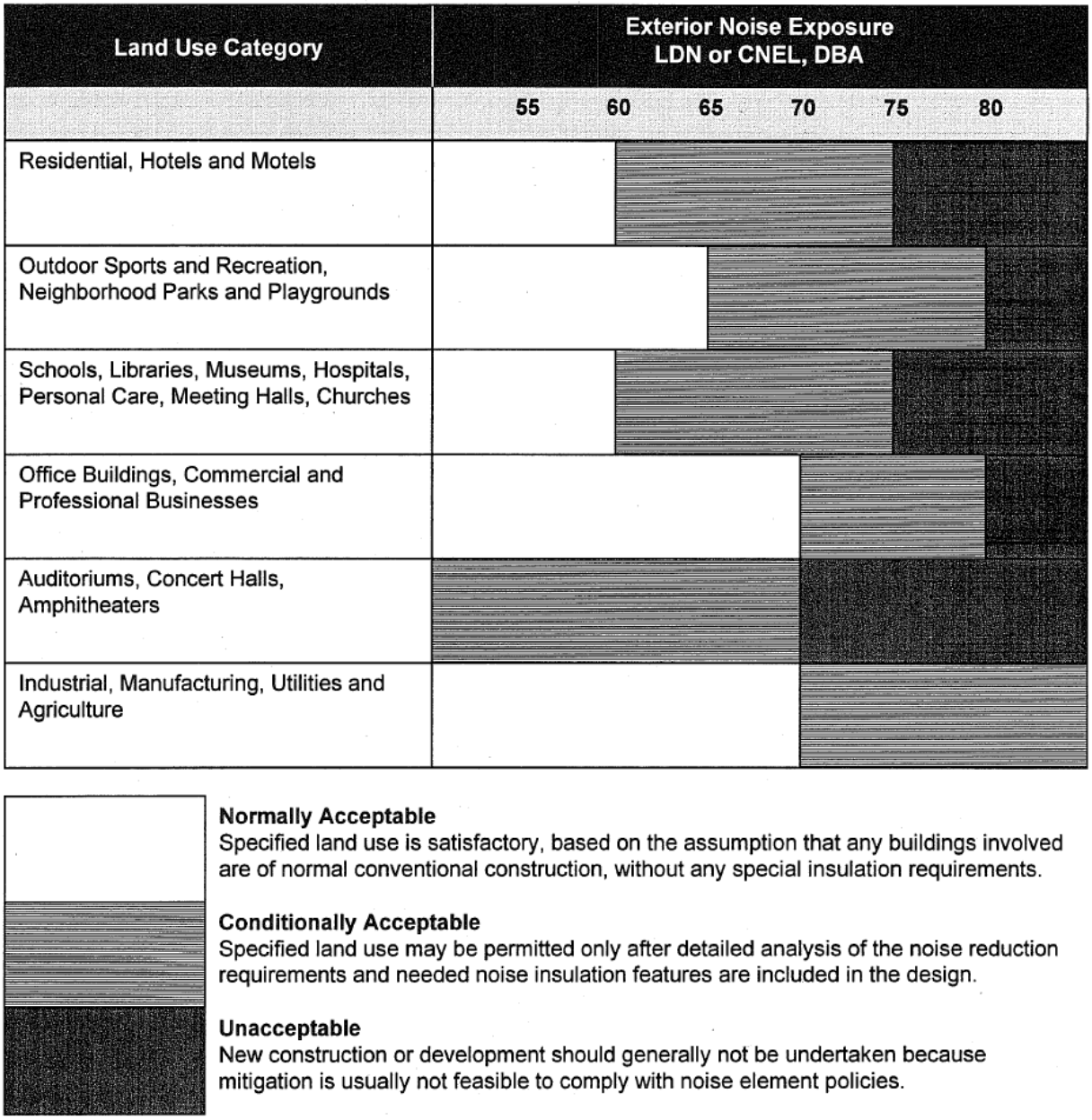
Policy SN-8.6: Use Figure 6-6 "Significant Noise Impacts from New Development on Existing Land Use" to determine if proposed development results in a "significant noise impact" on existing development.

Policy SN-8.9: Consider techniques which block the path of noise and insulate people from noise.

Goal SN-9: Acceptable Limits for Community Noise. Maintain or achieve limits for the levels of noise generated by land use operations and single-events.

Policy SN-9.1: Regulate land use operation noise.

Table 3.7-5. Land Use Compatibility Guidelines for Community Noise



Policy SN-9.2: Regulate select single-event noises and periodically monitor the effectiveness of the regulations.

Policy SN-9.3: Apply conditions to discretionary land use permits which limit hours of operations, hours of delivery and other factors which affect noise.

Goal SN-10: Maintained or Reduced Transportation Noise. Preserve and enhance the quality of neighborhoods by maintaining or reducing the levels of noise generated by transportation facilities.

Policy SN-10.1: Refrain from increasing or reduce the noise impacts of major roadways.

City of Sunnyvale Municipal Code

Section 16.08.030 of the City of Sunnyvale Municipal Code restricts construction-related activities to take place between the hours of 7:00 a.m. and 6:00 p.m. daily Monday through Friday and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays. No construction activity is allowed on Sunday or national holidays when city offices are closed. Where additional construction activity will not be a nuisance to surrounding properties, based on location and type of construction, a waiver may be granted to allow hours of construction other than as stated in this section. (Ord. 293010 §2).

3.7.3 Impacts and Mitigation Measures

Significance Criteria

Based on the CEQA Guidelines, Appendix G, a project would have a significant effect on the environment with respect to noise and/or ground-borne vibration if it would result in:

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

Methodology

Equipment noise during construction of the Project is the primary concern in evaluating short-term noise impacts. During operation, noise from traffic, stationary sources and new land uses would be the primary concerns associated with long-term noise impacts. Evaluation of potential noise impacts from construction and operation of the Project included a review of relevant City noise standards and policies, as well as a comparison of the existing noise environment with estimated construction, operation, and maintenance noise levels associated with the Project. Because there are no noise level standards or thresholds applicable to construction activities in the City, short-term construction impacts that would occur in these jurisdictions were assessed relative to recommendations of the FTA.

Construction Noise

Construction noise levels are based on the Project's anticipated construction equipment inventory, estimated durations of construction, and construction phasing, and are identified for onsite and offsite locations that are sensitive to noise, including local residences.

Noise levels were estimated using data published by the FTA regarding the noise-generating characteristics of typical construction activities (see Table 3.7-11 below). These noise levels would diminish rapidly with distance from the construction site, at a rate of approximately 6 dBA per doubling of distance as equipment is generally stationary or confined to specific areas during construction. For example, a noise level of 86 dBA measured at 50 feet from the noise source to the receptor would reduce to 80 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA to 74 dBA at 200 feet from the source to the receptor. The noise levels from construction at the offsite sensitive uses can be determined with the following equation from the FTA Ground Noise and Vibration Impact Assessment, Final Report:

$$\text{Leq at sensitive use} = \text{Leq at 50 feet} - 20\,\text{Log}(D/50)$$

Leq = noise level of noise source, D = distance from the noise source to the receiver, and Leq at 50 feet = noise level of source at 50 feet (U.S. Department of Transportation 2012)

Operational Noise

Project-related roadway noise was considered in terms of proposed vehicle operations in comparison to existing vehicle operations. Using similar methodology to determine existing and proposed vehicle trips for transportation and air quality (i.e., land use square footage, corresponding employment/consumer, and vehicle trips), Average Daily Traffic (ADT) associated with the Project is compared to existing conditions and existing ADT counts on surrounding roadways (Table 3.7-6). Noise projections for nearby streets are derived based on percentage change in traffic conditions between existing to Project ADT counts (Table 3.7-7).

Table 3.7-6. Existing Peery Park Adjacent Roadway Weekday Average Daily Traffic Counts

Roadway	Weekday Average Daily Traffic Counts
US Highway 101	140,000
SR-237	90,000
Mathilda Avenue	45,000
Central Expressway	42,000
Maude Avenue	15,000

Source: City of Sunnyvale 2013.

Table 3.7-7. Existing and Project Weekday Average Daily Traffic Associated with Peery Park

Existing (ADT)	Near-Term 7 (ADT)		Near-Tern Irvine (ADT)		Project (ADT)	
	Proposed	Change	Proposed	Change	Proposed	Change
15,702	16,554	+5%	13,972	-11%	29,125	+85%

Source: City of Sunnyvale 2015.

Noise generated from Project stationary sources is estimated based on the typical dBA levels generated from urban uses, such as heating, ventilation, and air conditioning (HVAC) equipment, delivery trucks, and other common uses (see Table 3.7-1).

Long-Term Peery Park Specific Plan Impacts

Impact NOI-1: Construction of the Project could generate noise that exceeds the City's Noise Ordinance Standards. With implementation of proposed mitigation, impacts resulting from increases in ambient noise would be less than significant with mitigation.

Under the Project, new multi-story buildings and other improvement such as subterranean parking structures, new roadways, and other infrastructure improvements would be constructed, which requires the use of heavy equipment, generators, power tools, and other sources of noise for various types of construction activities. The use of such equipment would result in short-term noise and vibration impacts to nearby land uses.

Construction projects would occur incrementally over time as individual projects develop in various locations, with associated noise temporarily and intermittently affecting localized areas. Further, construction could occur at more than one location within the Project area at the same time and the potential exists for multiple large construction projects located near or adjacent to each other to overlap.

The City's Municipal Code restricts construction activities to occur between 7:00 a.m. and 6:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 5 p.m. on Saturdays. No construction would be permitted to occur on Sunday or national holidays. As determined on a case-by-case basis and dependent on location and type of activity, additional construction operations may be permitted outside of restricted hours so long as construction activities do not result in a nuisance to surrounding land uses. The City has no criteria for determining noise impacts generated from construction activity.

Implementation of the Project would result in increases to local ambient noise levels, resulting in the potential exceedance of conditionally acceptable noise levels for proposed and existing nearby land uses. As the Project area is within several hundred feet of multiple sensitive receptors (Table 3.7-4), increases in ambient noise levels resulting from construction and operational activities within the Project area could result in substantial effects to nearby sensitive land uses. As the City has no criteria for determining construction-related noise impacts, and specific details regarding noise generated by proposed onsite land uses are currently unknown, an additional

noise study detailing these issues may be required to fully assess construction and operation noise impacts. With implementation of MM NOI-1, Project design would be subject to further review by the City to determine if construction and operation impacts require additional analysis or mitigation where appropriate to reduce ambient noise levels to acceptable levels for proposed and nearby land uses. Such mitigation deemed necessary by the City may include installation of sound barriers and/or limitation of noise-generating construction activities within close proximity of sensitive receptors.

As the Project would be required to comply with the hours of construction established by the Municipal Code through the building permit process, as well as through implementation of MM NOI-1, short-term noise related impacts would be considered *less than significant with mitigation*.

Mitigation Measures

MM NOI-1. Additional Project Review. The Project shall be subject to review by City staff to further assess impacts resulting from increases in ambient noise levels generated by Project construction and operation activities. The City staff shall determine whether additional analysis of noise-related impacts is required to adequately assess impacts resulting from Project construction and operation activities. During this review, City staff may propose additional measures appropriate to reduce potential noise related impacts, with regards to nearby sensitive land uses. To verify that acceptable noise levels are met and/or maintained, the Applicant shall retain a City-approved acoustical consultant to monitor noise during construction activities within close proximity to nearby sensitive receptors. Review of the Project shall be made by City staff prior to the issuance of a development permit.

Impact NOI-2: Construction of the Project could generate excessive ground-borne vibration or noise. However, with mitigation, this impact would be less than significant.

Construction activities for new buildings and improvements in the Project area would require the use of heavy equipment, generators, power tools, and other sources of ground-borne vibration or noise. The degree of ground-borne vibration experienced by receptors would vary depending on the soil type, ground profile, distance to the receptor building, and the construction characteristics of the receptor building. Table 3.7-8 identifies anticipated vibration velocity levels (in/sec) for standard types of construction equipment based on distance from the receptor. These pieces of equipment can generate vibration levels of up to 0.09 inches per second (in/sec) at a distance of 25 feet.

Construction-related ground-borne vibration could result in short-term impacts on receptors within and surrounding the Project area, depending on the location of the individual development. Generally, vibration levels at nearby receptors would be the highest during the excavation and foundation phases, in the first months of construction. The building phase typically involves smaller equipment that produces less vibrations and noise. Pile driving would generate the highest vibration levels and smaller equipment like small bulldozers would generate less. Pile driving can result in PPVs of up to 1.5 inches per second (in/sec) at a distance of 25 feet (FTA 2006).

Table 3.7-8. Vibration Source Levels for Construction Equipment

Construction Equipment	Vibration Level (in/sec) at 25 feet	Vibration Level (in/sec) at 50 feet	Vibration Level (in/sec) at 100 feet
Caisson Drilling	0.089	0.042	0.019
Loaded Trucks	0.076	0.035	0.017
Jackhammer	0.035	0.016	0.008
Small Bulldozer	0.003	0.001	0.001

Source: Caltrans 2013. Transportation and Construction Vibration Guidance Manual – Table 18.

The Caltrans measure of the threshold of architectural damage for conventional sensitive structures is 0.5 in/sec PPV for new residential structures and modern commercial buildings and 0.25 in/sec PPV for historic and older buildings. During construction of the Project, pile driving could potentially operate within close proximity to existing buildings within Peery Park; however, existing and proposed buildings are mostly located greater than 25 feet apart from each other. Therefore, it is unlikely that existing buildings would experience ground-borne vibration levels that would result in architectural damage; impacts related to ground-borne vibration would be less than significant. However, the exact locations of all buildings to be constructed under the Project have not been identified. Construction-related vibrations would have the greatest potential to impact sensitive uses that are adjacent or in close proximity to construction. The use of pile driving would have the greatest potential to generate significant vibration levels exceeding 0.5 in/sec at nearby sensitive receptors. However, other demolition equipment could be used in lieu of high-impact equipment (i.e., pile driver) in close proximity to sensitive receptors.

As current information regarding the location of proposed development it not yet available, adequate analysis of potential impacts resulting from the use of high-impact equipment during construction is not possible at this time. However, through mitigation measure MM NOI-1, development designs of the Project, as well as additional projects proposed for the Project area would be subject to further review by the City staff. During this review period, City staff may propose sequential analysis or mitigation measures to reduce noise-related impacts resulting from construction or operation of proposed development. In addition, to reduce potential impacts to nearby sensitive receptors, an approved acoustical consultant shall monitor construction activities within close proximity to sensitive receptors to further ensure construction results in insignificant impacts to these receptors. As specific details regarding development location are not known, siting of proposed developments may be located away from existing structures or sensitive land uses in order to avoid or reduce potential impacts from ground-borne vibrations and noise. Therefore, with implementation of proposed mitigation and additional City review of proposed development, ground-borne vibration impacts are conservatively concluded to be less than significant with mitigation.

Ground-borne noise is the rumbling sound of structure surfaces caused by high vibration levels. Because the Project would be subject to further review by the City with implementation of MM NOI-1, construction of the Project would not result in exposure of persons to or generation of excessive ground-borne vibration, and construction activities would be monitored so that

construction would not expose persons to or generate excessive ground-borne noise levels. Consequently, impacts would be less than significant with mitigation.

Mitigation Measures

Mitigation Measures NOI-1 applies.

Residual Impact

With implementation of MM NOI-1, the City shall review Project design and an approved acoustical consultant shall ensure that construction noise levels, as well as ground-borne vibrations and noise do not exceed unacceptable levels. This impact would be less than significant with mitigation. .

Impact NOI-3: Operation of the Project could result in an increase in ambient noise levels within the Project area. However, increases in ambient noise would be temporary and incremental. Impacts would be less than significant.

The primary noise sources from operation of the Project would be associated with the increased density and square footage of industrial and commercial land uses. Such noises would result from increased traffic, new stationary sources of noise, and new land uses.

The Project would generate new vehicle trips daily in the vicinity, contributing to ambient noise levels. The ambient noise measured in the Project vicinity ranges from 49 to 68 dBA Leq (Table 3.7-2) and noise levels on area roadways range from 65 to 72 dBA Leq, which is indicative of the generally high ambient noise levels of the Project area's busy environment. Further, noise levels along Central Expressway and Maude Avenue were calculated at 72 and 65 CNEL, respectively, based on noise modeling completed for the LUTE. Existing noise levels and projected conditions are derived from existing traffic conditions and proposed traffic conditions. To determine potential changes from existing to proposed noise levels associated with vehicle operations, the following assumptions were carried forward to address ADT:

- Access to the Project's direct access roads (Maude and Mathilda Avenues) would occur via US Highway 101, SR-237, Mathilda Avenue, and Central Expressway in the percentages 45 percent, 45 percent, 5 percent, and 5 percent, respectively.
- Access directly to the Project would occur via Maude or Mathilda Avenues equally (i.e., 50 percent and 50 percent).
- No changes to roadway configuration, speed limit, vehicle fleet mix would occur between existing, Near-Term 7 projects, the Irvine project, and Project scenarios.
- Given that existing noise levels have not been determined, only a calculated increase based on an increase in ADT counts will be presented.

According to methodology utilized in Section 3.10, *Transportation, Circulation, and Traffic* and Section 3.2, *Air Quality* to determine ADTs, the Project is expected to generate an additional

13,423 (29,125 total) ADTs by completion in 2035. Based on the percent change in traffic volumes resulting from implementation of individual project developments and the entire Project, the change in traffic noise levels on nearby streets would range from -0.26 CNEL (a decrease) to a maximum increase of 1.61 CNEL as shown in Table 3.7-9.

Table 3.7-9. Project Noise Impacts from Project-related Traffic

Roadway	Existing ADT	PPSP ADT	Change in CNEL
U.S. Highway 101	140,000	146,040	+0.18
SR-237	90,000	96,040	+0.28
Central Expressway	42,000	42,671	+0.07
Mathilda Avenue	45,000	51,712	+0.60
Maude Avenue	15,000	21,712	+1.61

Source: City of Sunnyvale 2015.

The values in Table 3.7-9 represent changes in noise levels attributable to the Project. Comparing changes attributable to the Project, differences in noise would constitute an imperceptible difference to a receptor in the noise environment along roadways identified within the Project. Mathilda and Maude Avenues would experience an increase of noise levels on local roadways at 0.60 CNEL and 1.61 CNEL, respectively. These noise levels are conservative and do not take into account the City's Transportation Demand Management (TDM) Program that requires a 30 percent trip reduction associated with the Project and the responsibility of the Project applicant.

Based on the existing noise levels associated with vehicle operations along Maude Avenue (ADT 15,000/65 CNEL), it can be assumed that given all other variables being equal (e.g., speed limit, vehicle fleet mix, etc.) that noise levels along Mathilda Avenue (ADT 45,000) would be approximately 71 CNEL. Thus, sensitive receptors to the east of Mathilda Avenue that are experiencing a noise level of 71 CNEL and considered "conditionally acceptable" would be anticipated to experience a noise level of 71.6 CNEL through implementation of the Project. Given that sensitive receptors within the area are currently considered "conditionally acceptable", the increase of 0.60 CNEL would not be perceptible to the human ear, no change in land use compatibility would occur, and the Project requires a TDM program to reduce vehicle trips by 30 percent (not included in the noise level determination), noise impacts along Mathilda Avenue would not be significant.

While the noise level associated with Project vehicle operations along Maude Avenue is predicted to increase by 1.61 CNEL and the existing noise level is 65 CNEL, a noise level of 66.61 is anticipated along Maude Avenue. This noise level is "normally acceptable" with commercial and industrial land use along Maude Avenue to the south of the Project. Vehicle trips associated with the Project along Maude Avenue are anticipated from ingress/egress by SR-287, Mathilda Avenue, or the Central Expressway, thus the 1.61 CNEL increase would not impact sensitive receptors (i.e., residences) along Maude Avenue, east of Mathilda Avenue. Therefore, given that land use compatibility would remain for industrial and commercial areas ("normally acceptable"), sensitive receptors would not experience an increase in noise levels or change in land use

compatibility, and the Project requires a TDM program to reduce vehicle trips by 30 percent (not included in the noise level determination), noise impacts would not be significant.

In addition to traffic, operation of the Project would contribute new noise sources that would incrementally increase noise levels. The noise sources that may be present during operation of the Project include delivery and trash trucks, the subterranean parking garage, mechanical equipment, and open space/ground floor uses, as discussed below.

Truck Deliveries and Trash Hauling

During operation of the Project, the onsite retail, commercial, industrial, restaurant, and residences would involve the delivery of goods and trash hauling. Two noise sources would be identified with delivery and trash hauling operations: the noise of the diesel engines of the semi-trailer trucks and the backup beeper alarm that sounds when a truck is put in reverse, as is required and regulated by the California Division of Occupational Safety and Health (Cal-OSHA). The noise generated by idling diesel engines typically ranges between 64 and 66 dBA L_{eq} at 75 feet. This noise would be temporary in nature, typically lasting no more than 5 minutes. Backup beepers are required by Cal-OSHA to be at least 5 dBA above ambient noise levels. These devices are highly directional in nature, and when in reverse the trucks and the beeper alarm would be directed towards the loading area and adjacent mixed-use structures. Loading docks would be a source of noise that would occur occasionally and blend with the noise environment from existing activity, including truck loading and unloading, vehicles entering and exiting parking garages, and garbage collection. These noise levels are within the existing range of ambient noise in the Project area and would not present a noticeable change to the noise environment. As a result, noise impacts related to deliveries and trash hauling would be *less than significant*.

Parking Structures

Parking structures can be a source of annoyance to neighboring uses due to automobile engine start-ups and acceleration, and the potential activation of car alarms. Parking garages can generate L_{eq} noise levels between 49 dBA L_{eq} (tire squeals) and 74 dBA L_{eq} (car alarms) at 50 feet. Due to the relatively high level of traffic noise along streets surrounding the Project area, normal daytime parking garage L_{eq} noise would not likely be audible due to the masking of noise by traffic on nearby roadways. While specific parking facility designs for parcels would occur as part of future site development or redevelopment, some parking features may also be subterranean, which could further reduce noise levels at surrounding sensitive receptors. Future parking facilities would be reviewed at the time of development application submittal; and additional noise attenuation measure could be implemented. Noise impacts relating to parking operations of the Project would result in a *less than significant impact*.

Mechanical Equipment

Mechanical equipment, such as HVAC systems or ventilation fans, are commonly installed on the rooftop of a building, enclosed on the ground, or within a parking structure. Large HVAC systems associated with the Project could result in noise levels that average between 50 and 65 dBA Leq

at 50 feet from the equipment. This level of noise would not be noticeable in the existing ambient noise environment and therefore this impact would be *less than significant.*

Outdoor Plaza, Ground Floor Uses, and Open Space

Operation of ground-floor restaurant and retail uses as well as public open space areas would draw visitors and patrons. This would contribute to local area noise levels; however, this would be an incremental noise increase that would blend with the existing noise environment and would not be discernable from the existing noise environment. As established under Goal SN-9 of the General Plan, the City would regulate noise generated by land use operations and single events, limiting hours of operations and measuring the effectiveness of noise level regulations to maintain or achieve established noise limits. Increased noise due to patrons' use of the proposed ground-floor facilities would be temporary, and therefore, impacts would be *less than significant.*

Land Use Changes

Land use changes anticipated to occur under the Project would increase residential uses within or adjacent to commercial and industrial uses within a small portion of the Project area. Generally, the mixing of residential with more commercially and industrial-oriented ones in a vibrant urban environment could potentially expose future residents to periodic, intermittent, and sleep-disturbing noise in the early morning and late at night. In the morning hours, future residents could be exposed to nuisance noise from businesses that open early such as cafes and restaurants that serve breakfast. During the evening hours, operation of late-night businesses could expose residents and visitors to nuisance noise including live music, loud late-night conversations, etc. Such noises would not constitute long-term or extensive, high-level exposures involving potential health impacts. Additionally, the City would regulate land use operations and apply conditions to discretionary land use permits to limit noise levels associated with land use operations and single-events, such that noise generated from these uses would not significantly impact surrounding land uses. Therefore, impacts would be *less than significant*.

Impact NOI-4: The Project could temporarily or periodically increase ambient noise levels in the Project area. Implementation of mitigation measures would not reduce impacts to a less than significant level. Therefore, impacts associated with increases in ambient noise would be temporarily significant and unavoidable.

As described under the Impact NOI-1 above, construction of the Project would result in temporary increases to noise levels associated with operation of heavy duty construction equipment. These activities could take place near existing sensitive receptors identified in Section 3.7.1 above. There are four single-family residences within the southern portion of the Project area, on North Pastoria Avenue as well as three other sensitive receptors (two medical facilities that are not likely to house patients and one church). The next nearest sensitive receptor is 500 feet away. The noise impacts to these sensitive uses would be based on the relative distance from construction activities.

Tables 3.7-10 and 3.7-11 below present noise levels associated with various types of typical construction equipment that may be used during construction of the Project. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source to the receptor would reduce to 80 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA (to 74 dBA) at 200 feet from the source to the receptor.

Table 3.7-10. Noise Ranges of Typical Construction Equipment

Construction Equipment	Noise Levels in dBA L_{eq} at 50 Feet
Front Loader	73–86
Trucks	82–95
Cranes (moveable)	75–88
Cranes (derrick)	86–89
Vibrator	68–82
Saws	72–82
Pneumatic Impact Equipment	83–88
Jackhammers	81–98
Pumps	68–72
Generators	71–83
Compressors	75–87
Concrete Mixers	75–88
Concrete Pumps	81–85
Back Hoe	73–95
Pile Driving (peaks)	95-107
Tractor	77–98
Scraper/Grader	80–93
Paver	85–88

NOTE: Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.
Source**:** U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances (1971).

In some cases, it can be expected that new construction would occur immediately adjacent to the existing sensitive receptors within the Project area, with setbacks of as little as 20 to 50 feet between construction and existing uses. Where new construction is within 20 feet of an existing sensitive receptor, maximum noise levels could reach as high as 94 dBA at the exterior of adjacent sensitive receptor during the grading and finishing construction phases of potential future developments. Where a sensitive receptor is within 50 feet of an individual construction site requiring the use of a pile driver, un-muffled noise exposure could reach peaks of up to 107 dBA Leq.

Table 3.7-11. Typical Outdoor Construction Noise Levels

Construction Phase	Noise Levels in dBA L_{eq} at 20 Feet	Noise Levels in dBA L_{eq} at 50 Feet with Mufflers	Noise Levels in dBA L_{eq} at 100 Feet with Mufflers
Ground Clearing	90	82	76
Excavation, Grading	94	86	80
Foundations	85	77	71
Structural	91	83	77
Finishing	94	86	80

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

Therefore, construction activities could increase ambient noise levels and be perceived as a nuisance by the closest sensitive receptors. Although there are no applicable local policies or standards available to judge the significance of short-term daytime construction noise levels in the City, the FTA has identified a daytime hourly Leq level of 90 dBA as a noise level where adverse community reaction could occur (FTA 2006). This noise level is used here to assess whether daytime construction-related noise levels would cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations. Construction noise could result in a short-term nuisance to the closest sensitive receptors and result in noise in excess of the thresholds. Implementation of mitigation measures MM NOI-4a and NOI-4b would require construction contractors to reduce noise levels and the associated nuisance at sensitive receptor locations to the extent practical.

Although several components of mitigation measures MM NOI-4a and NOI-4b would likely reduce the annoyance that would be associated with loud construction activities, it is not possible to firmly substantiate that their implementation would achieve the noise level reductions needed to mitigate the impact to a less-than-significant level. Therefore, even with these mitigation measures, daytime construction activities located within 50 feet of a sensitive receptor would continue to exceed the FTA's noise threshold. Due to significant short-term increases in ambient noise levels generated by construction activities, impacts to ambient noise levels throughout construction of the Project would be temporarily significant and unavoidable.

Mitigation Measures

Mitigation Measure NOI-1 applies.

MM NOI-4a. Construction Noise Control Measures. The applicant shall employ site-specific noise attenuation measures during Project construction to reduce the generation of construction noise. These measures shall be included in a Noise Control Plan that shall be submitted for review and approval by the City of Sunnyvale Building Services Division to ensure that construction noise is consistent with the standards set forth in the City's Noise Ordinance. Measures specified in the Noise Control Plan and implemented during Project construction shall include, at a minimum, the following noise control strategies:

- Equipment and trucks used for 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;
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on 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; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used; and
- Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures.

MM NOI-4b. Pile Driving Noise-Reducing Techniques and Muffling Devices. Noise-reducing pile-driving techniques shall be employed during Project construction. These techniques shall include:

- Installing intake and exhaust mufflers on pile-driving equipment;
- Vibrating piles into place when feasible, and installing shrouds around the pile- driving hammer where feasible;
- Implement "quiet" pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- Use cushion blocks to dampen impact noise, if feasible based on soil conditions. Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon and micarta (a composite material); and
- At least 48 hours prior to pile-driving activities, the applicant shall notify building owners and occupants within 600 feet of the Project area of the dates, hours, and expected duration of such activities.

Residual Impact

Even with implementation of proposed mitigation measures, this impact would remain significant and Impact NOI-4 would be considered temporarily significant and unavoidable.

Impact NOI-5: The Project would expose onsite uses to noise levels associated with operations at the Moffett Federal Airfield. However, the Project would expose only a small portion of non-noise-sensitive land uses to airfield operational noise and impacts would be less than significant.

Development associated with the Project would include noise-sensitive land uses in the vicinity of Moffett Federal Airfield and could potentially expose new buildings facilitated under the Project to noise from aircraft operations. *2022 Aircraft Noise Contours,* of the *Final Comprehensive Land*

Use Plan, Santa Clara County – Moffett Federal Airfield, depicts the anticipated 65, 70, and 75 CNEL contours associated with Moffett Federal Airfield. A significant noise impact would be identified where noise-sensitive land uses are proposed in areas where existing or future noise levels would exceed the noise and land use compatibility standards established by the Santa Clara County ALUC.

A small section of the Project area located west of North Mary Avenue is intersected by the 70 CNEL contour, and a large portion of the Project area is intersected by the 65 CNEL contour stretching northwest to southeast across the center. Therefore, any buildings constructed within these areas would be exposed to elevated noise levels associated with aircraft operations. However, no residential or other sensitive uses are proposed to be located where noise levels associated with Moffett Federal Airfield aircraft operations would exceed 65 CNEL. The majority of redevelopment would be industrial and commercial, similar to the existing uses that currently occupy the Project area, in areas exceeding 65 CNEL. While the Project would increase the intensity of uses and the number of workers occupying the buildings, these industrial and commercial uses are not considered to be noise-sensitive. Additionally, these Class I buildings will be properly insulated and noise from aircraft operations will be largely attenuated as compared to the exterior noise levels identified in the noise contour figure. Therefore, impacts related to noise associated with operations at the Moffett Federal Airfield would be *less than significant*.

Impact NOI-6: The Project would not expose onsite uses to noise levels associated with operations at a private airfield.

The Proposed Project would not be located in the vicinity of a private airstrip; therefore, no impact would occur.

Cumulative Impacts

Cumulative Setting

Within the City, numerous development projects are anticipated within and adjacent to the Project area (Figure 3.0). Many of these proposed developments are located within the vicinity of the Project and would further contribute to increases in vehicle trips and associated noise.

Impact NOI-7: Planned development under the proposed Peery Park Specific Plan would contribute to a substantial increase in permanent traffic noise levels on area roadways. Impacts to traffic related noise levels resulting from planned developments would be significant and unavoidable.

Noise levels from vehicle operations along highways, expressways, and other roadways in the City would increase cumulatively by the year 2035, the proposed buildout date of the Project. Cumulative noise levels could increase substantially along a few roadway segments consisting of Mathilda Avenue, Maude Avenue, and Central Expressway based on new development projects. However, new development projects would be subject to TDM requirements and strategies

administrated by the City to reduce vehicle trips associated with the Project. Meeting the goals required by the individual TDM plans should assist in reducing traffic noise levels and while existing and proposed noise levels are compatible with the predominate land use, given the number of proposed projects and existing high noise level, the potential to exceed noise levels established for sensitive land use criteria exists. Potential exceedance of noise levels established for sensitive land uses could occur through increases in vehicular traffic and associated noise sources. As planned developments could result in the exceedance of established noise levels despite implementation of strategies later discussed in this EIR, cumulative noise impacts are considered *significant and unavoidable.*

For further discussion of TDM program requirements and strategies which would apply to the Project and other near-term projects within the area, refer to Section 3.10, *Transportation, Circulation, and Traffic.*

Near-Term 7 Projects Impacts

Implementation of the Near-Term 7 projects (described in further detail in Section 2.6) would contribute to similar impacts described above for the Project, including incremental increases in ground-borne noise levels and vibrations, and ambient noise levels. Additionally, each of the Near-Term 7 projects would also contribute to noise disturbance to adjacent land uses over the construction and operation periods of these projects.

Impact NOI-8: Construction of the proposed Near-Term 7 projects could generate noise that exceeds the City's Noise Ordinance Standards. However, these projects would be required to comply with the City's Municipal Code and impacts would be less than significant.

Implementation of the Near-Term 7 projects would result in the redevelopment of existing office, industrial, and residential uses, requiring the use of heavy equipment and other sources of noise for various types of construction activities. Noise generated from these activities would be similar to noise levels anticipated under the construction of the Project. These Near-Term 7 projects would be required to comply with the City's Municipal Code restrictions for construction activities which restrict hours of construction activities to limit noise generation. Through compliance with the hours of construction established by the Municipal Code through the building permit process, short-term noise related impacts generated by the Near-Term 7 projects would be considered less than significant.

For further discussion of impacts regarding City Noise Ordinance Standards, refer to Impact NOI-1.

Impact NOI-9: Construction of the proposed Near-Term 7 Projects could generate excessive ground-borne vibration or noise. Impacts for Near-Term 7 Projects would be similar to those anticipated under the Project. Therefore, this impacts would be less than significant.

Similar to NOI-2, construction of the Near-Term 7 Projects would result in the use of construction equipment which would generate ground-borne vibrations or noise. The anticipated vibration levels (in/sec) for standard types of construction equipment based on their distance from the receptor are identified in Table 3.7-8. Operation of this equipment could result in short-term related impacts on receptors within the vicinity of the Near-Term 7 projects. For further discussion of ground-borne related noise and vibration generation within the Project vicinity, refer to the Impact NOI-2 discussion.

As construction-related activities for the proposed Near-Term 7 projects would be similar to those for the Project and completion of these projects is anticipated before the buildout date of Project, short-term impacts resulting from the generation of ground-borne noise and vibrations would be less than significant.

For further discussion of ground-borne vibration and noise related impacts, refer to Impact NOI-2.

Impact NOI-10: Operation of the proposed Near-Term 7 projects could result in a substantial short-term increase in ambient noise levels within the Project area. Given their temporary nature, these impacts would be less than significant.

Operation of the Near-Term 7 projects would result in similar impacts to ambient noise levels as those anticipated of the operation of the Project, and primary noise sources would be associated with the increased density and square footage of office, industrial, and commercial land uses. Operation of these land uses would result in additional stationary and mobile noise sources.

Changes in noise levels on nearby streets resulting from the generation of Project-related traffic for the Near-Term 7 projects is listed in Table 3.7-12. When compared to the existing calculated ADT, the Near-Term 7 projects would result in a change in CNEL ranging from +0.01 to +0.12 along these roadways. These increases in CNEL are well below perceptible increases in noise, and when compared to the Project, these anticipated changes are significantly less than those anticipated of the Project.

Table 3.7-12. Near-Term 7 Projects Noise Impacts from Project-related Traffic

Roadway[1]	Existing ADT	Near-Term 7 ADT	Change in CNEL	Project ADT	Change in CNEL
U.S. Highway 101	140,000	140,383	+0.01	146,040	+0.18
SR-237	90,000	90,383	+0.02	96,040	+0.28
Central Expressway	42,000	42,043	0.00	42,671	+0.07
Mathilda Avenue	45,000	45,426	+0.04	51,712	+0.60
Maude Avenue	15,000	15,426	+0.12	21,712	+1.61

In addition, implementation of the Near-Term 7 Projects would result in generation of noise from the daily operation of office, industrial, and residential land uses. These land uses typically generated minimal ground level noise, and operation of office and industrial facilities do not

typically constitute long-term or extensive, high-level exposures involving potential health impacts. As described in the Impact NOI-3 discussion, the City would regulate land use operation and limit noise levels associated with these land uses as well as single-events. Therefore, increases in ambient noise associated with the Near-Term 7 projects would result in less than significant impacts.

For further discussion of increases to ambient noise levels due to construction activities, refer to Impact NOI-3.

Impact NOI-11: The Near-Term 7 Projects could temporarily or periodically increase ambient noise levels in the Project area. As increases in ambient noise levels from these projects would be temporary, impacts are considered temporarily significant and unavoidable.

As described under Impact NOI-8 above, construction of the Near-Term 7 projects would result in short-term increases to noise levels associated with operation of construction equipment. Operation of this equipment could take place near existing sensitive receptors, resulting in increases to ambient noise levels which could be perceived as a nuisance. As these activities would result in the generation of significant noise levels, implementation of the Near-Term 7 projects would result in a temporarily significant and unavoidable impact.

To partially mitigate noise related impacts resulting from construction activities, Impact NOI-4 identifies mitigation measures which would help reduce construction generated noise.

Mitigation Measures

MM NOI-4a and MM NOI-4b would apply.

Residual Impact

Even with implementation of mitigation measures MM NOI-4a and NOI-4b, this impact would remain significant and Impact NOI-11 would be considered temporarily significant and unavoidable.

Impact NOI-12: The proposed Near-Term 7 projects would not expose onsite uses to noise levels associated with operations at the Moffett Federal Airfield.

No noise-sensitive land uses included in the development of the Near-Term 7 projects would be located within the 2022 Aircraft Noise Contours. Therefore, Moffett Federal Airfield and aircraft operations would have no impact on the Near-Term 7 projects.

For further discussion of impacts resulting from construction within the vicinity of the Moffett Federal Airfield, refer to Impact NOI-5.

Impact NOI-13: The proposed Near-Term 7 projects would not expose onsite uses to noise levels associated with operations at a private airfield.

The Near-Term 7 projects are not located in the vicinity of a private airstrip; therefore, no impact would occur.

Cumulative Impacts

Impact NOI-14: Planned development under the proposed Near-Term 7 projects would contribute to a substantial increase in permanent traffic noise levels on area roadways. Regardless of implementation of mitigation, impacts resulting from permanent increases in noise levels generated by increase in traffic would be potentially significant and unavoidable.

Similar to Impact NOI-7, noise levels from vehicle operations along roadways in the City would increase cumulatively by the year 2025, the estimated buildout date for the Near-Term 7 projects. As described above in Impact NOI-7, cumulative noise levels could increase substantially along Mathilda Avenue, Maude Avenue, and Central Expressway based these development projects. The Near-Term 7 projects are subject to the TDM Program but the potential to exceed target noise levels still exists, and cumulative noise impacts are significant and unavoidable.

Near-Term Irvine Project Impacts

Implementation of the Near-Term Irvine project (described in further detail in Section 2.6) would contribute to similar impacts described above for the Project, including incremental increases in ground-borne noise levels and vibrations, and ambient noise levels. Additionally, the Near-Term Irvine project would also contribute to noise disturbance to adjacent land uses over the construction and operation periods.

Impact NOI-15: Construction of the Near-Term Irvine project could generate noise that exceeds the City's Noise Ordinance Standards. As this project would be subject to regulations established in the City Municipal Code, impacts would be less than significant.

Noise generated from construction activities for the Near-Term Irvine project would be similar to those noise levels generated by implementation of the Project and Near-Term 7 projects. Construction-related noise would be required to adhere to the City Municipal Code restrictions for construction activities. Therefore, short-term noise related impacts generated by the Near-Term Irvine project would be less than significant.

For further discussion of impacts regarding City Noise Ordinance Standards, refer to Impact NOI-1 and NOI-8.

Impact NOI-16: Construction of the Near-Term Irvine project could generate excessive ground-borne vibration or noise. Impacts for the Near-Term Irvine project would be similar

to those anticipated under the Project. Therefore, this impact would be less than significant.

Construction activities required for implementation of the Near-Term Irvine project would result in generation of ground-borne vibrations and noise levels, similar to those anticipated of the Project and Near-Term 7 projects. Disturbances caused by the generation of ground-borne vibrations and noise levels would be short-term, and impacts would be considered less than significant.

For further discussion of ground-borne vibration and noise related impacts, refer to Impact NOI-2.

Impact NOI-17: Operation of the Near-Term Irvine project could result in a substantial increase in ambient noise levels within the Project area. As increases in ambient noise levels from this project would be temporary, impacts are considered less than significant.

As the proposed land use of the Near-Term Irvine project is similar to that of the Project and Near-Term 7 projects, impacts associated with increases in ambient noise from operation of the Near-Term Irvine project would be similar. Table 3.7-13 below describes the predicted increases in traffic-related noise from the Project and the Near-Term Irvine project. Noise generated from traffic during operation of the Near-Term Irvine project is expected to change between -0.01 and -0.26 CNEL. Based on these estimates, implementation of the Near-Term Irvine project would result in an overall decrease in ADT and noise levels when compared to the existing calculations for ADT at primary roadways. In regards to the Project, operation of the Near-Term Irvine project would generate significantly less noise and traffic than the Project, and even reduce noise levels below the existing setting.

Table 3.7-13. Near-Term Irvine Project Noise Impacts from Project-related Traffic

Roadway	Existing ADT	Near-Term Irvine ADT	Change in CNEL	Project ADT	Change in CNEL
U.S. Highway 101	140,000	139,222	-0.02	146,040	+0.18
SR-237	90,000	89,222	-0.04	96,040	+0.28
Central Expressway	42,000	41,914	-0.01	42,671	+0.07
Mathilda Avenue	45,000	44,135	-0.08	51,712	+0.60
Maude Avenue	15,000	14,135	-0.26	21,712	+1.61

Daily operation of office uses proposed under the Near-Term Irvine project would generate additional noise which would contribute to ambient noise levels in the area. Noise generated from these office spaces would be similar to those expected of the operation of Project and Near-Term 7 projects. As noise generated from the operation of this type of land use does not typically constitute long-term or extensive, high-level exposures involving potential health problems, increases in ambient noise level associated with the Near-Term Irvine project would be less than significant.

For further discussion of ambient noise increases for these land uses, refer to Impact NOI-3.

Impact NOI-18: The proposed Near-Term Irvine project could temporarily or periodically increase ambient noise levels in the Project area. As increase in ambient noise levels from this project would be temporary, impacts are considered temporarily significant and unavoidable.

Construction of the Near-Term Irvine project would require operation of heavy construction equipment which may generate a high level of noise (Table 3.7-11). Noise generated from typical construction activities is temporary in nature, and anticipated noise levels from these activities would be similar to those anticipated of the Project and Near-Term 7 projects. Therefore, impacts associated with increases in ambient noise due to construction operations would result in a temporarily significant and unavoidable impact.

Mitigation Measures

To help mitigate noise related impacts resulting from construction activities, Impact NOI-4 identifies mitigation measures which would help reduce construction generated noise.

Residual Impact

Even with implementation of mitigation measures MM NOI-4a and NOI-4b, this impact would remain significant and Impact NOI-11 would be considered temporarily significant and unavoidable.

Impact NOI-19: The proposed Near-Term Irvine project would not expose onsite uses to noise levels associated with operations at the Moffett Federal Airfield.

No noise-sensitive land uses included in the development of the Near-Term Irvine project would be located within the *2022 Aircraft Noise Contours.* Therefore, Moffett Federal Airfield and aircraft operations would have no impact on the Near-Term Irvine project.

For further discussion of impacts resulting from construction within the vicinity of the Moffett Federal Airfield, refer to Impact NOI-5.

Impact NOI-20: The proposed Near-Term Irvine project would not expose onsite uses to noise levels associated with operations at a private airfield.

The proposed Near-Term Irvine project is not located in the vicinity of a private airstrip; therefore, no impact would occur.

Cumulative Impacts

Impact NOI-21: Planned development under the Near-Term Irvine project would contribute to a substantial increase in permanent traffic noise levels on area roadways. Regardless of implementation of mitigation measures, impacts resulting from permanent increases in

noise levels generated by increases in traffic would be potentially significant and unavoidable.

Similar to Impact NOI-7, noise levels from vehicle operations along roadways in the City would increase cumulatively by the year 2025, the proposed buildout date of the Near-Term Irvine project. As described above in Impact NOI-7, cumulative noise levels could increase substantially along Mathilda Avenue, Maude Avenue, and Central Expressway. The Near-Term Irvine project would be subject to TDM program, but the potential to exceed target noise levels still exists, and cumulative noise impacts are potentially significant and unavoidable.

3.8 POPULATION AND HOUSING

This section describes the existing and future population characteristics, housing, and employment opportunities in the City of Sunnyvale (City), and how Project implementation may impact these conditions. Multiple data sources from the U.S. Census Bureau, Association of Bay Area Governments (ABAG), and City Community Development Department were used to support this analysis in order to present existing population trends and projected populations in future years.

The construction of new office and light-industrial developments as encouraged by the Peery Park Specific Plan (Project) may promote economic development and job creation that can in turn stimulate population growth. While intuitively positive, economic growth may be of concern as it relates to sustainable community development, where maintaining or improving the City-wide and regional jobs-housing balance, and providing affordable and workforce housing to maintain social and economic diversity are issues of concern. Population and employment growth in and of itself does not necessarily create environmental impacts of concern under CEQA; however, they may generate secondary or indirect environmental impacts, (e.g., increased demands for public services, exceedance of infrastructure capacities, or increased traffic congestion and resulting air pollutant emissions. These indirect environmental effects related to population growth are addressed in the applicable sections of this EIR.

3.8.1 Environmental Setting

The Project area occupies 450 acres and supports mostly office and light-industrial uses, as well as some service, retail, recreation, and a limited number of residential structures. The Project area consists largely of one and two-story buildings within industrial campuses that serve as offices and headquarters for various companies, particularly those in high-tech industries. Recent development within the Project area includes multi-story office, research and development, and light-industrial uses, representing a shift toward technology-based markets and modern workplaces. While the vast majority of the Project area is used as office and light-industrial, there are some peripheral pockets of retail uses as well as four nonconforming residential units.

The Project area supports office and light-industrial uses in the high tech industry

<u>Population and Demographics</u>

The California Department of Finance provides population estimates for the City of Sunnyvale, Santa Clara County and metropolitan area. As of 2014, Santa Clara County was the fastest growing county in the State of California with an estimated population of 1,889,638 people (California Department of Finance 2015). The City was incorporated in 1912 and has grown to

become the second most populous city in Santa Clara County, behind San Jose which has more than half of the County's population. The population of the City was 140,081 as of the 2010 Census, and had grown to an estimated 148,028 by 2015 (California Department of Finance 2015).

The demographics of the City's population recorded during the 2010 census show that the majority of the population is White or Asian, with the breakdown as follows: 43% White, 40.9% Asian, 2% Black or African American, 0.5% Native Hawaiian or other Pacific Islander, 0.5% American Indian and Alaska Native, 9% some other race and 4% Two or More Races (City of Sunnyvale 2014b). The City also has a relatively young adult population with persons between 20 and 39 years of age comprising 33.8% of the population (Table 3.8-2).

While the population of the City has grown steadily since its incorporation, the technology boom of the 1990s led to a slightly higher peak in population growth in the City and much of the Silicon Valley. Growth in the 1990s showed a higher increase of 14,531 people, in contrast to growth in the 1980s (10,611 additional people) and growth in the 2000s (8,321 additional people). Recent years indicate a return to relatively higher amounts of growth, with an estimated 7,947 additional people in the five years following 2010. Information for the City concerning population and population growth over the past three and a half decades in comparison to Santa Clara County and the greater Bay Area is contained within Table 3.8-1.

Table 3.8-1. Population Trends for the City of Sunnyvale and Santa Clara County

Region		1980	1990	2000	2010	2015 [1]
City of Sunnyvale	Population	106,618	117,229	131,760	140,081	148,028
	% Growth	11.7%	10.0%	12.4%	6.3%	5.6%
Santa Clara County	Population	1,295,071	1,497,557	1,682,585	1,781,642	1,889,638
	% Growth	21.6%	15.6%	12.4%	5.9%	6.0%
Bay Area	Population	5,179,784	6,023,577	6,783,760	7,150,739	-
	% Growth	11.9%	14.0%	12.6%	5.4%	-

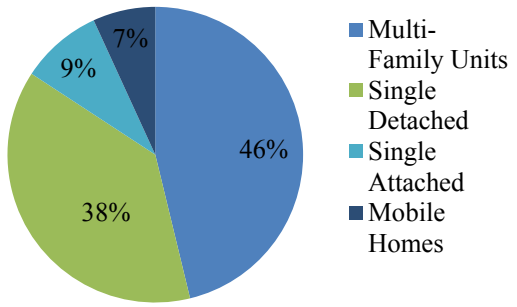
Source: Bay Area Census 2014 http://www.bayareacensus.ca.gov/cities/Sunnyvale70.htm.
[1](California Department of Finance 2015).

Table 3.8-2. Population by Age in Sunnyvale

Age (in Years)	Percent of Total Population
0-9	14.4%
10-19	9.7%
20-29	14.1%
30-39	19.7%
40-49	14.6%
50-59	11.8%
60-69	7.6%
70-79	4.7%
80+	3.3%

Source: U.S. Census Bureau.

Figure 3.8-1. Sunnyvale Housing Units



Housing

As of 2015, the City has 57,561 housing units with an average 2.67 people per household (California Department of Finance 2015). This is an estimated 2.1% increase above the number of housing units reported in 2010 U.S. Census Bureau data. Figure 3.8-1 shows the breakdown of the types of housing units, with multi-family units and single detached homes making up the majority of housing options. Of these units, 48% are owner-occupied, 90% are more than 20 years old, and 4.3% are vacant (U.S. Census Bureau). The number of housing units also includes 1,860 affordable housing units in the City, comprising 3.2% of the total housing stock (City of Sunnyvale 2014a).

In 1993, the City introduced a program called “Industrial to Residential” (ITR) that encouraged redevelopment of specific industrial areas to residential uses and allowed higher intensity industrial development in other areas more suitable for such uses over the long-term, in an effort to encourage employees to take jobs in the City (City of Sunnyvale 2011).

As recorded by the U.S. Census Bureau, the total number of housing units in the City and County has increased steadily over the last 20 years (Table 3.8-3). A Regional Housing Needs Allocation (RHNA) prepared by ABAG indicated the need for housing from 2014-2022 throughout the San Francisco Bay area. ABAG used 2010 census data as its baseline to make projections of housing unit counts to the year 2022 (Table 3.8-4). It is estimated that the Santa Clara County will require 58,836 new housing units during this period, and within in the City, that requirement will be approximately 5,452 units (Table 3.8-4)

Table 3.8-3. Housing Units in the City of Sunnyvale and Santa Clara County

	1990	2000	2010
City of Sunnyvale	50,789	53,753	55,791
Santa Clara County	540,240	579,329	631,920

Source: U.S. Census Bureau.

Table 3.8-4. Sunnyvale and Santa Clara County Projected Housing Needs (2014 to 2022)

Type of Unit (Income)	Very Low	Low	Moderate	Above Moderate	Total
City of Sunnyvale	1,640	906	932	1,974	5,452
Santa Clara County	16,158	9,542	10,636	22,500	58,836

Source: (ABAG 2013b). Regional Housing Need Plan: San Francisco Bay Area.

Jobs

The job inventory in Silicon Valley shifted dramatically between 1980 and 2000 as manufacturing jobs declined and the high-tech industry boomed, leading to an influx of office-based jobs in the software, hardware, innovation services, and biomedical and electronic components industries. This trend drove the number of jobs in the City to rise steadily throughout the 1990s, peaking near 1999 and 2000 at approximately 99,290 jobs (City of Sunnyvale 2011) before the "dot com bust" in 2001 when severe job losses occurred throughout Silicon Valley. The City estimates that the number of jobs declined to 84,800 in 2005 and further to 77,890 in 2010, based on data from the State Employment Development Department. While precise data is not available, job losses were further exacerbated during the "Great Recession" of 2008-2011. However, that trend has again reversed, with the Bay Area, Silicon Valley and the City experience substantial job growth with employment increasing 9.8% between 2010 and 2013 (ABAG 2015). Evidence of rebounding employment can be seen in the City and the Project area through construction of several new multiple story office projects such as a redevelopment project used by Apple in the Project area.

Recent office and research and industrial redevelopment projects have created hundreds of new jobs in Sunnyvale (e.g., Redevelopment for LinkedIn).

In 2010, there were 74,810 jobs in the City; and 906,270 jobs in Santa Clara County (ABAG 2013b). ABAG also projected that the number of jobs in the City will grow slightly to 86,740 by 2020 an increase of 16 percent over ten years, and then increase by 4 percent over the next decade, to 90,160 by 2030 (City of Sunnyvale, 2014b). The industry with the highest employment percentage was professional, scientific and management, and administrative and waste

management services, making up 25.6% of the labor force (U.S. Census Bureau 2010). The largest employers in the City in 2013 were Lockheed Martin Space Systems; Apple, Inc.; Network Appliance, Inc.; Yahoo! Inc.; Juniper Networks; Northrop Grumman Marine; HP; Synopsys, Inc.; Broadcom Corp.; and Advanced Micro Devices (City of Sunnyvale 2014b).

Jobs and Housing

Jobs/housing balance is defined as the ratio of number of jobs to number of housing units in a given area. Although the term "jobs/housing balance" is still often used, the more precise relationship is between jobs and the number of employed residents (because some households have no workers, while others have multiple workers). Jobs and housing are considered to be balanced when there are an equal number of employed residents and jobs within a given area, which equates to a ratio of approximately 1.0. In 2010, ABAG estimates indicated that the City had a balanced jobs-to-employed residents ratio of 1.0. Though the ratio may be 1.0, many City residents work outside the City and many local workers commute in, so this metric does not indicate that everyone who is of an employable resident in the City also works in the City (City of Sunnyvale 2014b). An alternative mode for determining the jobs/housing balance is the ratio of the total number of jobs in the City compared to the total number of households. According to ABAG estimates for jobs (74,610 in 2010) and households (53,384 in 2010), the ratio would be 1.4 for the City. One of the City's goals is to move towards a local balance of jobs and housing. Policies designed to achieve this goal include maintaining data on the jobs/housing ratio, continuing to require office and light-industrial development to mitigate the demand for housing, and continuing to encourage a mix of residential and job-producing land uses (City of Sunnyvale 2014b).

3.8.2 Regulatory Setting

Federal Policies and Regulations

There are no federal planning regulations regarding population, housing, and employment that are applicable to this project.

State Policies and Regulations

Housing Element Law- Article 10.6 of the Government Code (Sections 65580-65589.8)

California legislature has declared the attainment of affordable housing and a sustainable living environment for every Californian to be of vital importance. Attaining the State's housing goals requires and involves efforts from all sectors, including the private sector and all levels of government. Each local government has the power to facilitate the improvement and development of housing for all economic segments of the community accounting for economic, environmental and fiscal factors as well as community goals and housing element programs. The housing element of a city's General Plan identifies and analyzes existing and projected housing needs and also provides implementation measures for these programs. Each jurisdiction in the state must update its housing element at least every eight years in accordance with Article 10.16 of the Government Code.

Local Policies and Regulations

Regional Housing Needs Plan

The Regional Housing Needs Plan (RHNP) is required under California Government Code Section 65584 to enable regions to address housing issues and meet housing needs based on future growth projections for the area. The State of California determines the number of total housing units needed for each region. ABAG allocates housing needs among cities and counties within the nine-county ABAG region. The allocation comes after projection modeling based on current General Plan policies and established land use zonings. The allocations are based on "smart growth" assumptions in the modeling and aim to shift development patterns from historical trends towards better jobs/housing balance, increased preservation of open space, and development of urban and transit-accessible areas. Regional housing needs are based on the local and regional distribution of income, the need for housing generated by local job growth, the projected growth in the number of households, and the vacancy rate in each community.

Jobs-Housing Connection Strategy of the Plan Bay Area

The Jobs-Housing Connection Strategy prepared by ABAG is a long term approach to growth and focuses on designated Priority Development Areas (PDAs). The Strategy's goals are to create jobs and expand the local economy, increase accessibility, diversity and affordability of housing, develop communities, and protect the region's natural environment. A small portion of the Project area is designated as a PDA within the Jobs-Housing Connection Strategy. The portion of the Project area within the PDA is the area South of California Ave and West of Mathilda Ave, extending to the parking lot bordered by Pasito Terrace.

City of Sunnyvale General Plan Housing Element

The Housing Element of the General Plan was adopted in 2014 and serves as the City's primary policy document regarding the development, rehabilitation, and preservation of housing for all economic segments of the population within its jurisdiction. The following goals and policies may apply to the Project:

> **Goal A:** Assist in the provision of adequate housing to meet the diverse needs of Sunnyvale's households of all income levels.
>
> > **Policy A.4:** Continue to require office and industrial development to mitigate the demand for affordable housing.
>
> **Goal D:** Provide adequate sites for the development of new housing through appropriate land use and zoning to address the diverse needs of Sunnyvale's residents and workforce.
>
> > **Policy D.2:** Continue to accommodate new residential development into specific plan areas and areas near transit and employment and activity centers, such as the El Camino Real corridor and Lawrence Station area.

Policy D.3: Require new development to build to at least 75% of the maximum zoning density, unless exception is granted by the City Council.

Policy D.6: Provide expanded areas for higher density housing through the conversion of underutilized industrial areas to residential use, if the sites are consistent with General Plan standards for residential uses (i.e., no health hazards exist).

Goal F: Maintain sustainable neighborhoods with quality housing, infrastructure and open space that fosters neighborhood character and the health of residents.

Policy F.7: Continue to permit and encourage a mix of residential, neighborhood-serving retail, and job-producing land uses, as long as there is neighborhood compatibility and no unavoidable environmental impacts.

City of Sunnyvale General Plan Land Use and Transportation Element

The Land Use and Transportation Element (LUTE) was most recently amended in 2011. The LUTE provides guidance relating to economic development, incorporation of smart growth concepts, green technology and principles, and preservation and enhancement of existing neighborhoods. Relevant policies and goals include:

Goal LT-6: Supportive Economic Development Environment- An economic development environment that is supportive of a wide variety of businesses and promotes a strong economy within existing environmental, social, fiscal and land use constraints.

Policy LT-6.4: Encourage sustainable industries that emphasize resource efficiency, environmental responsibility, and the prevention of pollution and waste.

Goal LT-7: Balanced Economic Base- A balanced economic base that can resist downturns of any one industry and provides revenue for city services.

Policy LT-7.1: Maintain a diversity of commercial enterprises and industrial uses to sustain and bolster the local economy.

LT-7.1a: Promote a variety of commercial, retail and industrial uses, including Neighborhood Shopping, General Business, Office, Clean Technology, and Industrial/Research and Development.

LT-7.1b: Ensure that rezoning industrial and commercial areas or specific sites will not significantly hurt the City's economic base.

Housing Mitigation Fund

Since 1983, the City has collected a fee from specified industrial and commercial developments that exceed a floor area ratio of 35% as a means of mitigating the impact of job-producing development on the demand for affordable housing. From 2007-2014, the mitigation fund has provided over 20 million dollars to various housing programs and projects (City of Sunnyvale, 2014b).

3.8.3 Impacts and Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project would have significant impacts if it would:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes) or indirectly (e.g., through establishment or extension of roads or other infrastructure);
- Displace substantial numbers of people or existing housing units, necessitating the construction of replacement housing elsewhere.

Methodology

This analysis is based on demographic information provided by the US Census Bureau (2010), the California Department of Finance, and the City. Demographic and socioeconomic data from these sources are relatively consistent; however, since each of these organizations uses different methods of data collection and analysis, they do not always have the same results. Accordingly, the population, housing, and employment numbers used in this analysis may vary somewhat, depending upon the source cited. Despite the variances, the data used represent the best available data sources and provide a meaningful description of the population and housing, characteristics of the City.

The provided impact analysis below also considers the existing 2011 LUTE and the General Plan Housing Element goals and policies to analyze the potential for the Project to result in significant population and housing impacts. The analysis discloses how existing plans, policies, goals, and other City regulations may avoid or minimize significant impacts. This analysis also accounts for the mitigating effects of the goals, policies, development standards and implementation measures of the Project.

This analysis reviews potential growth and development generated by the Project, which would result in the establishment of up to 2.2 million square feet of commercial development within the Project area. This includes City estimated projections of 14,401 additional jobs and 215 housing units. Based on this projected growth, this analysis considers population, household, and employment growth, particularly as these metrics relate to existing regional growth projections, and planned growth permitted in accordance with the Sunnyvale General Plan and RHNP (Table 3.8-5).

Table 3.8-5. Population, Jobs and Housing Forecasts for Sunnyvale

	2015 Estimate[1]	City of Sunnyvale (by 2025)[2]	ABAG (by 2040)[3]
Santa Clara County			
Population	1,889,683	--	2,423,470
New Job Growth	--	--	~700,000*
Housing Units	652,007	--	~1,831,800*
Sunnyvale			
Population	148,028	150,725	--
New Job Growth	--	24,800	20,790
Housing Units	57,561	61,500	74,820

[1](California Department of Finance 2015).
[2](City of Sunnyvale 2011). General Plan.
[3](ABAG 2013a). Plan Bay Area Final Forecast of Jobs, Population and Housing.
*ABAG 2013a uses estimates for top 15 bay area cities.

Potential indirect impacts related to population and employment growth on issues such as transportation, public services, and other issues are addressed throughout the remaining sections of this EIR.

Impact PH-1: Implementation of the Project could induce growth resulting from new development. Impacts would be less than significant.

Under the proposed Project, approximately 14,401 new jobs are projected to be created over the 20 year planning horizon through the year 2035 with potential for associated inducted growth within the City and Santa Clara County. Further, this would exceed the currently planned level of growth of 900,000 square feet of new development allowed within the Project area under the City's adopted General Plan. However, the projected creation of 14,401 additional jobs by 2035 under the Project is well within overall project employment growth identified in the City's General Plan through the year 2025 and ABAG through the year 2040 (refer to Table 3.8-5). Even accounting for employment growth elsewhere in the City, the additional jobs created in the Project area would be well within the forecast levels planned for job growth. Induced population growth is considered substantial only if it is unplanned or unanticipated by the City. Because this employment growth is well within overall growth planned for in the City's General Plan and by ABAG's RHNP, such employment growth would not be considered substantial.

Additionally, the Project proposes the addition of 215 housing units. Based on the average occupancy per household in the area (2.67 people), construction of the housing units would increase the population of the Project area by approximately 576 persons. This population growth would be negligible (0.03%) relative to the existing population of the City. Any population growth generated by the Project could be accommodated by new housing units associated with the Project or by existing housing stock in the City. Therefore, implementation of the Project would not directly or indirectly substantially induce unanticipated population growth and impacts would be less than significant

Impact PH-2: Implementation of the Project would not substantially exacerbate the jobs-to-housing ratio imbalance. Impacts would be less than significant.

The Sunnyvale Housing Element states that the jobs to housing ratio is currently 1.0 (City of Sunnyvale 2014b). Full buildout of programs identified by the Project may result in the development of 215 housing units and 14,401 additional jobs. Based on a people-per-household rate of 2.67, approximately 5,179 additional housing units would be required to accommodate the additional workforce.

The City and ABAG both anticipate a level of growth within the region and have incorporated strategies to fulfill additional housing needs. According to the RHNP, 5,452 units must be added to the housing inventory in the City between 2014 and 2022, and 58,836 total units should be added within Santa Clara County. From a City-wide perspective, the balance of residential and non-residential growth anticipated to result from implementation of the Project would only incrementally affect the City-wide jobs-housing balance, with development of housing and job creation generally falling within City and regional projections.

Any housing needs not absorbed by the City would be met within the County of Santa Clara and the surrounding metropolitan area. Currently, communities in Santa Clara County have an average vacancy rate of 9.7%, which is higher than the 4.3% vacancy rate in the City. As housing needs are generally regional in nature, and with average work commute times of more than 20 minutes, it is anticipated that a portion of employees may commute from outside City limits. With the incorporation of strategic long term plans addressing additional housing including the RHNP, Plan Bay Area, and the Jobs-Housing Connection Strategy, Project-related impacts to the jobs/housing balance would be less than significant.

Cumulative Impacts

Impact PH-3: Implementation of the Project would potentially exceed City growth projections. Impacts would be less than significant.

Population and employment growth within the region would result in further urbanization and intensification of land uses. In combination with the Moffett Place Specific Plan and LUTE Update, population and employment growth within the City would potentially exceed City growth projections presented in the City of Sunnyvale General Plan. This growth would substantially increase demands on housing. As there is a limited amount of undeveloped land within the City, much of the housing demand is expected to be met within developed and urbanized areas throughout the greater metropolitan area. While not currently anticipated to result in a significant cumulative impact, these trends should be closely monitored, as plans such as the RHNP should be updated, as appropriate.

In general, construction of housing and commercial uses is anticipated to occur throughout the region to accommodate population growth. According to ABAG, regional population growth is projected to reach 2,423,470 in Santa Clara County and 9,299,000 in the San Francisco Bay Area

by 2040. Within the RHNP and Jobs Housing Connection Strategy, ABAG identifies new housing opportunities and strategies for sustainable regional growth that directs growth towards urban areas with high concentrations of jobs and transit options. Therefore, Project impacts associated with potential exceedance of growth would be less than significant.

3.9 PUBLIC SERVICES

This section describes existing public services provided by the City of Sunnyvale (City) to the Peery Park Specific Plan Area (Project area) and analyzes potential impacts on public services that could result from the Project. Existing public services were evaluated based on planning documents provided by the City, information available on agency websites, personal communication with City staff, and previous EIRs prepared for other projects within the vicinity. The proposed Peery Park Specific Plan (Project), would increase employment and resident and populations within the Project area with associated incremental increases in demand for public services, including law enforcement, fire protection, and public schools. Existing and proposed programs and current regulations would ensure the provision of adequate public services to meet increased public services demand. With regard to parks and recreational facilities, the Project may add new open space which may provide for additional recreational opportunities to serve future uses. For information regarding potable water, wastewater, solid waste, and energy utilities, please refer to Section 3.11, *Utilities and Service Systems*, and for transportation and parking, please refer to Section 3.10, *Transportation and Traffic*.

3.9.1 Environmental Setting

Public services for the Project area are primarily provided by the City through the following agencies:

Public Services in Peery Park	
Fire Protection and Emergency Medical	City of Sunnyvale Department of Public Safety: Fire Services Bureau
Law Enforcement	City of Sunnyvale Department of Public Safety: Police Services Bureau
Public Schools	Sunnyvale School District, Santa Clara Unified School District, Cupertino Union School District, and Fremont Union High School District
Library Services	City of Sunnyvale Department of Library and Community Services: Sunnyvale Public Library
Parks and Recreation	City of Sunnyvale Department of Public Works: Parks Maintenance Division City of Sunnyvale Department of Library and Community Services: Community Services Division

Public Safety Services

The City Department of Public Safety provides fully integrated public safety services including Police, Fire, and Emergency Medical Services under the leadership of the Chief of Public Safety. The model of service delivery requires each sworn officer to be trained in all three disciplines. Although Public Safety Officers are assigned to a specific bureau (Police, Fire, or Special Operations) they are required to be fully trained in all three disciplines and can be called upon to provide cross-bureau services on a daily basis (Sunnyvale Department of Public Safety 2015a).

In addition to police and fire services, the Department of Public Safety provides services such as Fire Prevention, Animal Control, Vehicle Abatement, Crime Prevention, Neighborhood Resource Program, Records Unit, and Neighborhood Preservation. These services are provided by a professional staff of more than 279 full-time employees and many volunteers (Sunnyvale Department of Public Safety 2015a). The Department of Public Safety is funded are through annual budget review and allocations process and capital improvement planning.

Fire and Emergency Medical Services

Fire protection services are provided to the Project area through the City's Fire Services Bureau within the Department of Public Safety, an all hazard/full service provider that employs 92 sworn officers. The Fire Services Bureau is composed of three teams of 22 officers and 7 Lieutenants, in addition to the Department's 3 Fire Captains, 1 Deputy Fire Chief (Sunnyvale Department of Public Safety 2015a). The Fire Services Bureau covers emergency medical services, fire suppression, hazardous material incident mitigation, rescue operations, confined space rescue operations, fire prevention/investigations, and statewide mutual aid response (City of Sunnyvale 2015a).

The City is served by 13 frontline pieces of fire apparatus, including two fire trucks equipped with ladders to reach upper floors up to eight stories and one truck to reach upper floors up to five stories (Sunnyvale Department of Public Safety 2015b).

Since 1963, the City has been served by six fire stations (Table 3.9-1) one of which is within the Project area (Table 3.9-1). Three pieces of fire apparatus operate out of Fire Station #1 including two engines, and one reserve engine (Sunnyvale Department of Public Safety 2015a). Fire Station #1 is located within the Project area, and the perimeter of its response area exceeds 8.2 miles, covering the entire Project area.

Table 3.9-1. City of Sunnyvale Fire Stations

Station	Location
Station 1	171 North Mathilda Avenue
Station 2	795 East Arques Avenue
Station 3	910 Ticonderoga Drive
Station 4	996 South Wolfe Road
Station 5	1210 Bordeaux Drive
Station 6	1282 North Lawrence Station Road

Fire suppression capability in a department is typically measured through the rating assigned by the nationally recognized Insurance Service Office (ISO). This ISO rating is derived from a cumulative point scoring system, which grades the community's fire-suppression delivery system, including fire dispatch (operators, alarm dispatch circuits, telephone lines available), fire department (equipment available, personnel, training, distribution of companies, etc.), and water supply (adequacy, condition, number, and installation of fire hydrants). Based on this information, the ISO assigns a

classification rating from 1-10; Sunnyvale has an ISO rating of 2, which falls into the 'superior' category (City of Sunnyvale 2011a).

Adequacy of fire protection services is often determined based on average response times to incidents. The National Fire Protection Association (NFPA) most recently issued updated standards for response times in the 2016 NFPA 1710 Standards. This standard defines the minimum criteria for the effectiveness and efficiency of emergency operations to protect the safety of the public and Fire Department employees. The NFPA requires fire stations to establish an objective of 240 seconds (4 minutes) or less of travel time for the first arriving engine company at a fire suppression incident or the first responder with an automatic defibrillator or higher-level capacity at an emergency medical incident; these objectives should be met for at least 90 percent of incidents (NFPA 2015). The current response time for fire events in the City is six minutes 14 seconds, 86 percent of the time, and response time for emergency medical services (EMS) is five minutes 42 seconds, 92 percent of the time, as calculated from dispatch to on-scene arrival. Fire and emergency service response times in the Project area may be shorter than for the City as a whole, due to the proximity of Fire Station #1 to the Project area. The City Fire Services Bureau responded to 7,754 emergency events in 2014, including 1,934 fire events and 5,671 emergency medical events (Sunnyvale Department of Public Safety 2015a).

The City also has mutual aid and/or auto aid agreements with Santa Clara County Fire, San Jose Fire, Mountain View Fire, and Santa Clara (City) Fire, which cover responses to larger-scale emergencies as well as freeway incidents and structure fire incidents within shared boundaries between jurisdictions (City of Sunnyvale 2011a).

Law Enforcement and Police Protection

Police protection and law enforcement are provided to the Project area by the Bureau of Police Services. The Bureau of Police Services provides police and fire response as well as a traffic safety unit, a Special Weapons and Tactics (SWAT) team, a crisis negotiations team, a canine unit, a desk officer, a police training officer, a crime scene investigator, a bicycle patrol, a crisis intervention team, a mobile field force, and technical services (City of Sunnyvale 2015b). The Bureau of Police Services employs 84 sworn officers and is split into two field teams of 38 Officers each, a Traffic Safety Unit of one Lieutenant and three Officers, one Administrative Staff Lieutenant, 2 Captains, and 1 Deputy Chief of Police (Sunnyvale Department of Public Safety 2015). Response time for police events is calculated from dispatch to on-scene and takes five minutes 54 seconds, 84 percent of the time (Sunnyvale Department of Public Safety 2015). The Bureau of Police Services responded to 2,692 emergency events and 1,711 urgent events in 2014 (City of Sunnyvale 2015c).

The City Department of Public Safety maintains a third public service branch called the Bureau of Special Operations which employs 27 sworn officers. This bureau provides support functions for fire and police services, including 15 Officers, 9 Lieutenants, 2 Captains and 1 Deputy Chief distributed among the following units: Crime Prevention, Office of Emergency Services,

Investigations, Recruitment and Selection, Training and Administration/Internal Affairs (Sunnyvale Department of Public Safety 2015).

Public Schools

The City is served by four school districts: the Sunnyvale School District, the Cupertino Union School District, the Santa Clara Unified School District, and the Fremont Union High School District. There are twelve public elementary schools, four public middle schools, and one public high school within the City. The Sunnyvale School District is the only school district located completely within the City's boundaries, and it serves about two-thirds of the K-8 students who live in Sunnyvale. Additionally, there are nine private schools within the City (City of Sunnyvale, 2011a). The Project area is located within the boundaries of Sunnyvale School District, and is divided between the attendance boundaries of two public elementary schools: Bishop Elementary and Vargas Elementary (Sunnyvale School District 2013). Students living within the boundaries of the Project area are served by two middle schools (Columbia Middle School and Sunnyvale Middle School) and one public high school, Fremont High School.

The Sunnyvale School District collects fees of $2.08 per square foot for new residential construction, $0.33 per square foot for new commercial and industrial office space development (Sunnyvale School District 2015). The Fremont Union High School District collects fees of $1.28 per square foot for new residential development and $0.21 per square foot for retail, business office, and other non-industrial commercial uses (FUHSD 2015).

Public Parks and Recreation

Parks and open space in the City are managed by the Parks Division within the Department of Public Works. The City currently owns or maintains approximately 745 acres of open space and park lands, including 20 neighborhood parks and several other open space areas. Additional recreational facilities located within the City include 38 tennis courts, 2 golf courses, 4 swimming pools, and 143 acres of playfields, 111 acres of which are located on school grounds but are accessible to the public through joint-use agreements with school districts. The City contains a series of recreational trails, including the recently completed Calabazas Creek Trail, which serves pedestrians and bicyclists and connects to the 400-mile San Francisco Bay Trail (City of Sunnyvale 2011a).

Based on estimates from 2015, when the City's population was 148,028, the City provides approximately five acres of park and recreation space per 1,000 residents (City of Sunnyvale 2015d). This falls within the National Recreation and Park Association's recommendation of 4 to 6 acres of parkland per 1,000 residents. The City requires developers to pay a park dedication fee to fund development of parks. Currently, developers of residential communities are required to pay a fee equal to 5 acres of new park per 1,000 new residents. In order to determine fair market value, the director of community development annually determines the value for an acre of land in the City (City of Sunnyvale 2011b).

The Project area only contains one park within its boundaries; however, a golf course is adjacent to the northwestern border of the Project area. Encinal Park, an approximately 4.33-acre public park, is located within the Project boundaries and provides a range of active and passive recreational facilities, including tennis courts, a basketball court, a volleyball court, a playground, picnic tables, and barbeque pits. The Sunnyvale Golf Course, a regulation 18-hole course, is also located adjacent to the Project area. The Project area is also located within walking/driving distance of Martin Murphy Historical Park, Columbia Park, and playing fields at Bishop Elementary School.

Encinal Park is the only public recreational area in the Project area, serving recreational needs of employees and adjacent residents. Other recreational demands are served by amenities provided by employers, including ball courts, open space, and pedestrian pathways.

As an industrial area, the Project area is not identified in the General Plan as an area where new parks are proposed; however, the neighborhoods adjacent to the east of the Project area have been identified as an Underserved Residential "Gap" Area in the City's General Plan, which is considered an area that has insufficient access to recreational areas (i.e., located more than 0.25 – 0.5 miles from the nearest park or open space). Additionally, recreational needs of employees of the Project area are commonly met with unofficial amenities, such as basketball courts in loading zones and parking lots, picnic tables or benches in landscaped areas, and running/ walking trails connecting business campus areas and private employer-based recreational amenities.

Library Services

The City includes additional public services, such as the library and additional recreational facilities; however, these services are located outside of the Project area.

The Sunnyvale Public Library is a mid-sized library located at 665 West Olive Avenue, approximately 0.5 miles from the southern edge of the Project area. The Sunnyvale Public Library provides the public equal access to a vast diversity of ideas, information, knowledge, and entertainment. Library services, programs, and collections are designed to inform and enrich residents of all backgrounds and educational levels. In addition to more than 250,000 print materials, the Library also offers wide-ranging resources such as eBooks, DVDs, Blu-ray discs, Books on CD, music CDs, and streaming audio and video. An extensive children's collection promotes literacy and encourages children to become lifelong readers. The business collection supports small business owners and researchers by providing company directories, economic data, import/export information, investment information, and business start-up information. The

Sunnyvale collection preserves local history information. Online databases provide access to more than 10 million magazine and newspaper articles. Through a partnership with the United States Patent and Trademark Office, the Library offers access to patent and trademark databases and additional resources and programming to support the intellectual property community.

3.9.2 Regulatory Setting

Federal Policies and Regulations

There are federal policies or regulations that directly apply to local law enforcement, local public parks, or local public schools.

Uniform Fire Code

The Uniform Fire Code includes specialized technical fire and life safety regulations which apply to the construction and maintenance of buildings and land uses. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings.

State Policies and Regulations

California Fire Code

The 2010 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems (e.g., alarm and sprinkler systems), fire services features (e.g., fire apparatus access roads), means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

California Health and Safety Code

Additional state fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which include regulations for building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building and child-care facility standards, and fire suppression training.

California Occupational Safety and Health Administration

In accordance with the California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Fighting Equipment, the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

Emergency Response/Evacuation Plans

Government Code Section 8607(a) directs the Governor's Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. The program is intended to provide effective management of multi-agency and multijurisdictional emergencies in California. The SEMS program consists of five organizational levels, which are activated as necessary: (1) Field Response, (2) Local Government, (3) Operational Area, (4) Regional, and (5) State.

Fire Hazard Severity

California has enacted statewide laws aimed at reducing wildfire hazards in wildland-urban interface areas. These regulations cover topics such as fire prevention, vegetation management, notification and penalties, fire hazard severity zones, defensible space, setbacks, and exemptions. For the complete text of the Fire Hazard Zoning Field Guide, view the Office of the State Fire Marshal's fire safety planning website located at http://osfm.fire.ca.gov/ zoning.html.

Parks and Recreation Facilities

1975 Quimby Act (California Government Code §66477). The Quimby Act authorizes cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. The Quimby Act specifies that parkland dedications may not exceed 3 acres of parkland per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the City may adopt a higher standard not to exceed 5 acres per 1,000 residents. The Act also specifies acceptable uses and expenditures of such funds.

Public School Services

Senate Bill 50 and Proposition 1A School Funding. SB 50, or the Leroy F. Greene School Facilities Act of 1998, provided comprehensive school facilities financing and reform program by authorizing a $9.2 -billion state bond measure and imposing new limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. SB 50 amends Section 17620 of the Education Code to authorize school districts to levy statutory developer fees at levels that may be significantly higher than those previously permitted, but also provides new and stricter standards for school districts to follow when levying fees. School Districts would continue to be authorized to charge development fees, calculated on

a per-square-foot of development basis, (also known as Level 1 fees) on residential buildings and commercial or industrial buildings. However, pursuant to Government Code Sections 65995.5 and 65995.7, SB 50 authorizes school districts to charge additional Level 2 development fees to match 50% of school construction costs of state funds, and Level 3 development fees to fund 100% of school construction costs, if state funds are not available.

Section 65996 of the Government Code, School Mitigation Fee. Section 65996 designates Section 17620 of the Education Code (the mitigation fees authorized by SB 50) and Section 65970 of the Government Code to be the exclusive method for considering and mitigating development impacts on school facilities.

Assembly Bill (AB) 181 and AB 2962. These assembly bills require school districts to pay a share of the cost of school construction based on the square footage of residential, commercial, and industrial construction taking place within their districts. The law commissions school districts to levy a Developer Impact Fee for this purpose, establishes the maximum rate of the fees, and prohibits building permit authorities from issuing building permits without certification from the school district that fee requirements have been met.

Local Policies and Regulations

City of Sunnyvale Emergency Plan

The City of Sunnyvale Emergency Plan addresses the planned response that will be coordinated from the Emergency Operations Center (EOC) to emergency situations associated with natural disasters and technological incidents. The operational concepts reflected in this plan focus on potential large-scale emergencies that can generate unique situations requiring unusual response efforts. Such emergencies pose major threats to life and property and can affect the well-being of large numbers of people. The intent of the plan is to save lives and protect property by developing operational capabilities that mitigate, prepare for, respond to, and recover from any emergency or disaster.

City of Sunnyvale General Plan (2011)

The City's General Plan, which was consolidated in 2011, contains multiple goals and policies that relate to public services. Goals and policies that are relevant to the Project are listed below.

Land Use and Transportation:

Policy LT-4.14: Support the provision of a full spectrum of public and quasi-public services (e.g., parks, day care, group living, recreation centers, religious institutions) that are appropriately located in residential, commercial, and industrial neighborhoods and ensure that they have beneficial effects on the surrounding area.

Goal LT-8: Adequate and Balanced Recreation Facilities. The City strives to provide and maintain adequate and balanced open space and recreation facilities for the benefit of

maintaining a healthy community based on community needs and the ability of the city to finance, construct, maintain, and operate these facilities now and in the future.

Community Character:

Goal CC-4: Accessible and Attractive Public Facilities. Provide public facilities which are accessible, attractive, and add to the enjoyment of the physical environment.

Policy CC-4.2: Maintain beautiful and comfortable outdoor public places which provide a shared sense of ownership and belonging for Sunnyvale residents, business owners, and visitors.

Policy CC-7.2: Maintain a full-service Library adequate to meet community needs.

Goal CC-12: Maximize Access to Recreation Services and Amenities. The City strives to maximize access to all of its services, facilities and amenities.

Policy CC-12.1: Locate services at schools, parks, and recreational facilities throughout the City and utilize strategies such as the mobile recreation.

Police, Fire and Emergency Services:

Goal SN-3: Safe and Secure City. Ensure a safe and secure environment for people and property in the community by providing effective public safety response and prevention and education services (previously law enforcement goal 4.1a and 4.1b Adopted in 1995)

Policy SN-3.1: Provide rapid and timely response to all emergencies.

Goal SN-5: Effective Fire Service Response System. Provide a fire service response system that will control the spread of fire in buildings and other properties and maintain minimal casualties and property loss from fire and other related emergencies (Previously Fire Services Goal 4.2A/ Adopted in 1995)

Policy SN-5.1: Assure that equipment and facilities are provided and maintained to meet reasonable standards of safety, dependability and compatibility with fire service operations.

City of Sunnyvale Fire Code

Sunnyvale Municipal Code, Chapter 16.52 contains the fire code for the City and addresses standard requirements regarding fire protection systems, fire protection devices, and building design. In addition to building and design standards, the Fire Code requires development projects within the City to undergo review by the Fire Marshal prior to occupancy.

City of Sunnyvale Parks Dedication Codes

Sunnyvale Municipal Code, Chapter 18.10, *Parks and Open Space Dedication*, requires developers of residential subdivisions to either dedicate certain amounts of land per additional 1,000 new residents for recreation or open space purposes *or* to pay an in-lieu fee equivalent to the cost of purchasing the required acreage. This code meets Quimby Act requirements described above. Sunnyvale Municipal Code, Chapter 19.74, *Park Dedication Fees for Rental Housing Projects*, states that rental housing developments also have a significant effect on the use and availability of recreation space and facilities and requires developers of new rental housing projects or apartments to pay a fee equivalent to the cost of purchasing parkland to mitigate the impact of an increasing population on City parkland. This code is enabled by the California Government Code (66000), known as the Mitigation Fee Act, which allows a jurisdiction to collect revenue to mitigate the impact an increasing population associated with new rental housing will have on specific services and facilities.

3.9.3 Impacts and Mitigation Measures

Significance Criteria

Impacts on public services are considered significant if an increase in population, employment, or development levels would result in inadequate staffing levels, response times, and/or increased demand for services that would exceed existing service capabilities. In addition, consistent with CEQA Guidelines Appendix G, the Project could have a significant impact if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services, including:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities (e.g., libraries)

Methodology

The environmental impact analysis for public services in this EIR involves an assessment of existing public services standards and capacities as well as existing public school resources and enrollment data, and recreational opportunities and standards. In order to conduct an analysis for the Project, various agencies were contacted to request current information about service capabilities, service ratios, response times, and performance objectives. In addition, information available on relevant websites, including school enrollment data from the California Department of Education, was obtained and reviewed.

Impacts to Public Safety Services and Government Facilities

Impact PS-1: Implementation of the proposed Project would substantially increase employee and resident populations within the Project area with associated additional demands for emergency and public safety services and construction of new or physically altered government facilities to maintain acceptable service ratios, response times, or other performance objectives for fire protection and police protection. This impact would be less than significant.

Fire Protection and Emergency Medical Services

Impacts on fire protection services and emergency medical services are considered significant if an increase in population, employment, or development levels would result in inadequate staffing levels, response times, and/or increased demand for services that could adversely impact public health and safety or would require the construction of new or altered facilities that might have an adverse physical effect on the environment. The Fire Bureau does not maintain a staffing ratio goal based directly on population or employment (staffing levels are instead identified based on service demand and other factors). However, implementation of the Project would result in an increase in service demands from an estimated 14,000 new employees, more than 500 residents, and patrons of commercial businesses. This increase in demand for fire protection and emergency services in and around the Project area could impact operational services of fire protection and emergency medical providers.

Implementation of the Project would increase development within the Project area. As described in Chapter 2, *Project Description*, the Project would result in a net increase of approximately 2,200,000 sf of commercial floor area and construction of 215 new residential units. The increase in construction activity and permanent structures could result in increased demand for fire protection. Although the Project does not contain any specific development standards addressing fire protection services, the City General Plan (2011) contains fire protection policies and goals to ensure that equipment and facilities are provided and maintained to meet reasonable standards of safety, dependability, and efficiency (See Section 3.9.2 “Local” for additional detail). Further, pursuant to the Fire Code all new structures built within the Project area would be required to meet standard fire code requirements, and be reviewed by the Bureau of Fire Services, ensuring that the Project will provide adequate infrastructure for firefighting services.

When needed, ambulance and paramedic units transport patients to local hospitals; therefore, the Project could also result in an increase in demand for medical services at El Camino Hospital, Kaiser Permanente Santa Clara Medical Center, or other nearby hospitals. However, given that these hospitals already serve the City of Sunnyvale and surrounding communities, any increase in the demand for emergency medical services at these hospitals related to the Project can be expected to be incremental, and would not be expected to result in the need for new facilities.

The increase in employees and residents generated by the Project could result in an incremental increase in calls to the City Department of Public Safety for emergency medical services and fire response. Based upon personal communication with the Deputy Chief of Public Safety, D.C.

Drewniany, it is not anticipated that the proposed Project would significantly affect fire and emergency medical response time and coverage ability (City of Sunnyvale 2015, personal communication). Potential impacts to fire and emergency medical services are therefore considered less than significant.

Police Protection

Impacts on police services are considered significant if an increase in population, employment, or development levels would result in inadequate staffing levels, response times, and/or increased demand for services that would adversely impact public health and safety or would require the construction of new or altered facilities that might have an adverse physical effect on the environment.

Implementation of the Project would increase land use intensity and the density of development in the Project area. As described in in Section 3.8, *Population and Housing*, this build-out would generate up to 14,401 jobs and 574 new residents, as determined based upon average family size in the City (California Department of Finance 2015). The increase in population (from resident as well as daytime-workers) in the Project area could generate additional calls for police services and a need for additional patrol. The increase in future construction and increase in the commuting workforce associated with the new offices and industrial space could cause increased traffic congestion, vehicle accidents, calls for emergency medical service, and potentially reported crimes in the area, all of which may lead to an increase in the demand for police services.

Although the Project does not contain specific development standards addressing police protection, Section 2.0.3.E of the Specific Plan explicitly states that all developments shall comply with applicable regulations, including the City of Sunnyvale Emergency Plan and development review procedures (Freedman Tung + Sasaki 2015). Further, the City General Plan contains police service and law enforcement goals and policies to ensure that the city provides rapid and timely response to all emergencies. As part of the City's development review and approval process, the Department of Public Safety would review proposed developments in the Project area and provide specific recommendations related to security features and opportunities to reduce crime. The increased intensity of use by a daytime population, and related traffic volumes, could result in an incremental increase in the number of call to the Public Safety Department for police services; however, based on personal communication with the Deputy Chief of Public Safety, D.C. Drewniany, it is not anticipated that the proposed Project would significantly affect police response time and coverage ability, and increased demand for police service would not result in the need for new or physically altered facilities or additional staff (City of Sunnyvale 2015, personal communication). Potential impacts to police services are therefore considered less than significant.

<u>Impacts to School Districts and Facilities</u>

Impact PS-2: New residential uses occurring under the Peery Park Specific Plan are anticipated to generate students, which would incrementally increase demand for schools; however, pursuant to SB 50, the payment of developer fees to the Sunnyvale School

District and Fremont Union High School District would fully mitigate impacts to less than significant.

Implementation of the proposed Project would enable development of approximately 215 residential units in the Project area. The increase in residential space and jobs would create a slight increase in enrollment at local public schools. Additionally, the Project would result in the direct addition of 2,200,000 sf of office and light industrial space (primarily business office, research and development, and industrial). Such nonresidential development may also increase in the number of school-aged children due to the resulting increase in the number of employees who reside within a school district.

To account for these increases in demand for public school services, Sunnyvale School District and Fremont Union High School District require the payment of development fees for both residential and nonresidential development within the City, pursuant to AB 2926 and AB 181. These fees (a total of $3.36/sf for residential and of $0.54/sf for commercial) are calculated on a per-square-foot basis on new development and would be collected on up to 2,200,000 sf of commercial development and for the 215 residences based on their square footage. The payment of school development fees is considered adequate to address impacts on school facilities. As a result of payment of these required fees, potential impacts to school districts and facilities resulting from development under the proposed Project are considered less than significant.

Impacts to Public Parks and Recreation Facilities

Impact PS-3: Implementation of the Project would incrementally increase the number of workers and visitors on site, which would increase demand for public parks on and within the Project vicinity. However, this impact would be less than significant.

The proposed Project would enable creation of approximately 14,000 new jobs and homes for over 500 new residents, incrementally increasing demand for park and recreational facilities, affecting the ratio of parkland to residents. However, as described in Section 2.0, *Project Description*, the Project includes development standards that require a minimum amount of open space for new development proposals and incentivizes project applicants to go beyond the minimum requirement through the incentive zoning program. The Project also includes development of activity centers which would allow recreational facilities, and Table 2.6 in the Plan specifies that a minimum of 20% of any developed site must be designed as open space (Freedman Tung + Sasaki 2015). It is anticipated that during the workday, employees in the Project area would use new open space areas rather than existing parks in the vicinity of the Project area due to the proximity of these new facilities to their jobs. As a result, it is not anticipated that employees working in the Project area would increase the visitor use of nearby parks to the degree that deterioration of these facilities would occur. In fact, it is more likely that implementation of the Project would reduce the number of employees using offsite parks due to development of additional facilities that are accessible and conveniently located. Per City Municipal Code Chapter 18.10, development of the residential units proposed under the Project would contribute to the park dedication fee of 5 acres of park for every 1,000 new residents. This fee would contribute to

development of park areas within the City or even within the Project area, thereby further reducing potential impacts from the Project on parks and recreation facilities in the City. Finally, given that the number of jobs generated by the Project represents a very small fraction of the current population of the City (less than 0.05%), an influx of residents due to jobs generated by the Project would not be expected to meaningfully decrease the ratio of parkland to residents.

Most of the visitors to nearby regional parks, including Santa Clara County parks, are residents of Santa Clara County. Santa Clara County parks receive between three to four million visitors per year. The additional permanent residents that would be added to the region by the development proposed under the Project would represent an increase of less than 0.2% in the current number of users of Santa Clara County parks (Santa Clara County Parks and Recreation Department, 2003). Although new employees and residents resulting from build-out of the Project could incrementally increase the use of existing local and regional parks, the additional use of regional facilities would not be expected to result in substantial deterioration of these facilities. As a result, the impacts from the Project on local and regional parks would be less than significant.

Cumulative Impacts

Although the Project would have a less than significant impact on Public Services provided by the City, the project could contribute to cumulative impacts on City public services. In particular, increased development throughout the City and region could result in increased demand for emergency public services, including fire, police, and emergency response, which may incrementally degrade existing levels of such public service. Based upon the proportional contribution of the Project to pending cumulative projects (refer to Figure 3.0 and Appendix D), the Project could have adverse cumulatively impacts. However, development fees would adequately mitigate the cumulative impacts on schools and recreation to less than cumulatively significant. Further, the annual City budget allocation process would allow consideration of the hiring of additional public safety, library, or park personnel commensurate with increased demand from development. Fiscal impacts of such increases in staffing would be addressed though standard budgetary review and increased property revenues from new development.

3.10 TRANSPORTATION, CIRCULATION, AND TRAFFIC

This section describes the existing transportation setting of Peery Park (Project area) and provides an analysis of the potential impacts that could result from implementation of the proposed Peery Park Specific Plan (Project). The primary issues pertaining to transportation, circulation, and traffic include increased levels of intersection and freeway traffic and congestion during construction and following buildout under the proposed Peery Park Specific Plan. Long-term impacts to transportation, circulation, and traffic, including impacts to transit as well as pedestrian and bicycle facilities, were evaluated based on the Traffic Impact Analysis prepared by Hexagon Transportation Consultants, Inc. (Hexagon 2016a; see Appendix H). Additionally, near-term project-specific impacts were evaluated for the proposed seven projects (Hexagon 2016b) as well as the proposed Irvine project (Hexagon 2016c). Further details regarding near-term impacts can also be found in Appendix H.

3.10.1 Environmental Setting

The Project area is located within an existing industrial district in the northwestern region of the City of Sunnyvale (City). The City's transportation system is comprised of a mixture of highways and streets as well as public transit routes, bicycle lanes, and pedestrian paths. The Project area is roughly bounded by State Route (SR) 237 to the north and northwest, Mathilda Avenue to the east, and the Southern Pacific Rail line to the south (see Figure 3.10-1). The Project area encompasses approximately 450 acres and is almost fully developed by multiple industrial and commercial structures, roads, landscaping, and open surface parking lots.

<u>Regional Highways and Local Roadways</u>

Regional access to the Project area is provided by U.S. Highway (U.S. 101), SR 237, and the Central Expressway. U.S. 101 runs along the north end of the Project area and provides access southeast to San Jose and north to San Francisco. SR 237 is located immediately northwest of the Project area and provides access west to El Camino Real (SR 82) in the City of Mountain View and east to Interstate (I-) 880 in the City of Milpitas. The Central Expressway is located towards the south of the Project area and provides access west to the City of Mountain View and east to the City of Santa Clara. Local access to the Project area is provided by

U.S. 101 freeway provides regional access to Peery Park primarily via the Mathilda Avenue Interchange, linking the area to San Francisco and northern California, San Jose and southern California to the south.

Mathilda Avenue, Mary Avenue, Maude Avenue, Evelyn Avenue, and El Camino Real (SR 82). Additional descriptions of these highways and roadways are provided below (see Figure 3.10-1).

U.S. 101 – is an eight-lane freeway (three mixed-flow lanes and one High Occupancy Vehicle [HOV] lane in each direction) in the vicinity of the site. U.S. 101 extends northward through San Francisco and southward through Gilroy. Access to and from the Project area is provided via its interchange at Mathilda Avenue.

SR 237 – is a four to six-lane freeway in the vicinity of the Project area that extends west to SR 82 and east to I-880 in Milpitas. East of Mathilda Avenue, SR 237 has two mixed-flow lanes and one HOV lane in each direction. West of Mathilda Avenue, SR 237 has two mixed-flow lanes in each direction. SR 237 provides access to the Project area via interchanges at Central Expressway, Maude Avenue, and Mathilda Avenue.

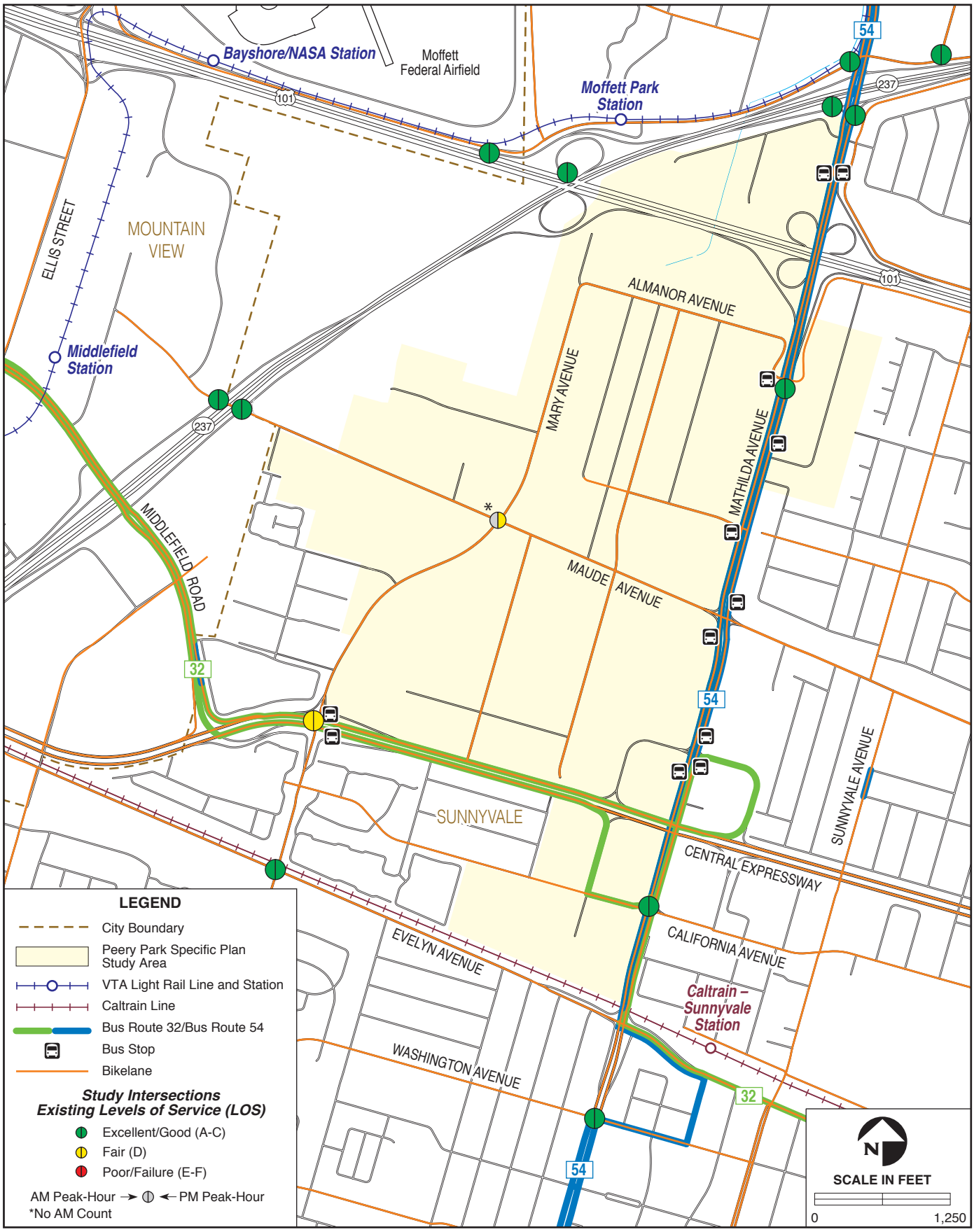
Mathilda Avenue – is a six to eight-lane arterial running in the north-south direction. Within the Project area, Mathilda Avenue has four lanes southbound and three lanes northbound. Mathilda Avenue begins at Caribbean Drive in the north, extends southward, and transitions into Sunnyvale-Saratoga Road as it crosses SR 82. Freeway interchanges at Mathilda Avenue are located along U.S. 101 and SR 237.

Maude Avenue – is a two- to four-lane roadway (two lanes in each direction) that runs in the east-west direction extending from a freeway intersection with SR 237 in the west and continuing east to Wolfe Road. Maude Avenue is four lanes west of Mathilda Avenue and two lanes east of Mathilda Avenue.

Central Expressway – is a four to six-lane expressway running in the east-west direction. Within the Project area, Central Expressway has two eastbound lanes and two westbound lanes. It begins at Trimble Road in the east, crosses Sunnyvale, extends westward and transitions into Alma Street. Central Expressway connects to Mathilda Avenue via a square-loop interchange, and has an at-grade intersection with Mary Avenue. In addition, Central Expressway has a right-in-right-out access point at Potrero Avenue between Mathilda Avenue and Mary Avenue.

Evelyn Avenue – is a two to four-lane roadway that begins west at Castro Street in the City of Mountain View and extends east to its terminus at Reed Avenue in the City. Within the Project area, Evelyn Avenue has a center two-way left-turn median that extends along the entirety of the roadway.

El Camino Real (SR 82) – is a six-lane divided major arterial in the vicinity of the Project area. SR 82 extends from Mission Street in the City of Colma in the north to The Alameda in the City of Santa Clara in the south. SR 82 connects with Lawrence Expressway via a full interchange and has a posted speed limit of 40 miles per hour (mph) in the vicinity of the Project area.



amec foster wheeler

Transportation, Circulation, and Mobility Map

FIGURE 3.10-1

Roadways within the Project area are classified consistent with City standards (see Table 3.10-1) (City of Sunnyvale 2010):

- State Highway (U.S. 101 and SR 237)
- County Expressway (Central Expressway)
- Class I Arterial (Mathilda Avenue)
- Class II Arterial (Evelyn Avenue)
- Commercial Industrial Collector (e.g., Maude, Mary, and Almanor Avenues)
- Residential Collector (e.g., California Avenue)
- Local roadways (e.g., Palomar Avenue, Ross Drive, Hermosa Avenue)

Existing Traffic Conditions

The Hexagon Traffic Impact Analyses (2016a, 2016b, and 2016c) documented existing transportation conditions in the Project vicinity focusing on existing traffic issues (see Appendix H). Existing traffic volumes presented in Hexagon's analyses are based on recent traffic counts conducted between the years of 2014 and 2015, the 2014 Congestion Management Program (CMP) TRAFFIX database, and County records for the expressways. The latest counts available at the intersections at De Anza Boulevard and I-280 ramp intersections, Wolfe Road and I-280 ramp intersections, and at Lawrence Expressway Ramps and El Camino Real intersection were dated 2011. This set of counts was extrapolated to the year 2015 based on growth at nearby intersections.

As described below, Hexagon also observed traffic conditions in the field in order to identify existing operational deficiencies and to confirm the accuracy of calculated intersection Level of Service (LOS). The purpose of this effort was: (1) to identify any existing traffic problems that may not be directly related to LOS; and (2) to identify any locations where the LOS analysis does not accurately reflect existing traffic conditions. No other congestion issues were identified or described in the Hexagon Traffic Impact Analyses.

Hexagon observed the following congested intersections and roadway segments during the AM peak hour. At the north end of the Project area, congestion occurs on northbound Mathilda Avenue, particularly at the intersection with SR 237, including the eastbound ramps where the eastbound left-turn movement is congested and requires at least two signal cycles to clear. Similarly, the at westbound ramps intersection, the westbound right-turn movement is congested, and requires at least two signal cycles to clear. At the southern end of the planning area on northbound Mathilda Avenue between El Camino Real and Almanor Avenue, when the northbound through movement receives red lights in this corridor, vehicles build up towards and occasionally extend past the upstream intersections. As a result, there are occasions when the beginning of the green phases is used to clear the downstream traffic before vehicles at the upstream intersections can progress through. However, southbound Mathilda Avenue has the green phase for approximately 60 to 80 seconds, so all traffic dissipates within one signal cycle (Hexagon 2016a).

Table 3.10-1. Peery Park Roadway Inventory

Roadway Classification	Roadway Name	Length within Peery Park [1]	LUTE Description
Class I Arterial	Mathilda Avenue (North-South)	1.70 miles	High capacity road that serves large volumes of traffic between areas in urban centers.
Class II Arterial	Evelyn Avenue (East-West)	0.45 miles	High to moderate capacity road that serves large volumes of traffic between areas in urban centers.
Commercial/ Industrial Collector	Almanor Avenue	0.75 miles	Serve a dual function in accommodating the short trip and feeding the arterials.
	Del Rey Avenue	0.30 miles	
	Maude Avenue	1.00 miles	
	Pastoria Avenue	1.00 miles	
	Potrero Avenue	0.40 miles	
	Mary Avenue	1.00 miles	
County Expressway	Central Expressway	0.75 miles	Provide a high degree of mobility within the different cities in the region at relatively high operating speeds (up to 45 mph).
Local	Benecia Avenue	0.27 miles	Serve relatively short trip lengths and provide property access at typically lower speeds (up to 25 mph).
	Corte Madera	0.17 miles	
	Hamlin Court	0.12 miles	
	Hermosa Avenue	0.16 miles	
	Hermosa Court	0.14 miles	
	Palomar Avenue	0.33 miles	
	Ross Drive	0.30 miles	
	San Aleso Avenue	0.33 miles	
	Sobrante Way	0.14 miles	
	Soquel/Indio Way	0.22 miles	
	Vaqueros Avenue	0.33 miles	
Residential Collector	Ahwanee Avenue	0.13 miles	Serve a dual function in accommodating the short trip and feeding the arterials. Residential collectors also serve small-scale commercial areas and public facilities, such as schools, churches, and parks.
	California Avenue (West)	0.33 miles	
State Freeway (Caltrans)	SR 237	0.50 miles	Provide high levels of safety and efficiency in the movement of large volumes of traffic for long distance/regional trips at high speeds (up to 65 mph).
	U.S. 101	0.45 miles	

Note: [1] Length of roadways within the Project area are approximate estimations.
Source: (City of Sunnyvale 2010).

During the PM peak hour, congestion occurs on southbound Mathilda Avenue at the SR 237 intersections. Due to the proximity of the SR 237 intersections, southbound traffic extends from SR 237 eastbound ramps north towards Moffett Park Drive. Southbound left-turn lane at the Mathilda Avenue and SR 237 eastbound ramps intersection backs up past Moffett Park Drive and requires multiple cycles to clear. The southbound right-turn lane at the Mathilda Avenue and SR 237 westbound ramps intersection backs up past Moffett Park Drive and requires multiple cycles to clear. On southbound Mathilda Avenue, between Almanor Avenue and El Camino Real, queuing issues are regularly observed at the intersections of El Camino Real, Iowa Avenue, McKinley Avenue, California Avenue, Maude Avenue, and Almanor Avenue. At the intersections of El Camino Real, Iowa Avenue, and McKinley Avenue, queues occasionally extended past the upstream intersections because of the high frequency of pedestrians crossing Mathilda Avenue at these intersections, as well as the close spacing (i.e., 600 to 700 feet) between intersections. However, because the southbound through movement receives an extended amount of green time (i.e., 60 to 100 seconds), most of the queues were able to clear within one signal cycle. At the California Avenue intersection, the southbound queue backs up towards Maude Avenue because of the slow progression at the downstream intersections, and often requires two cycles to clear. At the Maude Avenue intersection, the southbound queue often extends towards San Aleso Avenue, but most of the traffic clears within one signal cycle. At the Almanor Avenue intersection, the southbound queue extends past the U.S. 101 southbound off-ramp, but clears within one signal cycle. The southbound left-turn movement at Almanor Avenue sometimes requires more than one signal cycle to clear (Hexagon 2016a).

Existing Intersection Level of Service (LOS)

Existing levels of traffic congestion at intersections within and bordering the Project area are generally classified as moderate under adopted City standards. Sunnyvale has established LOS D as an acceptable level of traffic congestion on most City streets, with LOS E as the standard for arterials carrying heavy regional traffic. Commercial and industrial development permitted under the Project has the potential to substantially increase traffic along are road corridors and congestion at major intersections.

Hexagon (2016a) compared intersection LOS to the respective jurisdiction standards for intersection operations. The results of the analysis show that most of the study intersections currently operate at acceptable levels during both the AM and PM peak hours, with the following exceptions:

- Lawrence Expressway & Arques Avenue (#16) – PM Peak Hour (LOS F)
- Lawrence Expressway & Kifer Road (#17) – AM and PM Peak Hour (LOS F)
- Lawrence Expressway & Reed Avenue (#18) – AM and PM Peak Hour (LOS F)
- Lawrence Expressway & Benton Street (#84) – AM Peak Hour (LOS F)
- Lawrence Expressway & Homestead Road (#85) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & I-280 Southbound Ramp (#90) – AM Peak Hour (LOS E)

Table 3.10-2. Existing Levels of Service (LOS) at Peery Park Intersections

Intersection No.	Intersection	Peak Hour	Average Delay (sec)	LOS
1	Mathilda Ave & Java Dr	AM	26.6	C
		PM	28.0	C
2	Mathilda Ave & 5th Ave	AM	13.5	B
		PM	22.1	C+
3	Mathilda Ave & Innovation Way	AM	18.5	B-
		PM	19.8	B-
4	Mathilda Ave & SR 237 WB [1]	AM	-	E
		PM	-	E
5	Mathilda Ave & SR 237 EB [1]	AM	-	E
		PM	-	E
6	Crossman Ave & Caribbean Dr	AM	10.3	B+
		PM	36.0	D+
7	Crossman Ave & Java Dr	AM	17.0	B
		PM	29.4	C
8	Fair Oaks Ave & Tasman Dr	AM	17.1	B
		PM	19.4	B-
9	Fair Oaks Ave & Weddell Dr	AM	19.0	B-
		PM	13.8	B
10	N Fair Oaks Ave & U.S. 101 NB	AM	16.5	B
		PM	21.0	C+
11	Lawrence Expwy & Tasman Dr	AM	40.2	D
		PM	64.8	E
12	Lawrence Expwy & Lakehaven Dr	AM	59.6	E+
		PM	63.5	E
13	Lawrence Expwy & U.S. 101 NB	AM	21.7	C+
		PM	24.4	C
14	Lawrence Expwy & U.S. 101 SB	AM	15.1	B
		PM	43.1	D
15	Lawrence Expwy & Oakmead Pkwy	AM	48.7	D
		PM	57.5	E+
16	Lawrence Expwy & Arques Ave	AM	66.6	E
		PM	95.5	F
17	Lawrence Expwy & Kifer Rd	AM	168.2	F
		PM	81.0	F
18	Lawrence Expwy & Reed Ave/Monroe St	AM	203.1	F
		PM	86.5	F
19	Duane/Stewart & Duane Ave	AM	31.4	C
		PM	30.6	C
20	N Fair Oaks Ave & Duane Ave	AM	26.3	C
		PM	32.1	C-

Table 3.10-2. Existing Levels of Service (LOS) at Peery Park Intersections (Continued)

Intersection No.	Intersection	Peak Hour	Average Delay (sec)	LOS
19	Duane/Stewart & Duane Ave	AM	31.4	C
		PM	30.6	C
20	N Fair Oaks Ave & Duane Ave	AM	26.3	C
		PM	32.1	C-
21	Fair Oaks Ave & Maude Ave [1]	AM	28.6	C
		PM	28.5	C
22	Wolfe Rd & Stewart Dr	AM	16.1	B
		PM	19.1	B-
23	Wolfe Rd & Arques Ave	AM	24.8	C
		PM	28.4	C
24	Wolfe Rd & Kifer Rd	AM	21.1	C+
		PM	26.8	C
25	Wolfe Rd & Evelyn Ave	AM	26.0	C
		PM	24.6	C
26	Wolfe Rd & Reed Ave	AM	28.8	C
		PM	28.8	C
27	Evelyn Ave & Reed Ave	AM	10.8	B+
		PM	18.9	B-
28	Wolfe Rd & El Camino Real	AM	49.8	D
		PM	55.1	E+
29	Wolfe Rd & Fremont Ave	AM	48.9	D
		PM	49.8	D
30	Wolfe Rd & Homestead Rd	AM	30.9	C
		PM	31.9	C
31	Fair Oaks Ave & Arques Ave	AM	29.7	C
		PM	34.4	C-
32	N Fair Oaks Ave & Evelyn Ave	AM	28.1	C
		PM	26.7	C
33	N Fair Oaks Ave & Old San Francisco	AM	35.4	D+
		PM	36.7	D+
34	Fair Oaks Ave & El Camino Real	AM	34.9	C-
		PM	39.3	D
35	Sunnyvale Ave & Evelyn Ave	AM	24.6	C
		PM	27.9	C
36	Sunnyvale Ave & Washington Ave	AM	17.7	B
		PM	20.3	C+
37	Sunnyvale Ave & McKinley Ave	AM	15.8	B
		PM	16.1	B
38	Sunnyvale Ave & Iowa Ave	AM	12.8	B
		PM	16.0	B
39	Sunnyvale Ave & El Camino Real	AM	23.3	C
		PM	30.0	C

Table 3.10-2. Existing Levels of Service (LOS) at Peery Park Intersections (Continued)

Intersection No.	Intersection	Peak Hour	Average Delay (sec)	LOS
40	Sunnyvale-Saratoga Rd & Remington Dr	AM	42.2	D
		PM	45.8	D
41	Sunnyvale-Saratoga Rd & Fremont Ave	AM	34.7	C-
		PM	45.7	D
42	Mathilda Ave & Almanor Ave	AM	17.1	B
		PM	27.1	C
43	Mathilda Ave & Maude Ave	AM	39.0	D+
		PM	40.4	D
44	Mathilda Ave & Indio Way	AM	24.5	C
		PM	24.9	C
45	Mathilda Ave & California	AM	19.9	B-
		PM	25.3	C
46	Mathilda Ave & McKinley Ave	AM	15.1	B
		PM	16.4	B
47	Mathilda Ave & Iowa Ave	AM	13.1	B
		PM	16.7	B
48	Mathilda Ave & El Camino Real	AM	44.0	D
		PM	48.4	D
49	Hollenbeck Ave & El Camino Real	AM	27.9	C
		PM	28.9	C
50	Hollenbeck Ave & Fremont Ave	AM	34.6	C-
		PM	36.7	D+
51	Mary Ave & Maude Ave	AM	25.8	C
		PM	29.1	C
52	Mary Ave & Central Expwy	AM	50.0	D
		PM	61.6	E
53	Mary Ave & Evelyn Ave	AM	30.0	C
		PM	30.3	C
54	Mary Ave & El Camino Real	AM	37.3	D+
		PM	37.8	D+
55	Mary Ave & Fremont Ave	AM	41.8	D
		PM	42.0	D
56	Bernardo Ave & Evelyn Ave	AM	24.3	C
		PM	19.0	B-
57	Bernardo Ave & El Camino Real	AM	40.1	D
		PM	35.6	D+
58	Bernardo Ave & Fremont Ave	AM	26.6	C
		PM	22.6	C+
59	SR 85 NB & Fremont Ave	AM	30.3	C
		PM	26.6	C
60	SR 85 SB & Fremont Ave	AM	37.5	D+
		PM	31.6	C

Table 3.10-2. Existing Levels of Service (LOS) at Peery Park Intersections (Continued)

Intersection No.	Intersection	Peak Hour	Average Delay (sec)	LOS
61	Mathilda Ave & San Aleso Ave	AM	12.6	B
		PM	17.3	B
62	Ellis St & Fairchild Dr (MB)	AM	14.7	B
		PM	16.4	B
63	Ellis St & Middlefield Rd (MV)	AM	16.7	B
		PM	18.0	B
64	Ferguson Dr & Middlefield Rd (MV)	AM	7.4	A
		PM	9.7	A
65	Bernardo Ave * Middlefield Rd (MV)	AM	9.7	A
		PM	15.4	B
66	Sylvan Ave & El Camino Real (MV)	AM	31.5	C
		PM	28.2	C
67	Grant Rd & El Camino Real (MV)	AM	51.0	D-
		PM	58.3	E+
68	SR 237 EB & Middlefield Rd (MV)	AM	21.8	C+
		PM	16.6	B
69	SR 237 WB & Middlefield Rd (MV)	AM	20.2	C+
		PM	19.6	B-
70	SR 237 Service Road & Maude Ave	AM	29.2	C
		PM	34.7	C-
71	Mathilda Ave & Olive Ave	AM	13.7	B
		PM	16.9	B
72	Mathilda Ave & Washington Ave	AM	32.2	C-
		PM	32.0	C-
73	Sunnyvale-Saratoga Rd & Homestead Rd (CUP)	AM	34.9	C-
		PM	34.2	C-
74	Hollenbeck Ave & Homestead Rd	AM	32.7	C-
		PM	35.5	D+
75	Mary Ave & Homestead Rd	AM	25.5	C
		PM	24.8	C
76	Bernardo Ave & Homestead Rd	AM	15.5	B
		PM	13.7	B
77	SR 85 SB Ramp & Homestead Road	AM	15.4	B
		PM	18.0	B
78	De Anza Blvd & I-280 NB (Ramps) (CUP) [1]	AM	37.3	D+
		PM	31.3	C
79	De Anza Blvd & I-280 SB (Ramps) (CUP) [1]	AM	38.5	D+
		PM	20.1	C+
80	Wolfe Rd & I-280 NB Ramps (CUP) [1]	AM	12.4	B
		PM	11.8	B+
81	Wolfe Rd & I-280 SB Ramps (CUP) [1]	AM	15.9	B
		PM	7.8	A

Table 3.10-2. Existing Levels of Service (LOS) at Peery Park Intersections (Continued)

Intersection No.	Intersection	Peak Hour	Average Delay (sec)	LOS
82	Lawrence Expwy & Cabrillo Ave (SCL)	AM	75.9	E-
		PM	60.2	E
83	Lawrence Expwy Ramps & El Camino Real (SCL) [1]	AM	30.7	C
		PM	29.7	C
84	Lawrence Expwy & Benton St (SCL)	AM	81.0	F
		PM	55.5	E+
85	Lawrence Expwy & Homestead Road (SCL)	AM	84.5	F
		PM	80.3	F
86	Lawrence Expwy * Pruneridge Ave (SCL)	AM	67.3	E
		PM	36.6	D+
87	Lawrence Expwy SB & Stevens Creek Blvd (SCL)	AM	20.6	C+
		PM	25.0	C
88	Lawrence Expwy NB & Stevens Creek Blvd (SCL)	AM	32.3	C-
		PM	28.6	C
89	1-280 SB Ramp & Stevens Creek Blvd (SCL)	AM	24.4	C
		PM	30.3	C
90	Lawrence Expwy & I-280 SB (SJ)	AM	63.4	E
		PM	35.6	D+

Notes:
SCL indicates that the intersection is within the City of Santa Clara.
CUP indicates that the intersection is within the City of Cupertino
SJ indicates that the intersection is within the City of San Jose. All intersection within the City of San Jose have an LOS D threshold.
[1] Existing AM volumes for the Wolfe/I-280 ramps, De Anza/I-280 ramps, and the Lawrence Ramps/El Camino Real intersections are extrapolated based on 2011 count.
Bold indicates a substandard LOS.
Source: (Hexagon 2016a; see Appendix H).

The intersections on Mathilda Avenue at the SR 237 ramps are closely-spaced intersections with multiple turning movements that operate as a single coordinated signal system. These intersections experience operational issues beyond what is reflected in the typical Highway Capacity Manual (HCM) LOS calculations. To supplement the HCM analysis, Hexagon (2016a) conducted a micro-simulation analysis was using Synchro/Sim Traffic software to provide a more accurate assessment of the Mathilda Avenue corridor operational issues. The simulation results that the intersections along Mathilda Avenue are currently operating at LOS E, which match the field observations that Hexagon conducted during the AM and PM peak hours at these intersections (Hexagon 2016a). While experiencing congestion, this coordinated set of intersections also operates within affected jurisdictions standards.

Existing Freeway Levels of Service (LOS)

Existing weekday AM and PM peak hour traffic volumes on the study freeway segments were obtained from the 2014 CMP Annual Monitoring Report. The mixed-flow lanes on the following freeway segments currently operate at LOS F during either the AM or PM peak hour (see Appendix H):

- U.S. 101, northbound from I-280 to Mathilda Avenue, and from Moffett Boulevard to Shoreline Boulevard – AM Peak Hour
- U.S. 101, northbound from Shoreline Boulevard to Embarcadero Road – AM and PM Peak Hours
- U.S. 101, southbound from Embarcadero Road to Rengstorff Avenue, from SR 85 to SR 237, and from Fair Oaks Avenue to Oakland Road – PM Peak Hour
- SR 237, eastbound from U.S. 101 to Zanker Road, and from McCarthy Boulevard to I-880 – PM Peak Hour
- SR 237, westbound from I-880 to Zanker Road – AM Peak Hour
- SR 237, westbound from Fair Oaks Avenue to Mathilda Avenue, and from Maude Avenue to SR 85 – PM Peak Hour
- SR 85, northbound from De Anza Boulevard to El Camino Real – AM Peak Hour
- SR 85, southbound from U.S. 101 to Fremont Avenue, and from Stevens Creek Boulevard to De Anza Boulevard – PM Peak Hour
- SR 87, northbound from I-280 to U.S. 101 – AM Peak Hour
- SR 87, southbound from U.S. 101 to Julian Street – PM Peak Hour

The HOV lanes on the following freeway segments currently operate at LOS F during either the AM or PM peak hour:

- U.S. 101, northbound from I-280 to De La Cruz Boulevard, and from Bower Avenue/Great America Parkway to Lawrence Expressway – AM Peak Hour
- U.S. 101, southbound from Embarcadero Road to Oregon Expressway, from Fair Oaks Avenue to De La Cruz Boulevard, and from SR 87 to Oakland Road – PM Peak Hour
- SR 237, westbound from I-880 to McCarthy Road – AM Peak Hour
- SR 85, northbound from De Anza Boulevard to El Camino Real – AM Peak Hour
- SR 85, southbound from SR 237 to El Camino Real, and from I-280 to Stevens Creek Boulevard – PM Peak Hour
- SR 87, northbound from I-280 to Taylor Street, and from Skyport Drive to U.S. 101 – AM Peak Hour

Existing Freeway Ramp Capacity

This analysis consisted of a volume-to-capacity (V/C) ratio evaluation of 14 freeway ramps at the interchanges of SR 237 & Mathilda Avenue, SR 237 & Maude Avenue, SR 237 & Middlefield Road, and U.S. 101 & Mathilda Avenue. Hexagon (2016a) obtained the ramp capacities from the HCM (2000), which considers both the free-flow speed and the number of lanes on the study ramps. Hexagon (2016a) assumed that the U.S. 101 northbound on-ramps and the SR 237 westbound on-ramps, where applicable, are metered during the AM peak hour, and the U.S. 101 southbound on-ramps and the SR 237 eastbound on-ramps, where applicable, are metered during the PM peak hour. Ramp capacity for the metered ramps was obtained from the Ramp Management and Control Handbook published by the Federal Highway Administration. Existing peak hour ramp volumes were obtained through personal communication with California Department of Transportation (Caltrans) staff in August 2015.

Table 3.10-3. Existing Levels of Service (LOS) at Freeway Ramps near Peery Park

Interchange	Ramp	Configuration	Peak Hour	LOS		
				Capacity	Volume	V/C
SR 237 & Mathilda Ave	EB off-ramp to Mathilda Ave	Diamond	AM	2,000	866	0.43
			PM	2,000	254	0.13
	EB on-ramp from Mathilda Ave	Diamond	AM	900	864	0.96
			PM	2,000	970	0.49
	WB on-ramp from Mathilda Ave	Diamond	AM	2,000	1,166	0.58
			PM	2,000	828	0.41
	WB on-ramp from Mathilda Ave	Diamond	AM	2,000	155	0.08
			PM	2,000	369	0.18
SR 237 & Maude Ave	EB on-ramp from Maude Ave	Diamond	AM	2,000	424	0.21
			PM	2,000	702	0.35
	WB off-ramp to Maude Ave	Diamond	AM	2,000	1,075	0.54
			PM	2,000	529	0.26
SR 237 & Middlefield Road	EB off-ramp to Middlefield Rd	Diamond	AM	2,000	686	0.34
			PM	2,000	376	0.19
	WB on-ramp from Middlefield Rd	Diamond	AM	2,000	282	0.14
			PM	2,000	665	0.33
U.S. 101 & Mathilda Ave	SB on-ramp from NB Mathilda Ave	Diagonal	AM	2,900	554	0.19
			PM	2,900	488	0.17
	NB on-ramp from Mathilda Ave	Loop	AM	1,800	314	0.17
			PM	2,700	247	0.09
	NB off-ramp to NB Mathilda Ave	Diagonal	AM	2,000	658	0.33
			PM	2,000	188	0.09
	NB off-ramp to SB Mathilda Ave	Loop	AM	1,800	621	0.35
			PM	1,800	738	0.41
	SB on-ramp from SB Mathilda Ave	Loop	AM	2,700	111	0.04
			PM	1,800	1,059	0.59
	SB off-ramp to SB Mathilda Ave	Diagonal	AM	2,000	337	0.17
			PM	2,000	442	0.22

Notes:
Ramp capacities were obtained from the HCM 2000, and considered the free-flow speed, the number of lanes on the ramp, and ramp metering
Existing peak hour volumes were obtained through personal communication with Caltrans staff Jordan Chan on August 11, 2015.
Source: (Hexagon 2016a; see Appendix H).

The ramp analysis indicates that all freeway ramps currently have sufficient capacity to serve the existing traffic volumes (Hexagon 2016a). All study ramps have a V/C ratio that is well below 1.0, which suggests that the existing traffic demand is far lower than the ramp capacity under existing conditions (Hexagon 2016a).

Pedestrian Facilities

Pedestrian facilities in the Project area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the vicinity of the Project area, sidewalks are present along both sides of all major arterials including Mathilda Avenue, Maude Avenue, and Mary Avenue. However, collector streets such as Pastoria Avenue, Del Rey Avenue, Almanor Avenue, Palomar Avenue, and Vaqueros Avenue lack sidewalks along some or all segments of the road. Consequently, the 2010 Land Use and Transportation Element (LUTE) – Existing Setting Report recommends sidewalk installation and improvements along road segments that lack sidewalk connectivity (City of Sunnyvale 2010). Sidewalks that are in place are generally of 4 to 6 feet in width which are adequate to serve currently low pedestrian volumes in the Project area.

Sidewalk discontinuity within Peery Park is observable on many local roadways. The 2010 LUTE Transportation – Existing Setting Report recommends sidewalk installation for a number of gaps, including Pastoria Avenue, Potrero Avenue, and Almanor Avenue.

Signalized crosswalks with pedestrian push buttons are present at intersections along most major roads, including on all legs at the intersections of Mathilda Avenue with San Aleso Avenue, Maude Avenue, Indio Way, and California Avenue, as well as the intersections of Pastoria Avenue & Maude Avenue, Mary Avenue & Maude Avenue, and Mary Avenue & Central Expressway. At the intersection of Mathilda Avenue & Almanor Avenue crosswalks with pedestrian push buttons are present only on the south and east legs. However, crosswalks are lacking at intersections of many smaller internal streets which may lack sidewalks, or where sidewalks are present only one side of the intersection.

The level of development of existing pedestrian facilities on private property is also variable, with some buildings or industrial campuses supporting developed internal pedestrian circulation systems with links to the surrounding roadway network. However, most buildings do not have a well-developed internal pedestrian network and there are few developed pedestrian linkages between parcels or buildings.

Bicycle Facilities

The Caltrans Highway Design Manual establishes guidelines and design standards for bikeway facilities. There are three type of bikeway facilities, as described below (Caltrans 2015).

- *Class I Bikeway (Bike Path)* provide a completely separated right of way path exclusively for the use of bicycles and with minimized crossflow by motorists.

- *Class II Bikeway (Bike Lane)* provides a striped lane for one-way bike travel on a street or highway. Bike lanes are established along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them.
- *Class III Bikeway (Bike Route)* provides a shared use route for bike travel with pedestrians or motor vehicles.

The Project area and the immediate surrounding vicinity include various bike lanes and bike routes as described in the 2006 City of Sunnyvale Bicycle Plan (City of Sunnyvale 2006). Bike lanes provide a striped lane for one-way bike travel on a street or highway and are designed for the exclusive use of cyclists with certain exceptions. For instance, right turning vehicles must merge into the lane before turning, and pedestrians can use the bike lane when there is no adjacent sidewalk. A bicycle route may be identified on a local residential or collector street where the travel lane is wide enough and the traffic volume is low enough to allow both cyclists and motor vehicles.

Within the Project area, bike lanes are located along Maude Avenue between SR 237 and Pastoria Avenue, on Mary Avenue north of Maude Avenue, on Almanor Avenue west of Vaqueros Avenue, and along the entirety of Evelyn Avenue. There is also a bike lane on southbound Mathilda Avenue between Del Rey Avenue and Maude Avenue, and on westbound Maude Avenue between Mathilda Avenue and Pastoria Avenue. The City has also designated the Central Expressway, Mary Avenue south of Maude Avenue, and Maude Avenue east of Pastoria Avenue as bike routes. In addition, collector roads such as Pastoria Avenue, San Aleso Avenue, and Del Rey Avenue carry relatively low traffic volumes and are conducive to bicyclists (Hexagon 2016a). Figure 3.10-1 displays that existing bicycle facilities in the immediate vicinity of the Project area.

Public Transit Services

Regional Transit and Shuttle Services

Regional public transit services in the vicinity of the Project area are provided by Santa Clara Valley Transit Authority (VTA) and Caltrain. Caltrain provides regular rail service, while VTA provides bus, light rail, and shuttle service throughout the project vicinity (refer to Figure 3.10-1). VTA bus services provide regional transit along the southern and eastern regions of the Project area, through Bus Route 32, Route 53, Route 54, Route 55, and Route 304. The majority of these bus lines have approximate peak hour weekday headways of 30 minutes or less. These bus services can be accessed at multiple stops along Central Expressway, Mathilda Avenue, and Maude Avenue. The Mary Moffett Caltrain Shuttle along Mary Avenue provides greater connectivity through the Project area with several stops along Mary

Caltrain's Bay Area regional rail service runs parallel to Evelyn Avenue south of Peery Park. Though Caltrain does not stop within Peery Park, two bus routes provide connections from Caltrain's Sunnyvale Station through Peery Park.

Avenue, Almanor Avenue, and Mathilda Avenue. Caltrain provide regional transit service between San Francisco and Gilroy and can be accessed at the Sunnyvale Caltrain Station on Evelyn Avenue east of Mathilda Avenue. The various bus lines and rail services that serve the Project area are described below:

Bus Route 32 – Route 32 runs along Middlefield Road to the Central Expressway and Mathilda Avenue in the southern region of the Project area. This bus line provides transit from the Project area south to Sunnyvale Caltrain Station and west to the City of Mountain View and the Middlefield Light Rail station.

Bus Route 53 – Route 53 runs from the Sunnyvale Caltrain Station towards the east along Washington Avenue and south along Bernardo Avenue. This bus line does not run through the Project area, but provides access from Caltrain Station to the center of the City.

Bus Route 54 – Route 54 runs in the north-south direction along Mathilda Avenue. This bus line provides access across the Project area.

Bus Route 55 – Route 55 runs along Evelyn Avenue, Sunnyvale Avenue, and Maude Avenue. This bus line provides transit from Sunnyvale Caltrain Station to the east of the City.

Mary Moffett Caltrain Shuttle – The Mary Moffett Caltrain Shuttle is a free public shuttle program funded by Google with financial support from the Bay Area Air Quality Management District and the Peninsula Corridor Joint Powers Board. This shuttle provides service between the Mountain View Caltrain Station and the Mary-Moffett area office buildings during commute hours. Shuttles depart from the Caltrain Station in the morning and travel northbound to the Mary-Moffett business area between 7:00 AM and 10:00 AM. During the afternoon commute period, the shuttles provide southbound services to take passengers to the Caltrain Station between 2:50 PM and 6:00 PM. Within the Project area, the shuttle stops at 410 Mary Avenue, 585 Mary Avenue, 760 Mary Avenue, at the Mary Avenue & Almanor Avenue intersection, the Almanor Avenue & Palomar Avenue intersection, the Almanor Avenue & Vaqueros Avenue intersection, and 755 Mathilda Avenue.

Caltrain Services – Caltrain is a commuter rail service between San Francisco and Gilroy. The nearest Caltrain station to the Project area is the Sunnyvale Caltrain Station, which is located at 121 W. Evelyn Avenue, approximately 0.5 mile from the southeast edge of the Project area. The Sunnyvale Caltrain Station provides Caltrain service with approximately 20- to 30-minute headways during the weekday AM and PM commute hours and 60 minute headways midday, at nights, and on weekends. The Sunnyvale Caltrain Station provides service for all of local, limited-stop, and baby bullet trains. All bus routes in the vicinity stop at the Sunnyvale Transit Station.

Table 3.10-4. Peery Park Local Transit

Station/Stop/Service	Route Description	Access within Project Vicinity	Headways
Local Route 54	De Anza College to Sunnyvale Transit Center	Evelyn Ave, Mathilda Ave	30 minutes
Local Route 32	San Antonio Shopping Center to Santa Clara Transit Center	Evelyn Ave, Mathilda Ave, Central Expressway	30 minutes
Mary Moffett Caltrain Shuttle	Mountain View Caltrain Station to 940 Hamlin Ct	Mary Ave, Almanor Ave, Mathilda Ave	60 minutes
Caltrain	San Francisco to Gilroy	Evelyn Ave	20-30 minutes

Source: (Hexagon 2016a; see Appendix H).

3.10.2 Regulatory Setting

The State of California and the City has enacted a number of transportation regulations, recognizing that transportation and traffic impacts result in secondary environmental impacts related to climate change, air quality, noise, water quality, and urban sprawl. In the past, the regulations were largely directed at the transportation sector to regulate emissions at the source-level (e.g., vehicle regulations for tailpipe emissions). However, more recently, the focus of transportation regulations have shifted to the municipal planning level, and have evolved to require the coordinated integration of land use and transportation planning as a means to reduce vehicle trips. The following provides details on the regulations that currently address transportation.

State Policies and Regulations

Global Warming Solutions Act of 2006

With the passage of the Global Warming Solutions Act (Assembly Bill [AB] 32), the State of California committed itself to reducing statewide greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating the response to comply with AB 32. The City LUTE proactively incorporates strategies for integrated land use and transportation planning that achieve GHG reduction, vehicle miles traveled (VMT) reduction, and trip reduction that would further the City's efforts to meet the state-wide policy intent of this legislation.

Senate Bill (SB) 375

The adoption of SB 375 on September 30, 2008 recognizes the connection between poor city planning and reliance on automobiles as the primary mode of transportation, with the result being emissions from vehicles accounting for 30% of GHG emissions in California. SB 375 aligns the goals of regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocations, and requires Metropolitan Planning Organizations (MPOs) such as Association of Bay Area Governments (ABAG) to adopt a Sustainable Communities Strategy

(SCS) or Alternative Planning Strategy (APS) within their regional transportation plan to demonstrate the achievement of greenhouse gas reduction targets (refer to Section 3.4, *Greenhouse Gas Emissions*). As discussed below, in compliance with SB 375, ABAG has adopted the Plan Bay Area 2040, which addresses land use and transportation for the region inclusive of Sunnyvale.

Senate Bill (SB) 743

To further the state's commitment to the goals of SB 375, AB 32 and AB 1358, Governor Brown signed SB 743 on September 27, 2013. SB 743 adds Chapter 2.7, *Modernization of Transportation Analysis for Transit-Oriented Infill Projects*, to Division 13 (Section 21099) of the Public Resources Code. Key provisions of SB 743 include reforming aesthetics and parking California Environmental Quality Act (CEQA) analysis for urban infill projects and eliminating the measurement of automobile delay, or LOS, as a metric that can be used for measuring traffic impacts in transit priority areas. Under SB 743, the focus of transportation analysis will shift from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Specifically, SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines (Title 14 of the California Code of Regulations sections and following) to provide an alternative to LOS for evaluating transportation impacts. Particularly for areas served by transit, those alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (New Public Resources Code Section 21099[b][1]). Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." The Office of Public Research (OPR) also has discretion to develop alternative criteria for areas that are not served by transit, if appropriate.

Pursuant to SB 743, OPR released a *Draft of Updates to the CEQA Guidelines* in August 2014. OPR's *Draft of Updates* proposes vehicles miles traveled (VMT) as the replacement metric for LOS in the context of CEQA. While OPR emphasizes that a lead agency has the discretionary authority to establish thresholds of significance, the *Draft of Updates* suggest criteria which indicate when a project may have a significant, or less than significant, transportation impact on the environment. For instance, a project that results in VMTs greater than the regional average for the land use type (e.g. residential, employment, commercial) may indicate a significant impact. Alternatively, a project may have a less than significant impact if it is located within one-half mile of an existing major transit stop, or results in a net decrease in VMTs compared to existing conditions.

Additionally, the *Draft of Updates* also suggests that "transportation projects" which increase roadway capacity in congested areas or add a new roadway should undergo additional analysis to determine if the project will induce additional vehicle travel compared to existing conditions. The proposed amendments also provide that transportation projects designed to improve safety or operations, or pedestrian, bicycle and transit projects – including those that require reallocation or removal of motor vehicle lanes – would not be expected to generate additional VMTs and

"generally" would not result in a significant transportation impact. In addition to a project's effect on VMT, a lead agency may also consider whether a project will cause unsafe conditions for various roadway users.

The public comment period on OPR's *Draft of Updates* ended in November 2014, and it is anticipated that further revisions to the *Draft of Updates* will be forthcoming prior to its adoption. However, this section continues to evaluate the Project in the context of existing adopted CEQA criteria using LOS.

Regional Policies and Regulations

Association of Bay Area Governments (ABAG) Plan Bay Area 2040

The ABAG is the Metropolitan Planning Organization for the nine-county Bay Area region that includes Santa Clara County. ABAG adopted the Plan Bay Area 2040 on July 2013.

Santa Clara County General Plan

The Transportation Chapter of the Santa Clara County General Plan provides the policies and regulations to improve the adequacy of the transportation system and ensure it meets the current and future mobility needs in the County. The General Plan policies related to the Project include the following:

C-TR 4 Overall transportation planning for Santa Clara County should be integral and consistent with the goals and objectives of comprehensive, countywide planning regarding urban growth management, compact and mixed use development patterns, environmental quality, and social and economic well-being.

C-TR 8 Urban design concepts and site development standards which facilitate use of transit and other travel alternatives should be adopted and implemented by local jurisdictions.

C-TR 9 Transportation Demand Management (TDM) measures should be employed to make more efficient use of existing road and highway capacity by increasing vehicle occupancy and reducing the need for commute and other trips.

C-TR 21 Local transit systems should be integrated with the local and regional transit systems of adjacent counties.

C-TR 25 Priority should be given to sustaining a base LOS on major grid bus lines.

Santa Clara County Congestion Management Program (CMP)

The Santa Clara County CMP is a state-mandated program. The CMP is intended to address the impacts to local growth on the regional transportation system. The CMP designates the roadway

system for use in annual monitoring of LOS standards, identifies regionally significant roadways and intersections to be evaluated in land use impacts analyses, and identifies the potential candidates for inclusion in the Regional Transportation Plan capital improvement program. The LOS at each CMP monitoring station is supervised by local jurisdictions in order to implement the statutory requirements of the CMP. If LOS standards deteriorate, then local jurisdictions must prepare a deficiency plan to meet conformance standards outlined by the countywide plan. The CMP principal arterial system generally includes state highways, six-lane roads and/or non-residential arterials with average daily traffic (ADT) of 30,000 vehicles per day or more. In the City, the CMP roadway system includes U.S. 101, SR 85, SR 237, the Central Expressway, El Camino Real, Mathilda Avenue, Caribbean Drive, and Sunnyvale-Saratoga Road.

Santa Clara Valley Transportation Authority (VTA)

Bus service in the Project area and throughout Santa Clara County is provided by the Santa Clara VTA. VTA has jurisdiction over public transit in Santa Clara County, and is responsible for developing public transit projects to meet the growing transportation needs of the County.

Local Policies and Regulations

City of Sunnyvale General Plan, Land Use and Transportation Element (LUTE)

The Sunnyvale General Plan, as consolidated in 2011 was adopted by the City Council on July 26, 2011. The General Plan is a fundamental tool in guiding the City through change and growth. It is both a long-range and a strategic planning document, containing long-term goals and policies for the next 10-20 years and strategic actions for the next five to ten years.

The LUTE guides the long-range planning and management of transportation facilities and improvements to those facilities. Goals pertinent to the proposed Project are listed below:

Goal LT-1. Coordinated Regional Planning.

Policy LT-1.2. Support coordinated regional transportation system planning and improvement

Policy LT-1.3. Promote integrated and coordinated local land use and transportation planning.

Policy LT-1.4. Achieve an operating LOS “E” or better for all regional roadways and intersections, as defined by the City functional classification of the street system.

Policy LT-1.5. Maintain a functional classification of the street system that identifies Congestion Management Program roadways and intersections, as well as local roadways and intersections of regional significance.

Policy LT-1.8. Support statewide, regional and sub-regional efforts that provide for an effective transportation system.

Goal LT-4. Quality Neighborhoods and Districts.

Policy LT-4.2. Require new development to be compatible with the neighborhood, adjacent land uses and the transportation system.

Policy LT-4.5. Support a roadway system that protects internal residential areas from Citywide and regional traffic.

Policy LT-4.10. Provide appropriate site access to commercial and office uses while preserving available road capacity.

Goal LT-5. Effective, Safe, Pleasant and Convenient Transportation.

Policy LT-5.1. Achieve an operating LOS D or better on the City-wide roadways and intersections, as defined by the functional classification of the street system.

Policy LT-5.3. Optimize city traffic signal system performance.

Policy LT-5.4. Maintain roadways and traffic control devices in good operating condition.

Policy LT-5.9. Appropriate accommodations for motor vehicles, bicycles, and pedestrians shall be determined for City streets to increase the use of bicycles for transportation and to enhance the safety and efficiency of the overall street network for bicyclists, pedestrians, and motor vehicles.

3.10.3 Impacts and Mitigation Measures

This section of provides an analysis of the Project's coordinated circulation and mobility strategy and its effects on the transportation system, taking into account all mode users.

Significance Criteria

Appendix G of the 2015 CEQA Guidelines provides a set of screening questions that address impacts with regard to transportation/traffic. Specifically, the Guidelines state that a proposed project may have a significant adverse impact on traffic if:

a) The project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and

relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

b) The project would 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;

c) The project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

d) The project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

e) The project would result in inadequate emergency access; and/or

f) The project would conflict with adopted polices, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Non-Applicable Threshold(s)

- Threshold (c) (*air traffic patterns*): This threshold regarding changes in air traffic patterns would not be applicable since the Project area does not include an airport facility nor would implementation of the proposed Specific Plan have any substantial impacts to surrounding airports (e.g., Mineta San Jose International Airport, located approximately 5 miles to the southeast or Palo Alto Airport of Santa Clara County, located approximately five miles to the northwest).

In addition to the above standards, the required approach to transportation analysis under CEQA is undergoing amendments by the State. Pursuant to SB 743, the OPR released a Draft of Updates to the CEQA Guidelines in August 2014. OPR's *Draft of Updates* proposes Vehicle Miles Traveled (VMT) as the replacement metric for LOS in the context of CEQA. While OPR emphasizes that a lead agency has the discretionary authority to establish thresholds of significance, the *Draft of Updates* suggest criteria that indicate when a project may have a significant, or less than significant, transportation impact on the environment. For instance, a project that results in VMTs greater than the regional average for the land use type (e.g. residential, employment, commercial) may indicate a significant impact. Alternatively, a project may have a less than significant impact if it is located within 0.5 mile of an existing major transit stop, or results in a net decrease in VMTs compared to existing conditions. The revised CEQA guidelines are still in draft form and it is anticipated that they will undergo further changes as a result of significant public input. Since OPR has not yet adopted new CEQA Guidelines for the alternative criteria to LOS, the adopted significance criteria for the City of Sunnyvale, City of Mountain View, City of Santa Clara, City of Cupertino, City of San Jose, and the Santa Clara County VTA's CMP still remain applicable to the proposed Project.

As such, per City direction, Hexagon utilized the following significance criteria to determine potential impacts related to transportation/traffic:

Definition of Significant Intersection Impacts

Implementation of the proposed Specific Plan would create a significant adverse impact on traffic conditions at a signalized intersection in Sunnyvale, Mountain View, Cupertino, Santa Clara, and San Jose if for either the AM peak hour or the PM peak hour:

1. The LOS at an intersection drops below its respective LOS standard when Project traffic is added; or
2. An intersection that operates below its LOS standard under no project conditions experiences an increase in critical-movement delay of 4 or more seconds, and the V/C is increased by 0.01 or more when Project traffic is added.

The exception to this threshold is when the addition of project traffic reduces the amount of average control delay for critical movements (i.e., the change in average control delay for critical movements are negative). In this case, the threshold is when the project increases the critical V/C value by 0.01 or more.

The operations of principal arterials and state highways located within urbanized Santa Clara County are measured by the LOS at CMP Intersections. CMP intersections are generally high-volume intersections located along these thoroughfares. The definition of a significant impact at a CMP intersection is the same as for the City, except that the standard for acceptable LOS for all CMP and regional intersections is LOS E or better. A significant impact by all Sunnyvale, Mountain View, Cupertino, Santa Clara, San Jose, and CMP standards would be satisfactorily mitigated if/when measures are implemented that would restore intersection conditions to its LOS standard or to an average delay that eliminates the Project impact.

Definition of Significant Freeway Impacts

Per CMP requirements, freeway impacts were evaluated relative to existing conditions. The implementation of the proposed Project would create a significant adverse impact on traffic conditions on a freeway segment if for either peak hour:

1. The LOS of the freeway segment is LOS F under existing conditions; and

2. The number of new trips added by the project is more than 1% of the freeway capacity.

Table 3.10-5. Level of Service Criteria for Signalized Intersections

LOS	Interpretation	Average Control Delay Per Vehicle (seconds)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	≤ 10
B+	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	> 10 – 12
B		> 12 – 18
B-		> 18 – 20
C+	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	> 20 – 23
C		> 23 – 32
C-		> 32 – 35
D+	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 – 39
D		> 39 – 51
D-		> 51 – 55
E+	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high V/C ratios. Individual cycle failures occur frequently.	> 55 – 60
E		> 60 – 75
E-		> 75 – 80
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major-contributing causes of such delay levels.	> 80

Sources: (Transportation Research Board 2000; VTA 2003; Hexagon 2016a).

Definition of Significant Freeway Ramp Impacts

Hexagon also performed a freeway ramp analysis in order to determine if the freeway ramps would have sufficient capacity to serve the expected traffic volumes under the proposed Project. For the purpose of this analysis the proposed Project would create a significant adverse impact on a freeway ramp if its implementation:

1. Causes the V/C ratio of the freeway ramp to exceed 1.0; or

2. Increases the amount of traffic on a freeway ramp that is already exceeding its capacity by more than 1% of the ramp's capacity.

Table 3.10-6. Level of Service Criteria for Freeway Segments

LOS	Interpretation	Density (vehicles/mile/lane)
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≤ 11
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	> 11 – 18
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	> 18 – 26
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	> 26 – 46
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	> 46 – 58
F	Vehicular flow breakdowns occurs. Large queues form behind breakdown points.	> 58

Sources: (Santa Clara VTA 2009; Hexagon 2016a).

Definition of Significant Transit Facilities Impacts

The VTA CMP's *Transportation Impact Analysis Guidelines* requires an evaluation of transit vehicle delay, transit access and transit facilities. However, there are no established impact criteria by either VTA or the City. For the purpose of this analysis, the proposed Project would result in a potentially significant transit impact if:

1. A study intersection along a transit service route is found to have a significant Project-related LOS intersection impact;
2. The proposed Project is expected to generate increased transit demand that may not be accommodated by the existing transit services; and/or
3. The proposed Project is expected to reduce transit availability or access to transit facilities.

Definition of Significant Pedestrian or Bicycle Facilities Impacts

The VTA CMP's *Transportation Impact Analysis Guidelines* requires evaluation of pedestrian and bicycle facilities. However, there are no established impact criteria by either VTA or the City. For the purpose of this analysis, the proposed Project would have a potentially significant pedestrian or bicycle impact if:

1. The proposed Project would modify the existing pedestrian or bicycle facilities in a way that is not in conformance with adopted plans (i.e., Sunnyvale's Bicycle Master Plan, General Plan, Countywide Bicycle Plan);

2. The proposed Project would reduce, sever, or eliminate existing or planned pedestrian or bicycle facilities; and/or
3. The proposed Project would create demand for pedestrian or bicycle facilities that do not currently exist.

Methodology

This transportation and traffic impact analysis addresses the long-term impacts associated with implementation of the proposed Specific Plan. The proposed Specific Plan would guide future development of Peery Park, including land use changes to allow for redevelopment of under-utilized or under-developed industrial properties to provide new office, light industrial, and commercial space for technology-based business development and supporting retail or service commercial and residential uses.

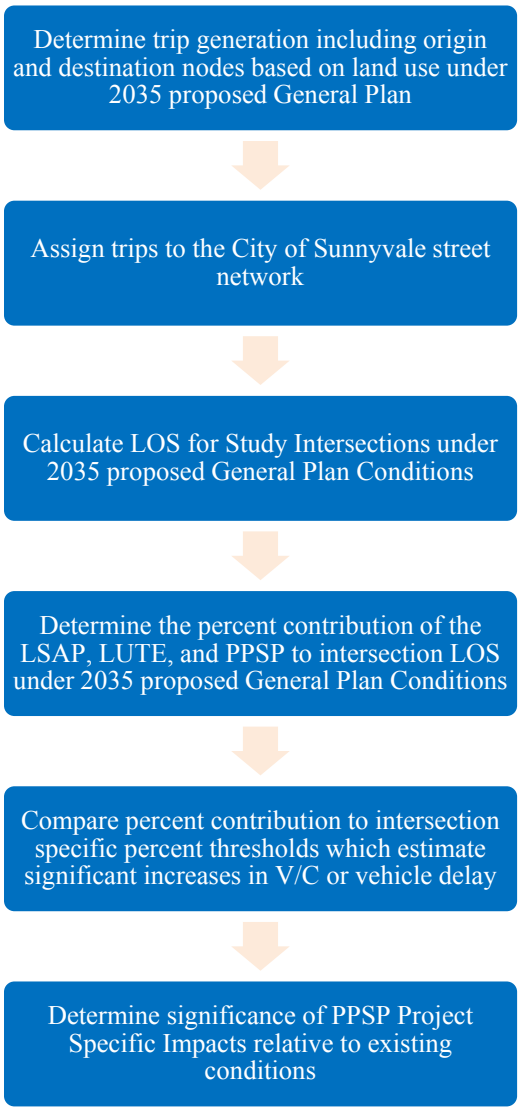
As a part of the implementation of the proposed Specific Plan, over the next 10 years, eight "near-term" development projects are anticipated to occur under the proposed Specific Plan. Consequently, in addition to the Traffic Impact Analysis prepared for the proposed Specific Plan, Hexagon prepared two additional traffic impact analyses for the 1) "Seven Projects" (Hexagon 2016b) and 2) "Irvine Company Project" (Hexagon 2016c; see Appendix H), which analyze the individual near-term impacts of these two groups of projects. The long-term transportation related impacts associated with the proposed Specific Plan are described below under Long-Term Peery Park Specific Plan Impacts, while the near-term impacts associated with the eight development projects expected to occur as a part of the proposed Specific Plan are described below under Near-Term Project Impacts.

Methodology for Determining Long-Term Peery Park Specific Plan Impacts

Intersection Impacts

Hexagon analyzed the potential impacts of the proposed Specific Plan within the context of the 2035 proposed Sunnyvale General Plan update conditions, which assumes the full implementation of the Lawrence Station Area Plan (LSAP), Peery Park Specific Plan, and LUTE, and includes regional growth, for City and cities within nine of the surrounding counties. The Sunnyvale Travel Demand Forecasting Model (STFM) for year 2035 was used to forecast the 2035 proposed General Plan traffic volumes. As discussed in further detail below, in order to identify Project specific impacts associated with the Specific Plan, Hexagon disaggregated peak hour traffic associated with the Specific Plan to permit identification of significant impacts to affected intersections.

Since other proposed land uses – in addition to the PPSP – are included in the model, the 2035 traffic analysis included traffic volumes not only from PPSP, but also from the LUTE, LSAP, and other cities. These are referred to as cumulative traffic volumes. If an intersection was identified to have a cumulative impact in 2035 as a result of all of these combined land use changes, a separate analysis had to be completed to determine if the PPSP had a significant impact on its own. To accomplish this, Hexagon separated peak hour traffic associated with the PPSP traffic. Once the PPSP traffic was segregated, each cumulatively impacted intersection was analyzed to determine whether the PPSP traffic would cause an impact on its own by calculating the level of PPSP traffic volumes and the level of traffic volumes required to cause an impact.



This process was completed through a full technical analysis. The volumes attributable to each land use were estimated using the select zone analysis[1] within the STFM. Regional traffic was defined as trips that have neither a trip origin nor destination within the City. The threshold for a significant contribution at each impacted intersection was calculated by determining the critical amount of traffic growth between the 2035 proposed General Plan and existing conditions that would generate a significant intersection impact (i.e., an increase in V/C ratio of 0.01 or an increase in delay of 4 seconds). The PPSP caused a significant intersection impact if the Project-related traffic alone exceeded the threshold for a significant contribution, compared with existing conditions.

Transportation Demand Management

Implementation of the proposed Specific Plan would include a number of TDM strategies, such as a combination of services, incentives, facilities, and actions that reduce single-occupant vehicle (SOV) trips to help relieve traffic congestion, parking demand, and air pollution. The purpose of TDM is to promote more efficient utilization of existing transportation facilities, and to ensure that new developments are designed to maximize the potential for sustainable transportation usage.

[1] A select zone analysis follows traffic volumes from a single selected zone to all other zones.

The Draft Vision, Guiding Principles, Goals, Policies, and Key Implementation Concepts for the Project outlines various TDM policies listed below:

- Encourage the provision of convenient services within the district to reduce vehicular trips into/out of the district throughout the day and especially mid-day trips.
- Require each development application to include TDM plan with clear trip reduction and management goals.
- Require a transportation management association to coordinate TDM programs, monitor and report on traffic performance, and guide place-making improvements.
- Outline a plan to implement a Private/Public district shuttle including early phase pilot program, feasibility study, and potential funding/implementation strategies.
- Seeking grants to assist with financing and implementing TDM programs and tools.

The document also outlines two guiding principles that would promote alternative modes of transportation and/or reduce single-occupancy vehicle trips. These principles are listed below.

- Connectivity: New and improved vehicular, pedestrian, and bicycle connections into, out of, and within Peery Park will improve the experience of district businesses/employees, nearby residents, and reduce traffic impacts. New development will not be isolated and cut-off from the surrounding district or adjacent neighborhoods.
- Healthy Lifestyles: The district will include a mix of uses, a variety of public spaces, and a bike/pedestrian network connecting it all that will encourage and enable healthy lifestyles.

As described in Appendix H, implementation of the Specific Plan would require a trip reduction target of 20% to 35% for individual development projects through various direct TDM measures and improvement of facilities to promote alternative modes of transportation. The effects of these TDM measures on project intersection specific and other impacts are accounted for in the impact analysis below (see Impact T-2).

Table 3.10-7 shows the total jobs and households attributable to each of the LSAP, proposed Specific Plan, and LUTE that were input into the model for the 2035 proposed General Plan scenario (Hexagon assumed that growth outside the City is constant).

Table 3.10-7. 2035 Proposed General Plan Socioeconomic Model Inputs

	Sunnyvale			LSAP Study Area			Peery Park Specific Plan Study Area			LUTE Study Area		
	2013 Existing	Current GP	2035 Proposed GP	2013 Existing	Current GP	2035 Proposed GP	2013 Existing	Current GP	2035 Proposed GP	2013 Existing	Current GP	2035 Proposed GP
Households	57,000	66,750	72,100	2,141	2,741	4,591	108	108	323	54,751	63,901	67,186
Population	147,055	150,725	174,500	4,285	5,613	10,344	785	941	941	141,985	144,171	163,215
I/O/C sf (million sf)	47.3	55.5	59.8	5.0	5.2	6.2	8.0	9.6	11.0	34.3	40.8	42.6
Jobs	82,000	109,600	124,410	8,002	8,314	10,497	14,153	17,376	20,391	59,845	83,910	93,522

Notes:
I/O/C square feet (sf) = Industrial, Office, and Commercial Land Use
Sources: (Santa Clara VTA 2009; Hexagon 2016a).

The STFM has built-in trip generation equations that used the City-provided socioeconomic land use data to estimate daily trip generation in terms of trip productions and trip attractions for various trip purposes. The socioeconomic data provided by the City (refer to Table 3.10-7) included the number of households by income category and the number of jobs by employment category (i.e., retail, service, manufacturing, and other). The number of jobs by category were estimated based on the planned building sizes. The STFM estimates trips by five trip purposes: 1) home-based work; 2) home-based school; 3) home-based social/recreational; 4) home-based shopping/others; and 5) non-home based. Trip productions are trips that originate at the home end of the trip, and trip attractions originate at the job end. The STFM balances trip productions and trip attractions and assigns trips between origins and destinations based on travel time. The daily trip generation numbers are factored to produce peak hour trips (see Appendix H). The model estimated trip generation totals within the Project area under existing conditions and 2035 proposed General Plan conditions are shown in Table 3.10-8.

Table 3.10-8. 2035 Proposed General Plan Trip Generation

Scenario	AM Peak Hour Trip Generation			PM Peak Hour Trip Generation		
	IN	OUT	Total	IN	OUT	Total
Existing	2,502	368	2,870	856	2,506	3,362
2035 proposed General Plan	5,187	668	5,855	1,709	5,374	7,083

Source: (Hexagon 2016a).

Traffic Volumes and Roadway Network Impacts

The 2035 forecasts of intersection turning movements, freeway traffic, ramp volumes, and vehicle miles traveled were completed using the STFM. Table 3.10-7 shows the total jobs and households attributable to each of the LSAP, proposed Peery Park Specific Plan, and LUTE that were input into the model for Sunnyvale for the 2035 proposed General Plan scenario (Hexagon assumed that growth outside of the City was constant).

The proposed Specific Plan includes all roadway network changes assumed under the Current General Plan conditions. In addition, the LSAP proposes a road diet on Kifer Road, which would be narrowed from the existing five lanes to three lanes (one lane in each direction and a two-way center left-turn lane). As part of the road diet (i.e., lane reduction), Kifer Road would receive enhanced bicycle and pedestrian facilities. Hexagon assumed implementation of this Kifer Road diet under the 2035 proposed General Plan conditions.

The forecasted intersection turning movement volumes were adjusted based on existing volumes to generate the 2035 proposed General Plan traffic volumes (see Appendix H).

Cumulative Freeway Impacts

In analyzing the freeway segments, the STFM was used to project the increase in traffic volumes between existing and the 2035 proposed General Plan conditions. VTA's CMP guidelines require freeway levels of service to be calculated based on density. However, congested freeway speed

(used to measure density) cannot be accurately modeled. For the purpose of this study, freeway levels of service under the 2035 proposed General Plan conditions were instead calculated based on V/C ratio.

Methodology for Determining Near-Term Project Impacts

The proposed Specific Plan has been prepared to establish a framework for development within the Project area bounded to the north and west by SR 237, to the south by Evelyn Avenue, and to the east by Mathilda Avenue. As described in Section 2.0, *Project Description* the proposed Specific Plan would guide future development of the Project area, including land use changes to allow for redevelopment of under-utilized or under-developed industrial properties to provide new commercial space for technology-based business development. In the near-term, eight development projects are anticipated to occur as a part of the proposed Specific Plan. Hexagon evaluated seven of the proposed near-term projects in a Traffic Impact Analysis (Hexagon 2016b) and evaluated the remaining Irvine Project in a separate Traffic Impact Analysis (Hexagon 2016c). The potential impacts of the eight near-term projects were evaluated in accordance with the standards set forth by the City and the VTA's CMP. The near-term traffic analysis is based on the AM and PM peak hour levels of service for 43 intersections for the proposed seven projects and 30 intersections for the proposed Irvine project. The study intersections were selected to include locations where the proposed seven projects or Irvine project were expected to generate 10 or more peak-hour trips per lane.

The Santa Clara County VTA CMP guidelines require that the CMP freeway segments be evaluated to determine the impact of added traffic for projects that generate trips equal to or greater than 1% of the freeway segment's capacity. The proposed seven projects and Irvine project are expected to generate such volumes on 13 freeway segments (i.e., seven on SR 237, four on U.S. 101, and two on I-280). Therefore, a freeway analysis in accordance with the VTA's CMP guidelines is conducted on these freeway segments. The traffic analysis also includes a capacity analysis for 10 freeway ramps.

Seven Projects Trip Generation

Daily and peak-hour trip generation estimates for the proposed seven projects were based on trip rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition for apartments, general offices, research and development (R&D), shopping centers, and restaurants with drive-through lanes. For all of the proposed projects except the 696 N. Mathilda Avenue and 728 San Aleso Avenue projects, it is assumed that the proposed developments would be half office and half research and development uses. None of the proposed seven projects were classified as mixed-use development or eligible for transit trip reductions according to the VTA CMP's Transportation Impact Analysis Guidelines (VTA 2014). For the proposed McDonald's with drive-through at 696 N. Mathilda Avenue, 60% of the gross project trips were assumed be pass-by trips, according to the ITE Trip Generation, 9th Edition. The proposed seven projects in total would generate 14,157 daily trips with 1,935 trips (i.e., 1,594 in and 341 out) during the AM peak hour and 1,796 (i.e., 351 in and 1,445 out) during the PM peak hour.

However, Hexagon conducted driveway counts at all of the proposed seven project sites except for the proposed project at 221 N. Mathilda Avenue, which is currently vacant. The seven proposed projects were credited for the existing trips generated by the existing land uses. After accounting for the trip credits, the proposed projects would be expected to generate a net 10,043 daily trips with 1,497 trips (i.e., 1,318 in and 179 out) during the AM peak hour and 1,382 trips (i.e., 231 in and 1,151 out) during the PM peak hour.

Irvine Project Trip Generation

Daily and peak-hour trip generation estimates for the proposed Irvine project were based on trip rates published in the ITE Trip Generation Manual, 9th Edition for general offices, and research and development. Hexagon assumed that the proposed development would be half office and half research and development uses. This project was not classified as a mixed-use development or eligible for transit trip reductions according to the VTA CMP's Transportation Impact Analysis Guidelines (VTA 2014). The proposed Irvine project would generate 12,145 daily trips with 1,764 trips (i.e., 1,513 in and 251 out) during the AM peak hour and 1,624 (i.e., 263 in and 1,361 out) during the PM peak hour.

However, similar to the proposed seven projects described above, Hexagon conducted driveway counts at all existing driveways on the proposed Irvine project site. The proposed Irvine project was credited for the existing trips generated by the existing land uses. After accounting for the trip credits, the proposed Irvine project is expected to generate a net 10,608 daily trips with 1,581 trips (i.e., 1,349 in and 232 out) during the AM peak hour and 1,390 trips (i.e., 224 in and 1,166 out) during the PM peak hour.

Long-Term Peery Park Specific Plan Impacts

Impact T-1: Construction activities anticipated to occur under the proposed Peery Park Specific Plan would potentially create short-term traffic impacts due to congestion from construction vehicles (e.g., construction trucks, construction worker vehicles, equipment, etc.), traffic lane and sidewalk closures, and loss of on-street parking. With implementation of the mitigation measure for construction traffic, construction-traffic impacts would be reduced to less than significant.

Build-out associated with the proposed Specific Plan, including up to 2.2 million square feet of new office and industrial floor area and up to 215 housing units is projected to occur through 2035, although a substantial portion of potential development may occur over the next 7 years (e.g., see Near-Term Project Impacts discussion below). The proposed Specific Plan would guide individual private development and public infrastructure projects, including new office, light industrial, commercial and residential uses as well as planned road, streetscape, and infrastructure improvements. Under the proposed Specific Plan standards, future development projects would generally consist of buildings from two to six stories in height with associated street trees and public improvements (e.g., sidewalk, parking).

Construction activities through 2035 associated with the proposed Specific Plan would include excavation, grading, transport of materials, and development of the individual proposed uses. A typical duration of construction for a particular parcel could generally range from 12 to 24 months, depending upon project size and complexity.

Due to the long-term planning horizon the corresponding number of construction-related truck trips at any given time cannot be precisely calculated. However, typical major office or light industrial construction project can require export of fill and demolition debris using single box or double-trailer haul “end dump”, often resulting in dozens of truck round trips per day (e.g., three trucks per hour, 9 hours per day, 18 cubic yards per load), to export building debris and earth. Further, construction activity during early site preparation periods typically also includes cement trucks, material and equipment delivery trucks and worker vehicles. While the rate of development and precise location(s) cannot be forecast, potential overlap of new development would include potential for daily construction vehicle traffic to total dozens of trips within Peery Park per day. However, these impacts would be spread throughout the Project area as it is unlikely that adjacent parcels would be developed concurrently.

Construction-related increases in traffic for individual projects would be short-term in nature and would incrementally contribute to road or intersection congestion over the planning horizon. Increased construction traffic, particularly large haul trucks and other heavy equipment (e.g., cement trucks and cranes), may disrupt traffic flows, congest limited turn lane capacities, and generally slow traffic movement. This would be a potentially significant, which would be subject to mitigation. While construction-related traffic would be ongoing within Peery Park, the location and duration of projects would vary with such traffic impacting different blocks or integrations for short-term periods through 2035 or beyond.

Other potential construction-related impacts include idling, parked, or queued heavy trucks that could potentially obstruct visibility, traffic flows and interfere with pedestrian and bicycle flows. Further, construction activities would require parking for construction workers for each of the potential developments under the proposed Specific Plan during peak periods. Construction may also require the temporary or extended closure of traffic lanes and sidewalks on surrounding streets to accommodate excavation for utility installation, parked vehicles, operation of construction equipment, installation of project improvements, etc. Depending on final construction plan details, such lane and sidewalk closures could extend from a single day to several weeks. Construction activities (e.g., lane closures) could also cause delays for people in vehicles and on public transit.

Construction parking demand combined with temporary removal of on-street parking resulting from development under the proposed Specific Plan would potentially affect on-street parking availability around a project site. In general, Project construction activities could create potentially significant short-term impacts along major access routes in Peery Park. However, implementation of mitigation measure MM T-1 would require preparation of a Construction Impact Mitigation Plan, which would address construction traffic routing and control, vehicular and pedestrian safety, pedestrian/bicycle access and parking, street closures, construction parking on a development-

by-development basis. This Construction Impact Mitigation Plan would address individual phases of development including demolition, site preparation, and on-going construction activities, which would be anticipated to occur over an approximately 12- to 24-month period for each development under the proposed Specific Plan. Implementation of mitigation measure MM T-1 would reduce construction-related traffic impacts to *less than significant*.

Mitigation Measures

MM T-1. Future development occurring under the proposed Peery Park Specific Plan shall be required to prepare a Construction Impact Mitigation Plan for review and approval prior to issuance of a grading or building permit to address and manage traffic during construction and shall be designed to:

- Prevent traffic impacts on the surrounding roadway network
- Minimize parking impacts both to public parking and access to private parking to the greatest extent practicable
- Ensure safety for both those constructing the project and the surrounding community
- Prevent substantial truck traffic through residential neighborhoods

The Construction Impact Mitigation Plan shall be subject to review and approval by the following City departments: Community Development, Public Works, and Public Safety to ensure that the Construction Impact Mitigation Plan has been designed in accordance with this mitigation measure. This review shall occur prior to issuance of grading or building permits. It shall, at a minimum, include the following:

Ongoing Requirements throughout the Duration of Construction

- A detailed Construction Impact Mitigation Plan for work zones shall be maintained. At a minimum, this shall include parking and travel lane configurations; warning, regulatory, guide, and directional signage; and area sidewalks, bicycle lanes, and parking lanes. The Construction Impact Mitigation Plan shall include specific information regarding the project's construction activities that may disrupt normal pedestrian and traffic flow and the measures to address these disruptions. Such plans shall be reviewed and approved by the Community Development Department prior to commencement of construction and implemented in accordance with this approval.
- Per Sunnyvale Municipal Code Section 16.08.030 work within the public right-of-way shall be performed between 7:00 AM and 6:00 PM Monday through Friday, and 8:00 AM to 5:00 PM on Saturday. With limited exceptions described in Sunnyvale Municipal Code Section 16.08.030, no construction work would be permitted on Sundays and national holidays that City offices are closed. Construction work includes, but is not limited to dirt and demolition material hauling and construction material delivery. Work within the public right-of-way outside of these hours shall only be allowed after the issuance of an after-hours construction permit.

- Streets and equipment shall be cleaned in accordance with established Public Works requirements.
- Trucks shall only travel on a City-approved construction route. Limited queuing may occur on the construction site itself.
- Materials and equipment shall be minimally visible to the public; the preferred location for materials is to be on-site, with a minimum amount of materials within a work area in the public right-of-way, subject to a current Use of Public Property Permit.
- Any requests for work before or after normal construction hours within the public right-of-way shall be subject to review and approval through the After Hours Permit process administered by the Building and Safety Division.
- Provision of off-street parking for construction workers, which may include the use of a remote location with shuttle transport to the site, if determined necessary by the City.

Project Coordination Elements That Shall Be Implemented Prior to Commencement of Construction

- The traveling public shall be advised of impending construction activities which may substantially affect key roadways or other facilities (e.g., information signs, portable message signs, media listing/notification, Hotline number, and implementation of an approved Construction Impact Mitigation Plan).
- A Use of Public Property Permit, Excavation Permit, Sewer Permit, or Oversize Load Permit, as well as any Caltrans permits required for any construction work requiring encroachment into public rights-of-way, detours, or any other work within the public right-of-way shall be obtained.
- Timely notification of construction schedules shall be provided to all affected agencies (e.g., VTA, Police Department, Fire Department, Public Works Department, and Community Development Department) and to all owners and residential and commercial tenants of property within a radius of 500 feet.
- Construction work shall be coordinated with affected agencies in advance of start of work. Approvals may take up to two weeks per each submittal.
- Public Works Department approval of any haul routes for earth, concrete, or construction materials and equipment hauling shall be obtained.

Impact T-2: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed Peery Park Specific Plan would substantially increase congestion at 4 of the 90 study intersections. While the proposed Peery Park Specific Plan would include improvements to transit, pedestrian, and bike facilities and expand the City's TDM Program to minimize new vehicle trips and vehicle miles traveled, potential peak period congestion would sill exceed existing City vehicular oriented LOS thresholds. This would be a significant and unavoidable impact.

Under the 2035 proposed General Plan buildout conditions 2,985 trips would be generated during the AM Peak Hour and 3,721 trips would be generated during the weekend peak hour (refer to

Table 3.10-8). Using the STFM, Hexagon (2016a) found that 64 of the 90 study intersections analyzed would be expected to remain operating at an acceptable LOS (i.e., LOS D or better). The remaining 26 study intersections were projected to operate at LOS E or LOS F during one or more analyzed peak hours under the 2035 proposed General Plan buildout conditions (Hexagon 2016a). Based on the methodology for determining proposed Specific Plan intersection impacts, Hexagon found that traffic generated by implementation of the proposed Specific Plan would create significant intersection impacts at the following study intersections:

- Mary Avenue & Central Expressway (#52) – PM Peak Hour (LOS F)
- Lawrence Expressway & Cabrillo Avenue (#82) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Benton Street (#84) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Homestead Road (#85) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Pruneridge Avenue (#86) – AM Peak Hour (LOS F)

Hexagon (2016a) calculated these impacts based on the proposed Specific Plan's percent contribution to total traffic growth at the intersections with cumulative impacts (i.e., with impacts under the 2035 proposed General Plan conditions). Hexagon (2016a) estimated the percent contributions by the proposed Specific Plan by comparing growth in volumes between the 2035 proposed General Plan conditions and existing conditions attributable to each component of the 2035 proposed General Plan, including the LSAP, proposed Specific Plan, LUTE, and regional traffic. The proposed Specific Plan would cause a significant intersection impact because the Project-related traffic alone would cause the 4 second delay and 0.01 V/C increase thresholds at these five intersections to be exceeded, compared to existing conditions.

Mary Avenue & Central Expressway (#52)

Under existing conditions, the LOS is an acceptable LOS D and LOS E during the AM and PM peak hours, respectively. Under the 2035 proposed General Plan conditions, the intersection operations would deteriorate to an unacceptable LOS F during both peak hours and the Specific Plan would create a significant intersection impact during the PM peak hour. A 20% trip reduction would be sufficient to mitigate the proposed Specific Plan intersection impact at the intersection of Mary Avenue and Central Expressway. Therefore potentially significant Project impacts at this intersection would be reduced to *less than significant* levels with the implementation of TDM measures.

Lawrence Expressway & Cabrillo Avenue (#82)

Under existing conditions, the LOS is an acceptable LOS E during both the AM and PM peak hours. Under the 2035 proposed General Plan conditions, the intersection operations would deteriorate to an unacceptable LOS F during both the AM and PM peak hours and the Specific Plan would create a significant intersection impact during both the AM and PM peak hours. Even with the implementation of TDM measures, impacts at this intersection would remain *significant and unavoidable*.

Table 3.10-9. Level of Service Criteria for Impacted Intersections under 2035 Proposed General Plan Buildout Conditions

Intersection No.	Intersection Name	Peak Hour	2035 Proposed General Plan Compared to Existing Conditions								
			Avg. Delay (Sec)	LOS	Increase in Crit. Delay (sec)	Increase in Critical V/C	Threshold for Sig. Cont.	Percent Contribution			
								PPSP	LSAP	LUTE	Regional
11	Lawrence Expwy & Tasman Dr	AM	92.7	F	133.9	0.190	80%	8%	6%	77%	9%
		PM	117.6	F	70.7	0.456	50%	8%	3%	75%	14%
12	Lawrence Expwy & Lakehaven Dr	AM	84.9	F	20.8	0.335	90%	5%	8%	80%	7%
		PM	164.8	F	144.0	0.444	30%	5%	5%	77%	13%
15	Lawrence Expwy & Oakmead Pkwy	AM	150.6	F	142.3	0.418	40%	6%	11%	70%	13%
		PM	147.8	F	127.5	0.292	30%	5%	9%	69%	17%
16	Lawrence Expwy & Arques Ave	AM	46.5	D	-25.2	0.188					
		PM	83.7	F	-3.6	0.160	90%	6%	8%	66%	20%
19	Duance/Stewart & Duane Ave	AM	113.3	F	120.3	0.396	50%	5%	6%	76%	13%
		PM	32.6	C-	1.7	0.175					
23	Wolfe Rd & Arques Ave	AM	70.5	E	88.8	0.738	80%	7%	17%	55%	21%
		PM	49.8	D	31.1	0.507					
24	Wolfe Rd & Kifer Rd	AM	124.5	F	140.5	0.755	60%	7%	39%	38%	16%
		PM	113.6	F	132.2	0.590	60%	7%	30%	53%	10%
26	Wolfe Rd & Reed Ave	AM	55.8	E+	41.6	0.526	90%	8%	21%	51%	20%
		PM	51.9	D-	37.0	0.373					
29	Wolfe Rd & Fremont Ave	AM	63.0	E	12.4	0.270	50%	5%	11%	66%	18%
		PM	105.8	F	104.7	0.471	50%	3%	9%	75%	13%
31	Fair Oaks Ave & Arques Ave	AM	101.1	F	126.3	0.751	60%	9%	6%	67%	18%
		PM	97.5	F	81.8	0.431	60%	9%	8%	79%	4%
34	Fair Oaks Ave & El Camino Real	AM	47.0	D	18.6	0.294					
		PM	135.2	F	132.5	0.512	60%	3%	4%	86%	7%
40	Sunnyvale-Saratoga Rd & Remington Dr	AM	58.8	E+	23.6	0.213					
		PM	105.4	F	101.2	0.395	70%	4%	4%	87%	5%
48	Mathilda Ave & El Camino Real	AM	76.0	E-	49.3	0.299	90%	14%	3%	74%	9%
		PM	104.0	F	91.9	0.398	70%	5%	3%	84%	8%
49	Hollenbeck Ave & El Camino Real	AM	60.2	E	60.5	0.603					
		PM	102.7	F	118. 9	0.581	80%	7%	3%	78%	12%

Table 3.10-9. Level of Service Criteria for Impacted Intersections under 2035 Proposed General Plan Buildout Conditions (Continued)

Intersection No.	Intersection Name	Peak Hour	2035 Proposed General Plan Compared to Existing Conditions								
			Avg. Delay (Sec)	LOS	Increase in Crit. Delay (sec)	Increase in Critical V/C	Threshold for Sig. Cont.	Percent Contribution			
								PPSP	LSAP	LUTE	Regional
51	Mary Ave & Maude Ave	AM	32.1	C-	7.6	0.356					
		PM	78.6	E-	70.3	0.580	80%	38%	2%	47%	13%
52	**Mary Ave & Central Expwy**	AM	86.3	F	51.1	0.552	90%	41%	10%	38%	11%
		PM	**149.9**	**F**	**150.5**	**0.293**	**30%**	**31%**	**6%**	**48%**	**15%**
54	Mary Ave & El Camino Real	AM	56.4	E+	29.1	0.288					
		PM	109.3	F	88.2	0.439	80%	6%	3%	77%	14%
55	Mary Ave & Fremont Ave	AM	129.8	F	134.9	0.626	40%	7%	5%	77%	11%
		PM	151.5	F	173.9	0.747	40%	4%	3%	80%	13%
59	SR 85 NB & Fremont Ave	AM	60.6	E	43.4	0.306	90%	8%	5%	75%	12%
		PM	32.5	C-	8.7	0.266					
60	SR 85 SB & Fremont Ave	AM	87.6	F	71.5	0.236	40%	15%	4%	59%	22%
		PM	221.4	F	287.2	0.837	20%	4%	2%	70%	24%
63	Ellis St & Middlefield Rd (MV)	AM	56.4	E+	51.3	0.298	90%	11%	7%	21%	61%
		PM	45.0	D	32.5	0.518					
82	**Lawrence Expwy & Cabrilo Ave (SCL)**	**AM**	**161.8**	**F**	**124.4**	**0.411**	**1%**	**10%**	**28%**	**17%**	**45%**
		PM	**128.4**	**F**	**95.3**	**0.400**	**1%**	**7%**	**25%**	**35%**	**33%**
84	**Lawrence Expwy & Benton St (SCL)**	**AM**	**200.5**	**F**	**161.2**	**0.489**	**1%**	**6%**	**12%**	**20%**	**62%**
		PM	**168.4**	**F**	**217.6**	**0.455**	**1%**	**4%**	**12%**	**23%**	**61%**
85	**Lawrence Expwy & Homestead Road (SCL)**	**AM**	**113.9**	**F**	**46.0**	**0.142**	**5%**	**5%**	**10%**	**27%**	**58%**
		PM	**144.7**	**F**	**135.6**	**0.651**	**1%**	**2%**	**6%**	**33%**	**59%**
86	**Lawrence Expwy & Pruneridge Ave (SCL)**	**AM**	**91.5**	**F**	**44.3**	**0.214**	**1%**	**5%**	**10%**	**12%**	**73%**
		PM	85.1	F	72.6	0.629	60%	2%	5%	22%	71%
90	Lawrence Expwy & I-280 (SJ)	AM	118.2	F	77.8	0.220	30%	7%	11%	10%	72%
		PM	59.8	E+	41.5	0.030	80%	3%	6%	18%	73%

Source: (Hexagon 2016a).

Notes: Shading and bolding highlight significantly impacted intersections and specific peak hours during which those intersections would be affected. The table describes intersection operations without the implementation of required TDM measures, which would result in a 20% to 35% reduction in overall trip generation.

Lawrence Expressway & Benton Street (#82)

Under existing conditions, the LOS is an unacceptable LOS F during the AM peak hour. Under the 2035 proposed General Plan conditions, the intersection operations would remain at an unacceptable LOS F during the AM peak hour. Compared to existing conditions, the increase in both critical-movement delay and V/C ratio during the AM peak hour would meet the City of Santa Clara criteria for significant cumulative intersection impact. During the PM peak hour, the intersection would deteriorate from an acceptable LOS E under existing conditions to an unacceptable LOS F under the 2035 proposed General Plan conditions and the Specific Plan would create a significant intersection impact during both the AM and PM peak hours. Even with the implementation of TDM measures, impacts at this intersection would remain *significant and unavoidable*.

Lawrence Expressway & Homestead Road (#85)

Under existing conditions, the LOS is an unacceptable LOS F during both the AM and PM peak hours. Under the 2035 proposed General Plan conditions, the intersection operations would remain at an unacceptable LOS F during both peak hours. The Specific Plan would create a significant intersection impact during both the AM and PM peak hours. Even with the implementation of TDM measures impacts at this intersection would remain *significant and unavoidable*.

Lawrence Expressway & Pruneridge Avenue (#86)

Under existing conditions, the LOS is an acceptable LOS E and LOS D during the AM and PM peak hours, respectively. Under the 2035 proposed General Plan conditions, the intersection operations during both peak hours would deteriorate to an unacceptable LOS F and the Specific Plan would create a significant intersection impact during the AM peak hour. Even with the implementation of TDM measures, impacts at this intersection would remain *significant and unavoidable*.

With the implementation of TDMs at the intersection of Mary Avenue & Central Expressway potentially significant Project impacts would be reduced to *less than significant* levels. For the remaining four intersections with an intersection impact when compared to the existing conditions, the TDM measures would not sufficiently mitigate Specific Plan intersection impacts through reducing the Specific Plan's contribution below the threshold for significant contribution or reducing the overall intersection volumes to a level that eliminates significant cumulative impacts. Further, as described in Appendix H, Hexagon found that there were no available potential mitigation measures such as addition of turn lanes or road widening that would be feasible. Therefore, the intersection impacts at the intersections at Lawrence Expressway with Cabrillo Avenue, Benton Street, Homestead Road, and Pruneridge Avenue would remain *significant and unavoidable*.

Mitigation Measures

Significant intersection impacts resulting from the proposed Specific Plan could be mitigated by reducing the Project contribution to the traffic increases below the threshold for a significant contribution, or by implementing measures that would restore intersection conditions to an average delay that eliminates the 2035 proposed General Plan conditions traffic increases. Installation of a third westbound left-turn lane would mitigate Project-related increases to vehicle delay and V/C ratio at the intersection of Mary Avenue with the Central Expressway. Further, implementation of planned intersection improvements at the intersections of Lawrence Expressway with Cabrillo Avenue, Benton Street, Homestead Road Pruneridge Avenue would eliminate impacts at these intersections as well. However, because the intersection is controlled by the County of Santa Clara, Hexagon found that the City cannot ensure the full implementation of this mitigation. Further, Hexagon also found that the timing of implementation as well as availability of overall funding of this interchange are also uncertain. Therefore, the impacts at these intersections would remain *significant and unavoidable*.

MM T-2a. Third Westbound Left-Turn Lane. At the intersection of Mary Avenue with the Central Expressway a third westbound left-turn lane would mitigate Project-related increases to vehicle delay and V/C ratio. This project is identified as a Tier 3 project as a part of the August 2015 update of the County of Santa Clara Expressway Plan 2040. The third westbound left-turn lane could be feasibly accommodated within the existing right-of-way with minimal secondary impacts to pedestrian and bicycle facilities. Therefore, project applicants within the Project area shall pay a fair share contribution towards the planned third westbound left-turn lane at this intersection.

MM T-2b. County of Santa Clara Expressway Plan 2040 Fee. The August 2015 update of the County of Santa Clara Expressway Plan 2040 identifies a number of long-range intersection improvements, including at the intersections of Lawrence Expressway with Cabrillo Avenue, Benton Street, Homestead Road, and Pruneridge Avenue. These planned Tier 3 projects would reduce potentially significant impacts to less than significant levels. Therefore, project applicants within the Project area shall pay a fair share contribution towards the planned County of Santa Clara Expressway Plan 2040 improvements at these intersections.

Impact T-3: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed Peery Park Specific Plan would increase congestion at 10 mixed-flow freeway segments and six HOV segments resulting in significant and unavoidable impacts.

In analyzing the freeway segments that would potentially be impacted by implementation of the proposed Specific Plan, Hexagon used the STFM to project the increase in traffic volumes between existing and the 2035 proposed General Plan conditions. Freeway LOS under the 2035 proposed General Plan conditions were calculated based on V/C ratio.

Under 2035 proposed General Plan conditions there would be 12 mixed-flow segments and nine HOV segments that would operate at LOS F. Hexagon performed a select zone analysis within the STFM to estimate the increase in traffic volume attributable to the proposed Specific Plan between existing and the 2035 proposed General Plan conditions. The proposed Specific Plan would generate a significant cumulative impact on the following mixed-flow segments under the 2035 proposed General Plan conditions:

- U.S. 101, northbound from I-280 to Mathilda Avenue – AM Peak Hour
- U.S. 101, northbound from Shoreline Boulevard to Embarcadero Road – PM Peak Hour
- U.S. 101, southbound from Moffett Boulevard to Ellis Street, and from Mathilda Avenue to Oakland Road – PM Peak Hour
- SR 237, eastbound from U.S. 101 to Zanker Road, and from McCarthy Boulevard to I-880 – PM Peak Hour
- SR 237, westbound from I-880 to First Street – AM Peak Hour
- SR 237, westbound from First Street to Great America Parkway – AM and PM Peak Hours
- SR 237, westbound from Fair Oaks Avenue to Mathilda Avenue, and from Maude Avenue to SR 85 – PM Peak Hour
- SR 85, northbound from De Anza Boulevard to El Camino Real – AM Peak Hour
- SR 85, southbound from El Camino Real to Fremont Avenue, and from I-280 to De Anza Boulevard – PM Peak Hour
- SR 87, southbound from Skyport Drive to Taylor Street – PM Peak Hour

Additionally, the proposed Specific Plan would generate a significant impact on the following HOV segments under the 2035 proposed General Plan conditions, compared against existing conditions:

- U.S. 101, northbound from I-280 to Mathilda Avenue – AM Peak Hour
- U.S. 101, southbound from Mathilda Avenue to I-280 – PM Peak Hour
- SR 237, eastbound from Lawrence Expressway to I-880 – PM Peak Hour
- SR 237, westbound from I-880 to Mathilda Avenue – AM Peak Hour
- SR 85, northbound from I-280 to El Camino Real – AM Peak Hour
- SR 87, northbound from Julian Street to U.S. 101 – AM Peak Hour

While the implementation TDM strategies would reduce such impacts, they would not be eliminated and therefore implementation of the proposed Specific Plan would continue to result in a *significant and unavoidable* impact along these mixed-flow freeway and HOV segments.

Mitigation Measures

The VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along SR 237 between N. First Street and SR 85, along U.S. 101 between Cochrane Road and Whipple Avenue, along SR 85 between the south and north ends of U.S. 101, and along all of SR 87 and SR 85. On all identified freeway segments, the existing HOV lanes are proposed to be converted

to express lanes. On U.S. 101 and SR 85 along the identified segments, a second express lane is proposed to be implemented in each direction for a total of two express lanes. On SR 237 and SR 87, the existing HOV lanes would already be operating over capacity under the 2035 proposed General Plan conditions. Converting the HOV lanes to express lanes would not mitigate the Project impact. However, on U.S. 101 and SR 85, converting the existing HOV lane to an express lane and adding an express lane in each direction would increase the capacity of the freeway and would fully mitigate the freeway impacts. However, the City cannot ensure the full implementation of these capacity improvements. Further, the timing of implementation as well as availability of overall funding of these capacity improvements are also uncertain. Therefore, it is conservatively assumed that the impacts along these freeway segments would remain *significant and unavoidable*.

MM T-3. VTA VTP 2040 Free. The VTA's VTP 2040 identifies a number of long-term improvement projects, including freeway express lane projects along U.S. 101 between Cochran Road and Whipple Avenue and along SR 85. The existing HOV lanes along these segments are proposed to be converted to express lanes and a second express lane is proposed to be implemented in each direction. Therefore, project applicants within the Project area shall pay a fair share contribution towards the planned VTA VTP 2040 improvements.

Impact T-4: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed Peery Park Specific Plan would result in less than significant impacts to freeway ramp capacities.

Under the 2035 proposed General Plan conditions, Hexagon assumed that the SR 237 and Mathilda Avenue and the U.S. 101 and Mathilda Avenue interchanges would be reconfigured. These interchange improvements are identified in the VTA VTP 2040 as project H33. The freeway ramps would be realigned at the SR 237 and Mathilda Avenue interchange. At the U.S. 101 and Mathilda Avenue interchange, new freeway ramps would be constructed and existing ramps would be realigned to provide a full access interchange. Two interchange reconfiguration alternatives are being considered and the designs have not been finalized.

The SR 237 westbound off-ramp is proposed to be realigned with Ferguson Drive to the west with access restricted to only eastbound Middlefield Road. This interchange improvement is identified in the VTA VTP 2040 as project H32. As part of the same improvement project, a new loop on-ramp is proposed to connect westbound Middlefield Road to westbound SR 237. Therefore, trips related to the proposed Specific Plan would have access to only the new loop on-ramp, but not the existing diamond on-ramp. This interchange reconfiguration is also assumed under the 2035 proposed General Plan conditions.

The 2035 proposed General Plan conditions freeway ramp volumes were forecasted using the STFM and adjusted based on existing ramp volumes, where applicable. Hexagon assumed all of interchange improvement projects listed above would be completed under the 2035 proposed General Plan conditions. The ramp analysis performed by Hexagon showed that under the 2035 proposed General Plan conditions, with the implementation of these improvement projects, all

ramps would operate below capacity (see Appendix H). Therefore, the impact of the proposed Specific Plan on freeway ramps would be *less than significant.*

Impact T-5: Implementation of the Peery Park Specific Plan would have a potentially significant transit vehicle delay impact associated with increased congestion at the intersection of Mary Avenue and Central Expressway, through which Bus Route 32 and the Mary Moffett Caltrain Shuttle both provide services. However, implementation of the Peery Park Specific Plan's aggressive TDM measures would ensure that such congestion would be minimized and that impacts to transit travel times would be less than significant.

As described in Section 3.10.1, *Environmental Setting*, within the immediate vicinity of the Project area, Bus Route 32, Bus Route 54 all travel through the intersection of Mary Avenue & Central Expressway Traffic from the proposed Specific Plan buildout under the 2035 proposed General Plan conditions would have a potentially significant impact at the intersection of Mary Avenue & Central Expressway, when compared with existing conditions. Currently, Bus Route 32 and the Mary Moffett Caltrain Shuttle both provide services through this intersection. The proposed Specific Plan identifies a policy to "work with VTA to identify and implement changes or additions to bus routes in order to better serve the district and decrease headways." Nevertheless, as specific route changes for Bus Route 32 and the Mary Moffett Caltrain Shuttle have not been identified this impact could be potentially significant. However, as described for Impact T-2 above, application of proposed TDM programs, which would reduce overall traffic volumes by 20% to 35% and would result in an associated reduction in transit travel times, would be reduce this impact to *less than significant.*

Impact T-6: Implementation of the Peery Park Specific Plan would have a potentially significant impact associated with increased demand for the transit, including VTA buses as well as the Caltrain Shuttle. Impacts associated with transit demand would be less than significant with mitigation.

Existing transit headways (i.e., time between buses) are relatively infrequent and routes don't cover the entire planning area. Further, while shuttle service is available to nearby rail stations, it may not be sufficient to meet increased demand associated with the proposed Specific Plan. The proposed Specific Plan identifies the following policies to increase transit ridership as part of the TDM trip reduction goal:

- Work with VTA to identify and implement changes or additions to bus routes in order to better serve the district and decrease headways.
- Outline a plan to implement a Private/Public district shuttle including early phase pilot program, feasibility study, and potential funding/implementation strategies.

It is expected that the proposed Project would increase the number of Caltrain riders. Caltrain has plans to increase the number of trains serving the Sunnyvale Caltrain Station from the existing 62 trains per day to 84 trains per day during weekdays, and it is assumed that the planned increase

in service would be sufficient to meet the demand. Consequently, impacts would be *potentially significant*.

VMT is the measurement of daily miles traveled by vehicles within a specified region for a specified time period.

Daily VMT is calculated by multiplying the average number of total vehicles on the road per day (i.e., trips) by the average daily trip length.

Daily per capita VMT is calculated by by dividing the total VMT by the sum of population and jobs within the study area.

Mitigation Measures

The Metropolitan Transportation Commission has approved grant money for the City and VTA to create the Peery Park Rides shuttle program. Peery Park Rides is a pilot shuttle bus program that would transport riders within a specific service area in and around the Project area. The pilot program proposes the purchase of two shuttle buses that will run on fixed service routes during the peak hours but will also be available for pick up requests within the service area at designated shuttle stops outside of the peak hours. Development of the pilot program has begun and it is anticipated that the shuttles will start running in 2017.

MM T-6a. Transportation Management Agency. The City Public Works and Community Development Department shall require individual property owner's to join a Transportation Management Association (TMA) to help facilitate TDM programs for tenants within the Project area.

MM T-6b. Transportation Impact Fee. Project applicants in the Project area shall be required to pay a fair share transportation impact fee to the City that funds costs associated with the increased development to the Project area.

Residual Impact

With implementation of MM T-6a and MM T-6b, this impact would be less than significant.

Impact T-7: Implementation of the Peery Park Specific Plan would improve and increase connections along existing pedestrian facilities and bike lanes resulting in overall beneficial impacts.

As described in Section 3.10.1, *Environmental Setting*, sidewalks are present along both sides of all arterials within the Project area; however, collector streets such as Pastoria Avenue, Del Rey Avenue, Almanor Avenue, Palomar Avenue, and Vaqueros Avenue lack sidewalks along some or all segments of the road. Signalized crosswalks with pedestrian push buttons are present the majority of the intersections within the Project area.

The proposed Specific Plan identifies a policy to "add crosswalks where they do not exist, increase landscaping and pedestrian amenities through the district, and create new routes to create a more connected pedestrian network." The implementation of this policy would close existing sidewalk gaps, build new pedestrian connections, enhance pedestrian intersection crossings, and enhance pedestrian comfort-level on sidewalks. Therefore, the proposed Specific Plan would result in *beneficial* impacts on pedestrian facilities within the Project area.

Within the Project area, bike lanes are present along Maude Avenue between SR 237 and Pastoria Avenue, on Mary Avenue north of Maude Avenue, on Almanor Avenue west of Vaqueros Avenue, and along the entirety of Evelyn Avenue. There is also a bike lane on southbound Mathilda Avenue between Del Rey Avenue and Maude Avenue, and on westbound Maude Avenue between Mathilda Avenue and Pastoria Avenue. The City has also designated Central Expressway, Mary Avenue south of Maude Avenue, and Maude Avenue east of Pastoria Avenue as bike routes. Collector roads such as Pastoria Avenue, San Aleso Avenue, and Del Rey Avenue carry low traffic volumes and are also conducive to bicyclists.

The proposed Specific Plan identifies a policy to "add or improve bike lanes/paths and make connections with the existing bike network." Potential bike facility improvements would include new/improved bike lanes on all of Mary Avenue, Mathilda Avenue, Almanor Avenue, and Maude Avenue within the Project area. The implementation of this policy and the proposed bicycle facilities would better improve bicycle connections within the proposed Peery Plan Specific Plan area. Therefore, the proposed Specific Plan would result in *beneficial* impacts on bicycle facilities within the Project area.

Impact T-8: Implementation of the Peery Park Specific Plan would slightly increase vehicle miles traveled within Peery Park resulting in a less than significant impact.

Pursuant to SB 743, OPR released a *Draft of Updates to the CEQA Guidelines* in August 2014. OPR's *Draft of Updates* proposes VMT as the replacement metric for LOS in the context of CEQA. While OPR emphasizes that a lead agency has the discretionary authority to establish thresholds of significance, the *Draft of Updates* suggest criteria that indicate when a project may have a significant, or less than significant, transportation impact on the environment. For instance, a project that results in VMT greater than the regional average for the land use type (e.g. residential, employment, commercial) may indicate a significant impact. Alternatively, a project may have a less than significant impact if it is located within 0.5 mile of an existing major transit stop, or results in a net decrease in VMT compared to existing conditions. VMT is a metric that is used in noise, air quality, and greenhouse gas emissions analyses because it provides an indication of the usage level of the automobile and truck transportation system within the City. A greater number of vehicle miles traveled generally means more noise and more air pollution.

For the purpose of looking at examining characteristics of trip making, Hexagon analyzed daily VMT by trip orientation and VMT per capita were analyzed. VMT refers to daily trips multiplied by the trip distances, and is calculated separately for the LSAP, proposed Project, and LUTE study areas. Trips were defined as all trips that begin and/or end within each study area:

- Internal-External: trips that begin within and end outside of the study area.
- External-Internal: trips that begin outside of and end within the study area.
- Internal-Internal: trips that begin and end within the study area.

For the purpose of the Traffic Impact Analysis, Hexagon counted trips with both trip ends within the study area as one trip, while trips with only one trip end in the study area were counted as half a trip. This is standard practice, because, for trips with an origin or destination outside of the study area, half of the "responsibility" for the trip lies outside the study area for air quality and GHG analyses. Daily VMT data for both existing and 2035 proposed General Plan conditions were calculated using the STFM. Table 3.10-10 provides the total daily VMT, the total number of vehicles generating those vehicle miles, the average trip length, and VMT per capita. VMT per capita is calculated by dividing the total VMT by the sum of population and jobs within each study area.

Table 3.10-10. Daily Vehicle Miles Traveled Summary

	Proposed Peery Park Specific Area		
	Existing	2035 Proposed General Plan	Difference
Total Daily VMT	123,890	257,742	133,852
Internal-Internal	137	360	223
Internal-External	17,381	31,629	14,248
External-Internal	106,372	225,753	119,381
Total Daily Vehicles	21,064	45,325	24,261
Internal-Internal	113	302	189
Internal-External	4,136	8,215	4,079
External-Internal	16,815	36,808	19,993
Average Daily Trip Length (Miles)	5.88	5.69	-0.19
Internal-Internal	1.21	1.19	-0.02
Internal-External	4.20	3.85	-0.035
External-Internal	6.33	6.13	-0.20
Total Population	**785**	**941**	**156**
Total Jobs	**14,153**	**20,391**	**6,238**
Daily VMT per Capita	8.29	12.08	3.79
Internal-Internal	0.01	0.02	0.01
Internal-External	1.16	1.48	0.32
External-Internal	7.12	10.58	3.46

Source: (Hexagon 2016a).

As shown above, total daily VMT would increase slightly compared to existing conditions because of the greater amount of land-use growth. Trip lengths would be reduced, however, total per capita VMT associated with the proposed Specific Plan would still increase slightly due to increased external-internal trips within the Project area. In addition, required TDM measures could further reduce daily VMT. Therefore, this impact is considered *less than significant*.

Long-Term Peery Park Specific Plan Cumulative Impacts

Impact T-9: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed General Plan, including the Peery Park Specific Plan would substantially increase congestion at 5 of the 90 study intersections. This would be a significant and unavoidable impact.

As described for Impact T-2, under the 2035 proposed General Plan buildout conditions, including the LSAP, proposed Project, LUTE, and regional traffic, 2,985 trips would be generated during the AM Peak Hour and 3,721 trips would be generated during the weekend peak hour (refer to Table 3.10-8). Using the STFM, Hexagon found that 64 of the 90 study intersections analyzed would be expected to remain operating at an acceptable LOS (i.e., LOS D or better). The remaining 26 study intersections were projected to operate at LOS E or LOS F during one or more analyzed peak hours.

- Lawrence Expressway & Tasman Drive (#11) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Lakehaven Drive (#12) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Oakmead Parkway (#15) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Arques Avenue (#16) – PM Peak Hour (LOS F)
- Duane/Stewart & Duane Avenue (#19) – AM Peak Hour (LOS F)
- Wolfe Road & Arques Avenue (#23) – AM Peak Hour (LOS E)
- Wolfe Road & Kifer Road (#24) – AM and PM Peak Hours (LOS F)
- Wolfe Road & Reed Avenue (#26) – AM Peak Hour (LOS E)
- Wolfe Road & Fremont Avenue (#29) – AM and PM Peak Hour (LOS E and F, respectively)
- Fair Oaks Avenue & Arques Avenue (#31) – AM and PM Peak Hours (LOS F)
- Fair Oaks Avenue & El Camino Real (#34) – PM Peak Hour (LOS F)
- Sunnyvale-Saratoga Road & Remington Drive (#40) – PM Peak Hour (LOS F)
- Mathilda Avenue & El Camino Real (#48) – AM and PM Peak Hours (LOS F)
- Hollenbeck Avenue & El Camino Real (#49) – PM Peak Hour (LOS F)
- Mary Avenue & Maude Avenue (#51) – PM Peak Hour (LOS E-)
- Mary Avenue & Central Expressway (#52) – AM and PM Peak Hours (LOS F)
- Mary Avenue & El Camino Real (#54) – PM Peak Hour (LOS F)
- Mary Avenue & Fremont Avenue (#55) – AM and PM Peak Hours (LOS F)
- SR 85 Northbound Ramp & Fremont Avenue (#59) – AM Peak Hour (LOS E)
- SR 85 Southbound Ramp & Fremont Avenue (#60) – AM and PM Peak Hours (LOS F)
- Ellis Street & Middlefield Road (#63) – AM Peak Hour (LOS E+)
- Lawrence Expressway & Cabrillo Avenue (#82) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Benton Street (#84) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Homestead Road (#85) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Pruneridge Avenue (#86) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & I-280 Southbound Ramp (#87) – AM and PM Peak Hours (LOS F and LOS E+, respectively)

As shown in Table 3.10-9, the proposed Specific Plan would contribute between 2% and 41% to cumulatively significant impacts at individual intersections under 2035 proposed General Plan conditions. However, the proposed Specific Plan would only exceed intersection thresholds and result in a substantial contribution to cumulatively significant impacts at five study intersections.

- Mary Avenue & Central Expressway (#52) – PM Peak Hour (LOS F)
- Lawrence Expressway & Cabrillo Avenue (#82) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Benton Street (#84) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Homestead Road (#85) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Pruneridge Avenue (#86) – AM Peak Hour (LOS F)

It has been estimated by Hexagon that proposed TDM programs would reduce peak hour trip generation by 20% to 35%, reducing the Project's contribution to cumulative impacts. However, while the Project impact at Mary Avenue & Central Expressway could be reduced to less than significant with the implementation of MM T-2a, Hexagon found that this mitigation would not reduce the cumulative impact at this intersection to a less than significant level. While TDM would reduce such impacts, they would not be eliminated and implementation of the proposed Specific Plan would result in a substantial contribution to cumulatively significant impacts at five study intersections

Impact T-10: Under the 2035 proposed General Plan conditions, increased traffic generated by buildout of the proposed General Plan, including the Peery Park Specific Plan, would increase congestion at 10 mixed-flow freeway segments and nine HOV segments resulting in significant and unavoidable impacts.

As described in Impact T-3, Hexagon (2016a) used the STFM to project the increase in traffic volumes between existing and the 2035 proposed General Plan conditions, which include the LSAP, proposed Project, the proposed LUTE, and regional traffic. Freeway levels of service under the 2035 proposed General Plan conditions were calculated based on V/C ratio. A freeway segment is assumed to operate at LOS F under the 2035 proposed General Plan conditions if,

- The freeway segment already operates at LOS F under existing conditions; or
- The STFM forecasts the freeway segment to operate at a V/C ratio above 1% under the 2035 proposed General Plan conditions.

Mixed-flow freeway segments that would operate at LOS F under the 2035 proposed General Plan conditions include the following:

- U.S. 101, northbound from I-280 to Mathilda Avenue, and from Moffett Boulevard to Shoreline Boulevard – AM Peak Hour
- U.S. 101, northbound from Shoreline Boulevard to Embarcadero Road – AM and PM Peak Hours

- U.S. 101, southbound from Embarcadero Road to Rengstorff Avenue, from Shoreline Boulevard to SR 237, from Fair Oaks Avenue to Oakland Road – PM Peak Hour
- SR 237, eastbound from Fair Oaks Avenue to Lawrence Expressway, and from Great America Parkway to First Street – AM and PM Peak Hours
- SR 237, eastbound from U.S. 101 to Fair Oaks Avenue, from Lawrence Expressway to Great America Parkway, and from McCarthy Boulevard to I-880 – PM Peak Hour
- SR 237, westbound from I-880 to First Street – AM Peak Hour
- SR 237, westbound from First Street to Great America Parkway – AM and PM Peak Hours
- SR 237, westbound from Fair Oaks Avenue to Mathilda Avenue, and from Maude Avenue to SR 85 – PM Peak Hour
- SR 85, northbound from De Anza Boulevard to El Camino Real – AM Peak Hour
- SR 85, southbound from U.S. 101 to Fremont Avenue, and from I-280 to De Anza Boulevard – PM Peak Hour
- SR 87, northbound from I-280 to U.S. 101 – AM Peak Hour
- SR 87, southbound from Skyport Drive to Taylor Street – PM Peak Hour

Further, the following HOV segments would operate at LOS F under the 2035 proposed General Plan conditions:

- U.S. 101, northbound from I-280 to Mathilda Avenue, from Ellis Street to Moffett Boulevard, and from Rengstorff Avenue to San Antonio Avenue – AM Peak Hour
- U.S. 101, northbound from Shoreline Boulevard to Rengstorff Avenue, and from San Antonio Avenue to Embarcadero Road – AM and PM Peak Hours
- U.S. 101, southbound from Embarcadero Road to Shoreline Boulevard – AM and PM Peak Hours
- U.S. 101, southbound from Ellis Street to SR 237, and from Mathilda Avenue to I-280 – PM Peak Hour
- SR 237, westbound from I-880 to Mathilda Avenue – AM Peak Hour
- SR 237, eastbound from Lawrence Expressway to I-880 – PM Peak Hour
- SR 85, northbound from De Anza Boulevard to El Camino Real – AM Peak Hour
- SR 85, southbound from SR 237 to Homestead Road, and from I-280 to De Anza Boulevard – PM Peak Hour
- SR 87, northbound from Julian Street to U.S. 101 – AM Peak Hour

The proposed Specific Plan would contribute to cumulatively significant impacts along these freeway segments. Implementation of MM T-3 would reduce the Project's overall contribution to these cumulative impacts. Further, while the implementation TDM strategies would reduce such impacts, they would not be eliminated and therefore implementation of the proposed Specific Plan would continue to result in a substantial contribution to cumulatively significant impacts at 10 mixed-flow freeway segments and nine HOV segments.

Near-Term Seven Projects Impacts

Implementation of the proposed seven projects (described in further detail in Section 2.6, *Pending Near-Term Projects*) would contribute to the long-term impacts described above for the proposed Specific Plan, including incremental increases in intersection, freeway segment, and freeway ramp congestion. Additionally, each of the proposed seven projects would also contribute to increased multi-modal transportation facilities demand (refer to Impact T-5). Construction of each of the proposed seven projects would result in similar short-term construction-related impacts as those described in Impact T-1.

Impact T-11: Increased traffic generated by the proposed seven projects would substantially increase congestion at 1 of the 43 study intersections under Existing plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.

Existing traffic volumes are based on recent traffic counts conducted between the years of 2014 and 2015, the 2014 CMP TRAFFIX database, as well as County records for the expressways (Hexagon 2016b).

Existing traffic volumes with the proposed seven projects were estimated by adding to existing traffic volumes the traffic generated by the proposed seven projects less the trips generated by the existing uses. Existing plus Project conditions were evaluated relative to existing conditions in order to determine the effects the proposed seven projects would have on the existing roadway network (Hexagon 2016b).

The results of the Hexagon intersection LOS analysis for the proposed seven projects indicate that most of the study intersections would operate at acceptable levels during both the AM and PM peak hours under existing plus project conditions, with the following exceptions:

- Lawrence Expressway & Arques Avenue (#11) –PM Peak Hour (LOS F)
- Lawrence Expressway & Kifer Road (#12) – AM and PM Peak Hour (LOS F)
- Lawrence Expressway & Reed Avenue (#13) – AM and PM Peak Hour (LOS F)

Based on the significance threshold criteria, the proposed seven projects would generate significant impacts on intersection levels of service at the following intersection under existing plus project conditions:

- Lawrence Expressway & Kifer Road (#12) – AM Peak Hour (LOS F)

Since Lawrence Expressway is a regionally significant roadway, the intersection LOS threshold for acceptable operations is LOS E (Hexagon 2016b). Under existing conditions, this intersection operates at an unacceptable LOS F during the AM peak hour. The addition of the proposed project traffic would increase in average critical delay of 8.4 seconds, and increase the critical V/C ratio by 0.012. However, implementation of MM T-2b would reduce intersection traffic impacts to *less*

than significant. Each of the proposed seven projects contributes between 2% and 51% of the total trips associated with the proposed seven projects. Consequently, each of the project applicants would be required to pay a commensurate fair share contribution toward the cost of the grade separation described in MM T-2b.

Mitigation Measures

The intersection of Lawrence Expressway & Kifer Road is planned to be grade-separated in the draft County Expressway Plan. No other feasible alternative configuration would achieve acceptable operations at this intersection. With the implementation of the proposed County Expressway Plan improvements, the intersection is estimated to operate at an acceptable LOS C (Hexagon 2016b). Under the City's standards, the proposed mitigation would reduce this impact to *less than significant*.

The proposed seven projects would pay a Sunnyvale Traffic Impact Fee (TIF) under MM T-2b, which would constitute its fair share contribution toward the cost of the grade separation of Kifer Road.

Impact T-12: Increased traffic generated by the proposed seven projects would substantially increase congestion at 2 of the 49 study intersections under Background plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to *less than significant*.

The background traffic volumes were derived by adding to existing traffic volumes additional trips associated with nearby approved but not constructed development projects. The lists of approved projects were provided by the City of Sunnyvale, the City of Cupertino, the City of Mountain View, and the City of Santa Clara (Hexagon 2016b).

Background plus project traffic volumes were estimated by adding to background traffic volumes the traffic generated by the proposed seven projects. Trips generated by the existing land uses on the project sites were credited. Background plus project conditions were evaluated relative to background conditions in order to determine potential impacts of the proposed seven projects (Hexagon 2016b).

The results of the Hexagon intersection LOS analysis for the proposed seven projects indicate that most of the study intersections would operate at acceptable levels during both the AM and PM peak hours under background plus project conditions, with the following exceptions:

- Mathilda Avenue & SR 237 Westbound Ramps (#1) – AM and PM Peak Hours (LOS F)
- Mathilda Avenue & SR 237 Eastbound Ramps (#2) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Arques Avenue (#11) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Kifer Road (#12) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Reed Avenue (#13) – AM and PM Peak Hours (LOS F)

The intersections on Mathilda Avenue at the SR 237 ramps are closely-spaced intersections with multiple turning movements that operate as a single coordinated signal system. These intersections experience operational issues beyond what is reflected in the typical HCM LOS calculations by TRAFFIX. Therefore, the Synchro software was used to provide a more accurate assessment of the Mathilda Avenue corridor operational issues (Hexagon 2016b; see Appendix H). Based upon the impact significance threshold criteria, the proposed seven projects would generate significant impacts at the following intersection under background plus project conditions:

- Mathilda Avenue & SR 237 Eastbound Ramps (#2) – PM Peak Hour
- Lawrence Expressway & Kifer Road (#12) – AM & PM Peak Hours

Under background conditions, both of these intersections would operate at an unacceptable LOS F during the AM and PM peak hours. The addition of the proposed project traffic to Mathilda Avenue & SR 237 Eastbound Ramps would increase average critical delay by 29.7 seconds and V/C ratio by 0.12 during the PM peak hour compared to background conditions. Similarly, the addition of the proposed project traffic to Lawrence Expressway & Kifer Road would increase the average critical delay by 8.5 seconds and the V/C ratio by 0.012 during the AM peak hour, and increase the average critical delay by 5 seconds and V/C ratio by 0.01 during the PM peak hour. However, implementation of MM T-2b would reduce intersection traffic impacts to less than significant. Each of the proposed seven projects contributes between 2% and 51% of the total trips associated with the proposed seven projects. Consequently, each of the project applicants would be required to pay a commensurate fair share contribution toward the cost of the grade separation described in MM T-2b.

Mitigation Measures

The Mathilda Avenue/U.S. 101/SR 237 interchanges are planned for interchange reconfigurations. Additionally, the Lawrence Expressway & Kifer Road intersection is planned to be grade-separated in the August 2015 update of the *County of Santa Clara Expressway Plan 2040*. No other feasible alternative configuration would achieve acceptable operations at this intersection. With the implementation of the proposed improvements, the intersection is estimated to operate at an acceptable LOS D or better (Hexagon 2016b). Under the City's standards, the proposed mitigation would reduce this impact to *less than significant*.

The proposed seven projects would pay a Sunnyvale TIF under MM T-2b, which would constitute its fair share contribution toward the cost of the interchange reconfigurations for the Mathilda Avenue/U.S. 101/SR 237 interchanges as well as the grade separation of Kifer Road.

Impact T-13: Increased traffic generated by the proposed seven projects would increase congestion at four mixed-flow freeway segments and two HOV segments. With implementation of the mitigation measure for improvements to U.S. 101, impacts could be reduced; however, impacts to U.S. 101 and SR 237 would remain significant and unavoidable.

Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding the trips associated with proposed seven projects to the existing volumes obtained from the 2012 CMP Annual Monitoring Report (Hexagon 2016b). The results of the CMP freeway analysis show that the proposed seven projects would generate trips that meet the 1% threshold for freeway impacts on the following mixed-flow freeway segments that are currently operating at LOS F:

- SR 237 eastbound between Mathilda Avenue and Great America Parkway – PM Peak Hour
- SR 237 westbound between Central Parkway and SR 85 – AM Peak Hour
- U.S. 101 southbound between Fair Oaks Avenue and Great America Parkway – PM Peak Hour
- U.S. 101 northbound between Great America Parkway and Mathilda Avenue – AM Peak Hour

The seven projects would also generate freeway impacts on the following freeway HOV segments:

- U.S. 101, southbound from Fair Oaks Avenue to Great America Parkway (PM Peak Hour)
- U.S. 101, northbound from Great America Parkway to Lawrence Expressway (AM Peak Hour)

The VTA's VTP 2040 proposes to convert HOV lanes to express lanes on SR 237 between North First Street and SR 85. On U.S. 101 between Cochrane Road and Whipple Avenue, the existing HOV lanes are proposed to be converted to express lanes, and a second express lane would be implemented in each direction. On SR 237, the existing HOV lanes would already be operating near or over capacity. Converting the HOV lanes to express lanes would not mitigate the project impact, which would remain *significant and unavoidable*. However, On U.S. 101, converting the existing HOV lane to an express lane and adding an express lane in each direction would increase the capacity of the freeway and would fully mitigate the freeway impacts to less than significant (Hexagon 2016b). Each of the proposed seven projects contributes between 2% and 51% of the total trips associated with the proposed seven projects. Consequently, each of the project applicants would be required to pay a commensurate fair share contribution toward the cost of the freeway segment improvements. However, because the freeway segments are not controlled by the City, Hexagon found that the City cannot ensure the full implementation of this mitigation. Further, Hexagon also found that the timing of implementation as well as availability of overall funding is also uncertain. Therefore, the impacts at these intersections would remain *significant and unavoidable*.

Impact T-14: Increased traffic generated by the proposed seven projects would result in less than significant impacts to freeway ramp capacities.

Freeway ramp volumes under existing plus project conditions were estimated by adding trips associated with the proposed seven projects to the existing volumes obtained from the 2013 average daily traffic counts reported by Caltrans (Hexagon 2016b).

The ramp analysis showed that the freeway ramps currently have sufficient capacity to serve the existing traffic volumes at all studied freeway ramps (Hexagon 2016b). All ramps have a V/C ratio that is well below 1.0, which indicates that the existing traffic demand is far lower than the ramp capacity (Hexagon 2016b). The ramp analysis under existing plus project conditions shows that the selected ramps would continue to have sufficient capacity to serve the projected traffic volumes under existing plus project conditions. Therefore, the proposed seven projects would have a *less than significant* impact on the freeway ramps that provide access to the project sites.

Impact T-15: Implementation of the proposed seven projects would increase demand for the multi-modal transportation facilities. Impacts to transit facilities would be significant and unavoidable.

Transit Facilities

All of the proposed seven projects are closely located to nearby Route 54 or Route 32 bus stops along Mathilda Avenue. Both bus routes connect with the Sunnyvale Transit Center. With the proposed and recommended improvements to pedestrian facilities described above, pedestrian access to the bus stops would be available.

The existing transit lines provide services mainly along Mathilda Avenue and Mary Avenue with 30- to 60-minute headways during the AM and PM peak hours. Transit service to the Project area is limited both in terms of the service area and frequency. In conjunction with the TDM policies (with a trip reduction target of between 20% and 35%), it is expected that all the proposed seven projects in addition to the proposed Irvine project (see Impact T-21) would increase transit demand that may not be accommodated by the existing transit services. It is recommended that the project applicants either provide their own shuttle services to the nearby Caltrain and light rail stations, or coordinate with the City and VTA to increase and/or reroute bus services within the Project area.

All of the proposed seven projects in addition to the proposed Irvine project would generate a significant impact within the Project area at the intersection of Mary Avenue and Central Expressway. Currently, Route 32 and the Mary Moffett Caltrain Shuttle both provide services through this intersection. As discussed above, there exists no feasible mitigation that would fully mitigate the significant impact at this intersection.

The proposed Specific Plan identifies a policy to “work with VTA to identify and implement changes or additions to bus routes in order to better serve the district and decrease headways.” However, the City cannot ensure either the full mitigation of the intersection at Mary Avenue and Central Expressway, or the rerouting of Route 32 and the Mary Moffett Caltrain Shuttle. Therefore, the impact to transit travel times would be *significant and unavoidable*.

Bicycle Facilities

Within the vicinity of the proposed seven project locations, bike lanes are present along Maude Avenue between SR 237 and Pastoria Avenue, on Mary Avenue north of Maude Avenue, and on Almanor Avenue west of Vaqueros Avenue. There is also a bike lane on southbound Mathilda Avenue between Del Rey Avenue and Maude Avenue, and on westbound Maude Avenue between Mathilda Avenue and Pastoria Avenue. The City has also designated Central Expressway, Mary Avenue south of Maude Avenue, and Maude Avenue east of Pastoria Avenue as bike routes. Collector roads such as Pastoria Avenue, San Aleso Avenue, and Del Rey Avenue carry low traffic volumes and are also conducive to bicyclists.

The proposed Specific Plan identifies a policy to "add or improve bike lanes/paths and make connections with the existing bike network." Potential bike facility improvements would include new/improved bike lanes on all of Mary Avenue, Mathilda Avenue, Almanor Avenue, and Maude Avenue within the plan area. Applicants for all seven projects shall coordinate with City staff to implement the identified bicycle facility improvements along their building frontages. Overall impacts to bicycle facilities would be *less than significant*.

Pedestrian Facilities

Sidewalks are present along both sides of all major roadways within the Project area. Collector streets such as Pastoria Avenue, Del Rey Avenue, Almanor Avenue, Palomar Avenue, and Vaqueros Avenue lack sidewalks along some or all segments of the road. Signalized crosswalks with pedestrian push buttons are present on all legs at the intersections of Mathilda Avenue with San Aleso Avenue, Maude Avenue, Indio Way, and California Avenue as well as Pastoria Avenue & Maude Avenue, Mary Avenue & Maude Avenue, and Mary Avenue & Central Expressway. At the intersection of Mathilda Avenue & Almanor Avenue, crosswalks with pedestrian push buttons are present only on the south and east legs.

The proposed Specific Plan identifies a policy to "add crosswalks where they do not exist, increase landscaping and pedestrian amenities through the district, and create new routes to create a more connected pedestrian network." Specifically, the proposed Specific Plan identifies new/improved sidewalks along both sides of all roadway segments within the Project area. Crosswalk improvements are also identified at the intersections of Mathilda Avenue & Almanor Avenue, Mathilda Avenue & Maude Avenue, and Pastoria Avenue & Maude Avenue. The proposed Specific Plan also identifies corridor improvements along Mathilda Avenue from Almanor Avenue to California Avenue, and along Maude Avenue from SR 237 to Mathilda Avenue. Applicants for all seven projects shall coordinate with City staff to implement the identified improvements. Overall impacts to pedestrian facilities would be *less than significant.*

<u>Mitigation Measures</u>

MM T-3 and MM T-6a and -6b would apply. Each of the proposed seven projects contributes between 2% and 51% of the total trips associated with the proposed seven projects. Consequently, each of the project applicants would be required to pay a commensurate fair share contribution toward the cost of the long-term improvements.

Near-Term Seven Projects Cumulative Impacts

Impact T-16: Under 2025 conditions, the proposed seven projects, would contribute to increased traffic generated by approved projects and background traffic growth through year 2025. This would be a significant and unavoidable impact.

Under the combined projects conditions, the proposed project would generate significant impacts on intersection levels of service at the following intersections:

- Mathilda Avenue & SR 237 Eastbound Ramps (#2) – PM Peak Hour (LOS F)
- Lawrence Expressway & Kifer Road (#12) – AM and PM Peak Hour (LOS F)
- Lawrence Expressway & Reed Avenue (#13) – AM and PM Peak Hour (LOS F)
- Mary Avenue & Central Expressway (#38) – PM Peak Hour (LOS F)

As described in Impact T-2 all but one of these intersections would be mitigated by planned long-range improvements, including include Lawrence Expressway Grade Separations, the Mary Avenue Extension, and the Mathilda Avenue/U.S. 101/SR 237 interchange improvement projects.

At the intersection of Mary Avenue and Central Expressway, a third westbound left-turn lane mitigation is identified as a Tier 3 project as part of the August 2015 update of the *County of Santa Clara Expressway Plan 2040*. However, a third westbound left-turn lane would not be enough to mitigate the intersection impact. The addition of a third eastbound left-turn lane with the identified third westbound left-turn lane would fully mitigate the intersection impact, but is currently not identified by the County of Santa Clara. Since this intersection is not within City jurisdiction, the City cannot ensure the implementation of any improvements. The timing of the implementation as well as availability of funding for the identified improvements are uncertain. Therefore, the traffic impact at this intersection would be *significant and unavoidable.*

Implementation of the proposed seven projects would contribute to cumulatively substantial impacts at these intersections.

Mitigation Measures

MM T-2a and MM T-2b would apply.

Near-Term Irvine Project Impacts

Similar to the proposed seven projects, implementation of the proposed Irvine project (described in further detail in Section 2.6, *Pending Near-Term Projects*) would contribute to the long-term impacts described above for the proposed Specific Plan, including incremental increases in intersection, freeway segment, and freeway ramp congestion. Additionally, the proposed Irvine project would also contribute to increased multi-modal transportation facilities demand (see Impact T-21). Construction of the proposed Irvine project would result in similar short-term construction-related impacts as those described in Impact T-1.

Impact T-17: Increased traffic generated by the proposed Irvine project would substantially increase congestion at 2 of the 30 study intersections under Existing plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.

Existing traffic volumes are based on recent traffic counts conducted between the years of 2014 and 2015, the 2014 CMP TRAFFIX database, as well as County records for the expressways (Hexagon 2016c).

Existing traffic volumes with the proposed Irvine project were estimated by adding to existing traffic volumes the traffic generated by the proposed Irvine Company project less the trips generated by the existing uses. Existing plus Project conditions were evaluated relative to existing conditions in order to determine the effects the proposed Irvine project would have on the existing roadway network (Hexagon 2016c).

The results of the Hexagon intersection LOS analysis for the proposed Irvine project indicate that most of the study intersections would operate at acceptable levels during both the AM and PM peak hours during existing plus project conditions, with the following exceptions:

- Lawrence Expressway & Kifer Road (#7) – AM and PM Peak Hour (LOS F)
- Lawrence Expressway & Reed Avenue (#8) – AM and PM Peak Hour (LOS F)

Based upon the impact criteria, the proposed Irvine project would generate significant impacts on intersection levels of service at the following intersections during existing plus project conditions:

- Lawrence Expressway & Kifer Road (#7) – AM Peak Hour (LOS F)
- Lawrence Expressway & Reed Avenue (#8) – PM Peak Hour (LOS F)

Intersection impacts to Lawrence Expressway & Kifer Road would be similar to those described for Impact T-11. Similarly, with the implementation of MM T-2b the intersection would operate at an acceptable LOS C, and this impact would be reduced to *less than significant*.

Under existing conditions Lawrence Expressway & Reed Avenue operated at an unacceptable LOS F during the PM peak hour. The addition of proposed project traffic would increase in average critical delay of 5.7 seconds, and increase the critical V/C ratio by 0.01. However, similar to the Lawrence Expressway & Kifer Road intersection, this intersection is also planned to be grade-separated in the draft County Expressway Plan. With the implementation of this improvement, the intersection is estimated to operate at an acceptable LOS C. Consequently, implementation of MM T-2b would reduce intersection traffic impacts to *less than significant*.

Mitigation Measures

The proposed grade separation on Lawrence Expressway at the intersections with Kifer Road and Reed Avenue, which are assumed under the 2035 scenarios, would fully mitigate the

intersection impacts caused by the proposed Irvine project. Consequently, the project applicant would be required to pay the Sunnyvale TIF (refer to MM T-2b), which would constitute its fair share contribution toward the cost of long-term transportation network improvements, including the grade separation. Under the City's standards, the proposed mitigation would eliminate the significant impacts. With the proposed mitigation, the traffic impact at these intersections would be *less than significant*.

Impact T-18: Increased traffic generated by the proposed Irvine project would substantially increase congestion at 2 of the 36 study intersections under Background plus Project Conditions. With implementation of the mitigation measure for intersection improvements, impacts would be reduced to less than significant.

The background traffic volumes were derived by adding to existing traffic volumes additional trips associated with nearby approved but not constructed development projects. The lists of approved projects were provided by the City of Sunnyvale, the City of Cupertino, the City of Mountain View, and the City of Santa Clara (Hexagon 2016c).

Background plus project traffic volumes were estimated by adding to background traffic volumes the traffic generated by the proposed Irvine project. Trips generated by the existing land uses on the project sites were credited. Background plus project conditions were evaluated relative to background conditions in order to determine potential project impacts resulting from the implementation of the proposed Irvine project (Hexagon 2016c).

The results of the Hexagon intersection LOS analysis for the proposed seven projects indicate that most of the study intersections would operate at acceptable levels during both the AM and PM peak hours under background plus project conditions, with the following exceptions:

- Mathilda Avenue & SR 237 Westbound Ramps (#1) – AM and PM Peak Hours (LOS F)
- Mathilda Avenue & SR 237 Eastbound Ramps (#2) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Kifer Road (#7) – AM and PM Peak Hours (LOS F)
- Lawrence Expressway & Reed Avenue (#8) – AM and PM Peak Hours (LOS F)

The intersections on Mathilda Avenue at the SR 237 ramps are closely-spaced intersections with multiple turning movements that operate as a single coordinated signal system. These intersections experience operational issues beyond what is reflected in the typical HCM LOS calculations by TRAFFIX. Therefore, the Synchro software was used to provide a more accurate assessment of the Mathilda Avenue corridor operational issues (Hexagon 2016c; see Appendix H).

Based upon the impact criteria, the project would generate significant impacts at the following intersection:

- Mathilda Avenue & SR 237 Eastbound Ramps (#2) – PM Peak Hour

- Lawrence Expressway & Kifer Road (#7) – AM & PM Peak Hours

Under background conditions, the Mathilda Avenue & SR 237 Eastbound Ramps intersection operates at an unacceptable LOS F during the PM peak hour. Additionally, the Lawrence Expressway & Kifer Road intersection operates at an unacceptable LOS F during the AM and PM peak hours. The addition of the proposed project traffic to Mathilda Avenue & SR 237 Eastbound Ramps would increase average critical delay by 19.2 seconds and V/C ratio by 0.09 during the PM peak hour compared to background conditions. Similarly, the addition of the proposed project traffic to Lawrence Expressway & Kifer Road would increase the average critical delay by 8.4 seconds and the V/C ratio by 0.012 during the AM peak hour, and increase the average critical delay by 5.1 seconds and V/C ratio by 0.01 during the PM peak hour. However, implementation of MM T-2b would reduce intersection traffic impacts to less than significant.

Mitigation Measures

The Mathilda Avenue/U.S. 101/SR 237 interchanges are planned for interchange reconfigurations. Additionally, the Lawrence Expressway & Kifer Road intersection is planned to be grade-separated in the August 2015 update of the *County of Santa Clara Expressway Plan 2040*. No other feasible alternative configuration would achieve acceptable operations at this intersection. With the implementation of the proposed improvements, the intersection is estimated to operate at an acceptable LOS D or better (Hexagon 2016c). Under the City's standards, the proposed mitigation would reduce this impact to *less than significant*.

MM T-2b would apply.

The proposed seven projects would pay a Sunnyvale TIF under MM T-2b, which would constitute its fair share contribution toward the cost of the interchange reconfigurations for the Mathilda Avenue/U.S. 101/SR 237 interchanges as well as the grade separation of Kifer Road.

Impact T-19: Increased traffic generated by the proposed Irvine project would increase congestion at four mixed-flow freeway segments and two HOV segments. With implementation of the mitigation measure for improvements to U.S. 101, impacts would be reduced; however, impacts to U.S. 101 and SR 237 would remain significant and unavoidable.

Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes obtained from the 2012 CMP Annual Monitoring Report. The results of the CMP freeway analysis show that the proposed Irvine Company project would generate trips that meet the 1% threshold for freeway impacts on the following mixed-flow freeway segments that are currently operating at LOS F:

- SR 237 eastbound from U.S. 101 to Great America parkway – PM Peak Hour
- SR 237 westbound from Central parkway to SR 85 – AM Peak Hour

- U.S. 101 southbound between Fair Oaks Avenue and Great America Parkway – PM Peak Hour
- U.S. 101 northbound between Great America Parkway and Mathilda Avenue – AM Peak Hour

The Irvine Company project would also generate freeway impacts on the following freeway HOV segments:

- U.S. 101, southbound from Fair Oaks Avenue to Great America Parkway (PM Peak Hour)
- U.S. 101, northbound from Great America Parkway to Lawrence Expressway (AM Peak Hour)

The VTA's VTP 2040 proposes to convert HOV lanes to express lanes on SR 237 between North First Street and SR 85. On U.S. 101 between Cochrane Road and Whipple Avenue, the existing HOV lanes are proposed to be converted to express lanes, and a second express lane would be implemented in each direction. On SR 237, the existing HOV lanes would already be operating near or over capacity. Converting the HOV lanes to express lanes would not mitigate the project impact, which would remain *significant and unavoidable*. However, On U.S. 101, converting the existing HOV lane to an express lane and adding an express lane in each direction would increase the capacity of the freeway and would fully mitigate the freeway impacts to less than significant (Hexagon 2016c). Consequently, the project applicant would be required to provide a fair share contribution as described in MM T-3. However, because the freeway segments are not controlled by the City, Hexagon found that the City cannot ensure the full implementation of this mitigation. Further, Hexagon also found that the timing of implementation as well as availability of overall funding are also uncertain. Therefore, the impacts at these intersections would remain *significant and unavoidable*.

Impact T-20: Increased traffic generated by the proposed Irvine project would result in less than significant impacts to freeway ramp capacities.

Impacts to freeway ramps as a result of the proposed Irvine project are similar to those described in Impact T-14. Implementation of the proposed Irvine project would result in less than significant impacts to existing freeway ramp capacities (Hexagon 2016c).

Impact T-21: Implementation of the proposed Irvine project would increase demand for the multi-modal transportation facilities. Impacts to transit facilities would be significant and unavoidable.

Transit Facilities

Within the immediate vicinity of the Specific Plan area, Route 32 stops at the intersections of Mary Avenue & Central Expressway, approximately 2,000 feet south of the Irvine project site. Route 54 stops at the intersections of Mathilda with Maude, Del Rey, and Almanor, approximately 2,000 feet east of the proposed Irvine project site.

Implementation of the proposed Irvine project, in addition to the proposed seven projects, would generate a significant impact within the Project area at the intersection of Mary Avenue & Central Expressway. Currently, Route 32 and the Mary Moffett Caltrain Shuttle both provide services through this intersection. As discussed above, there exists no feasible mitigation that would fully mitigate the significant impact at this intersection.

Currently, both Routes 32 and 54 have peak hour headways of 30 minutes, which would be inadequate to serve the increased demand due primarily to the proposed seven projects. Hexagon recommended that the project applicants either provide their own shuttle services to the nearby Caltrain and light rail stations, or coordinate with the City and VTA to increase bus services within the Project area.

The proposed Specific Plan identifies a policy to "work with VTA to identify and implement changes or additions to bus routes in order to better serve the district and decrease headways." However, the City cannot ensure either the full mitigation of the intersection at Mary Avenue and Central Expressway, or the rerouting of Route 32 and the Mary Moffett Caltrain Shuttle. Therefore, the impact to transit travel times would be *significant and unavoidable*.

Pedestrian Facilities

Sidewalks are present along both sides of all major roadways within the Project area. Collector streets such as Pastoria Avenue, Del Rey Avenue, Almanor Avenue, Palomar Avenue, and Vaqueros Avenue lack sidewalks along some or all segments of the road. Signalized crosswalks with pedestrian push buttons are present on all legs at the intersections of Mathilda Avenue & San Aleso Avenue, Mathilda Avenue & Maude Avenue, Mathilda Avenue & Indio Way, Mathilda Avenue & California Avenue, Pastoria Avenue & Maude Avenue, Mary Avenue & Maude Avenue, and Mary Avenue & Central Expressway. At the intersection of Mathilda Avenue & Almanor Avenue, crosswalks with pedestrian push buttons are present only on the south and east legs.

The proposed Specific Plan identifies a policy to "add crosswalks where they do not exist, increase landscaping and pedestrian amenities through the district, and create new routes to create a more connected pedestrian network." The proposed Specific Plan identifies new/improved sidewalks along both sides of all roadway segments within the Project area. Crosswalk improvements are also identified at the intersections of Mathilda Avenue & Almanor Avenue, Mathilda Avenue & Maude Avenue, and Pastoria Avenue & Maude Avenue. The Specific Plan also identifies corridor improvements along Mathilda Avenue from Almanor Avenue to California Avenue, and along Maude Avenue from SR 237 to Mathilda Avenue. The project applicant shall coordinate with City staff to implement the identified improvements. Overall impacts to pedestrian facilities would be *less than significant*.

Bicycle Facilities

Within the Project area, bike lanes are present along Maude Avenue between SR 237 and Pastoria Avenue, on Mary Avenue north of Maude Avenue, and on Almanor Avenue west of Vaqueros Avenue. There is also a bike lane on southbound Mathilda Avenue between Del Rey

Avenue and Maude Avenue, and on westbound Maude Avenue between Mathilda Avenue and Pastoria Avenue. The City has also designated Central Expressway, Mary Avenue south of Maude Avenue, and Maude Avenue east of Pastoria Avenue as bike routes. Collector roads such as Pastoria Avenue, San Aleso Avenue, and Del Rey Avenue carry low traffic volumes and are conducive to bicyclists.

The proposed Specific Plan identifies a policy to "add or improve bike lanes/paths and make connections with the existing bike network." Potential bike facility improvements would include new/improved bike lanes on all of Mary Avenue, Mathilda Avenue, Almanor Avenue, and Maude Avenue within the Project area. The project applicant shall coordinate with City staff to implement the identified improvements. Overall impacts to bicycle facilities would be *less than significant*.

Mitigation Measures

MM T-3 and MM T-6a and -6b would apply.

Near-Term Irvine Project Cumulative Impacts

Impact T-22: Under 2025 conditions, the proposed Irvine project, would contribute to increased traffic generated by approved projects and background traffic growth through year 2025. This would be a significant and unavoidable impact.

Under the combined projects conditions, the proposed project would generate significant impacts on intersection levels of service at the following intersections:

- Mathilda Avenue & SR 237 Eastbound Ramps (#2) – PM Peak Hour (LOS F)
- Lawrence Expressway & Kifer Road (#7) – AM and PM Peak Hour (LOS F)
- Lawrence Expressway & Reed Avenue (#8) – AM and PM Peak Hour (LOS F)
- Mary Avenue & Central Expressway (#26) – PM Peak Hour (LOS F)

As described in Impact T-2 all but one of these intersections would be mitigated by planned long-range improvements. The long-range improvements include Lawrence Expressway Grade Separations, the Mary Avenue Extension, and the Mathilda Avenue/U.S. 101/SR 237 interchange improvement projects.

At the intersection of Mary Avenue and Central Expressway, a third westbound left-turn lane mitigation is identified as a Tier 3 project as part of the August 2015 update of the *County of Santa Clara Expressway Plan 2040*. However, a third westbound left-turn lane would not be enough to mitigate the intersection impact. The addition of a third eastbound left-turn lane with the identified third westbound left-turn lane would fully mitigate the intersection impact, but is currently not identified by the County of Santa Clara. Since this intersection is not within City jurisdiction, the City cannot ensure the implementation of any improvements. The timing of the implementation as well as availability of funding for the identified improvements are uncertain. Therefore, the traffic impact at this intersection would be *significant and unavoidable.*

Implementation of the proposed Irvine projects would contribute to cumulatively substantial impacts at this intersection.

3.11 UTILITIES AND INFRASTRUCTURE

This EIR section describes existing and planned utilities serving Peery Park (Project area), and evaluates the operation and service capacity of these utilities with the development of the Peery Park Specific Plan (Project). Utilities necessary for future development occurring under the proposed Specific Plan would include water, wastewater (sewer), solid waste disposal services, and energy provision services, such as electricity and natural gas. The analysis was prepared, in part, based on information obtained from utility service providers. The Project area is currently served by the utilities shown in Table 3.11-1.

Table 3.11-1. Utilities Serving the Project Area

Water Infrastructure/Supply	City of Sunnyvale Environmental Services Department
Wastewater (Sewer) Infrastructure	City of Sunnyvale
Solid Waste	City of Sunnyvale / Specialty Solid Waste and Recycling
Electric	Pacific Gas and Electric Company (PG&E)
Natural Gas	PG&E

Assessment of the adequacy of utilities to serve new development involves review of capacity of existing conveyance infrastructure (e.g., water, sewer, and power lines), supporting facilities, such as sewage pump stations or electric substation, and production or disposal facilities, including water wells and pumps, storage tanks, or wastewater treatment plants. As part of this analysis, the EIR consultant reviewed City of Sunnyvale (City) and service provider plans and infrastructure diagrams and contacted all utility providers to ascertain the accuracy of this information. A senior utility engineer provided review and assessment of key utilities, including a technical memorandum prepared for existing water supply and wastewater disposal services. For specific information regarding groundwater availability and quality and storm water drainage, please refer to Section 3.5, *Hazards and Hazardous Materials* and Chapter 4.0, *Other CEQA Issues, Section 4.4, Hydrology and Water Quality.*

3.11.1 Water Infrastructure and Supply

3.11.1.1 Environmental Setting

Existing Water Supply

The City obtains water from four different sources: groundwater from seven local operating wells; imported Central Valley Project and Delta water from the Santa Clara Valley Water District (SCVWD); Hetch Hetchy and Sunol Valley water supply from the San Francisco Public Utilities Commission (SFPUC) for potable uses; and recycled water produced at the Sunnyvale Water Pollution Control Plant (WPCP) for non-potable use. The water supply from local wells, SCVWD, and SFPUC all meet state and federal drinking water quality standards. Recycled water is utilized to meet strict state requirements for non-potable use to irrigate landscaping and meet any other acceptable watering needs. In addition, there are about a dozen service area pockets in the City

receiving water from the California Water Service Company (CAL Water) (City of Sunnyvale 2015a).

Water districts serving the City include the SCVWD and the SFPUC. SCVWD receives its water from the Central Valley Project and the State Water Project as well as surface water from local reservoirs. SFPUC receives the majority of its water from the Sierra Nevada Mountains, delivered through the Hetch Hetchy aqueducts, and includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties (BAWSCA 2015). The City continues to develop a recycled water program to reduce demand for water supplies. Quantities of water from each supply to the City are identified below (Table 3.11-2) (City of Sunnyvale 2011a).

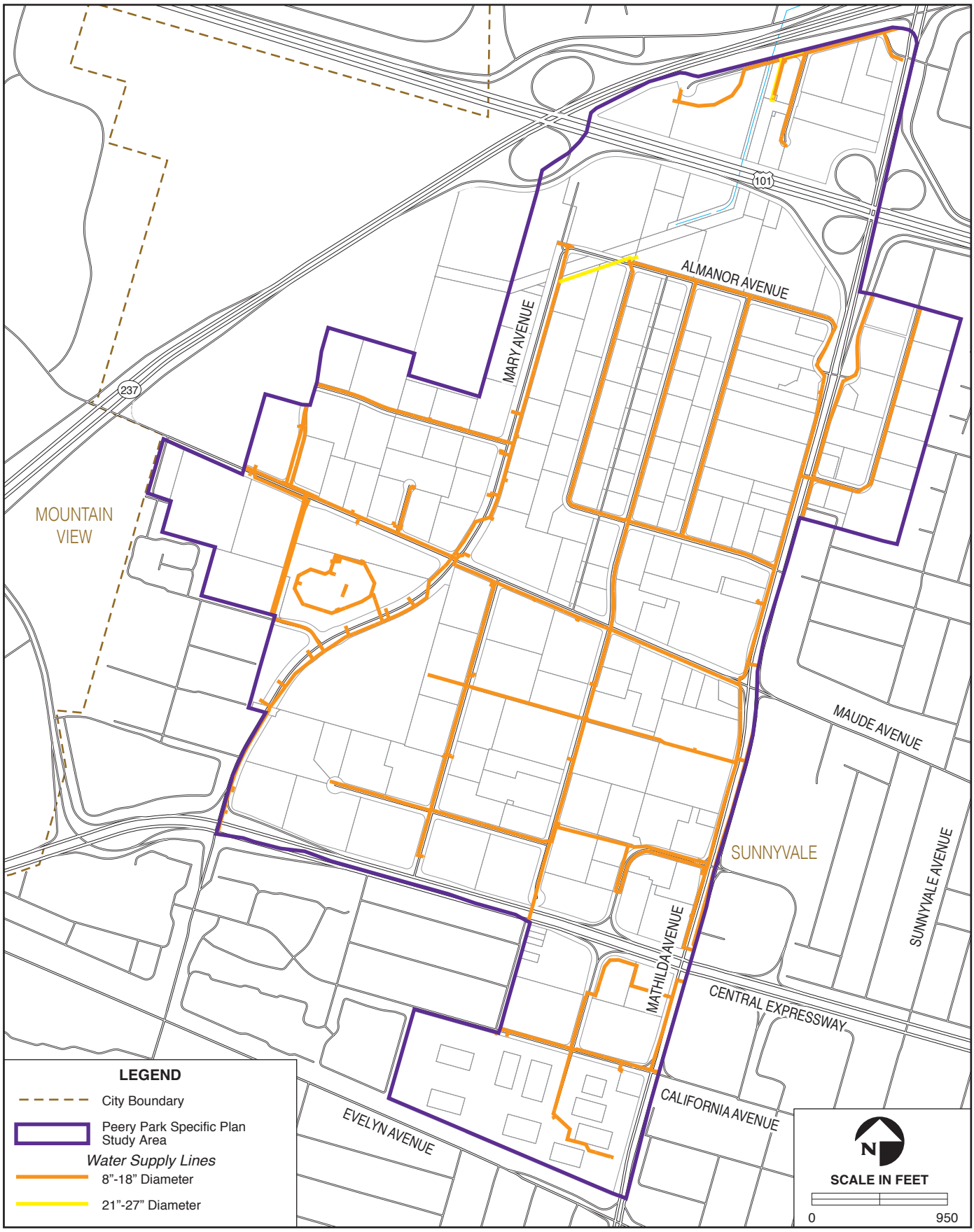
Table 3.11-2. Water Suppliers for Sunnyvale

Water Supply Sources	Total amount of Water Supplied in 2010 (AFY)	Projected total amount of water supplies in 2030 (AFY)	Percentage of City Water Supplied by each Source
SFPUC	8,982	10,003	42%
SCVWD	9,331	12,728	43%
Groundwater	1,629	1,000	8%
Recycled Water	1,523	1,775	7%
Total Supply	21,465	25,506	100%

Source: (City of Sunnyvale 2011a).

Water Distribution System

The City Environmental Service Department is a retail agency providing potable and non-potable water throughout the City. California Water Service Company (Cal Water) is a private agency that retails potable drinking water in small pocket areas of the City. The City owns, operates, and maintains a water supply and distribution system that serves an area of approximately 24 square miles through a 340 mile closed network of water lines ranging from 4 to 36 inches in diameter. The distribution system is divided into three pressure zones based on elevations. Zone I includes roughly the entire region north of El Camino Real and is supplied primarily by SFPUC. Zone II includes roughly everything south of El Camino Real except the southwest corner of the City and is served by a mixture of SFPUC water, SCVWD treated water, Cal Water, and local groundwater wells. Zone III includes all the southwest corner of the City and is served by a combination of SCVWD treated water and local well water (City of Sunnyvale 2011a).



amec foster wheeler

Water Supply System

FIGURE 3.11-1

The Project area lies within Zone I of the City's water system. The water lines within the Project area range from 4 to 24 inches in diameter and receive downstream pressure from the SFPUC water facility producing an operating pressure of approximately 130 pounds per square inch (psi). However, the water distribution system has pressure regulating valves that reduce pressure prior to delivery to customers (City of Sunnyvale 2011a). Water pressure within distribution systems is maintained between 40 and 105 psi throughout all three zones.

The Project area's water supply conveyance system extends 66,310 linear feet, or over 12.5 miles, with pipe diameters ranging from 4 inches to 24 inches. Depending on system pressurization creating flow rates between 3 and 10 feet per second (fps), the water system can convey between 470 and 17,877 gallons per minute (gpm). Based on these velocities and pipe diameters, the total amount of water supplied ranges from 3,406 to 25,822 gpm (Table 3.11-3). Many water lines "dead end" within existing parcels and buildings, and should either be extended into a looped system or eliminated during any future redevelopment efforts to improve overall operations efficiency of the system (Figure 3.11-1). Although water demand records for the Project area are not tabulated separately, assuming a general water demand factor of 125 gals/1,000 square feet (sf) per day for industrial development, the projected average consumption of the Project given the existing amount of development (6,568,346 sf) would be 853,885 gallons per day (gpd) (City of Sunnyvale 2011a).

Table 3.11-3. Water Delivery System in the Project Area

Pipe Diameter (inches)	Total Length (feet)	Flow Rate (gpm)	
		Low Velocity (3 fps)	High Velocity (10 fps)
< 8" – Building Connections	33,368	N/A	N/A
8" - 18" -	31,795	470-1,570	2,378-7,945
20" - 27"	1,147	2,936-9,800	5,351-17,877
TOTAL	66,310	3,406-11,370	7,729-25,822

Source: (City of Sunnyvale 2013a).

This water delivery system not only serves over 6 million sf of existing development within the Project area, but also provides water to 161 fire hydrants distributed approximately 300 feet apart along public right-of-ways within the Project area. A gap in this consistent placement of hydrants occurs along Mathilda Avenue from Almanor Avenue north to Ross Drive. This gap in fire hydrant distribution appears to be related to the US Highway 101 overpass and a general lack of structures along this roadway segment. Adequate supply and pressure are present to serve all fire hydrants.

Groundwater

The City owns and operates seven local groundwater wells for potable purposes. The groundwater basin in Santa Clara County is not adjudicated[1], though as a result of the ongoing drought, the SCVWD has expressed concern about over drafting the groundwater supply. The

[1] Adjudication is a legal process to determine who has a valid water right, how much water can be used, and priority during shortages (Washington State 2015).

water supplied by the wells is used to supplement the imported water supplies during peak demands, specifically during summer months and emergency situations. The City has worked on improving the groundwater supplies, water quality, and reliability through recent improvements including water well connections and electrical upgrades. These wells are considered to be most vulnerable to contamination from leaky underground fuel tanks, cleaning chemicals, and old septic systems; although, the SCVWD provides the City with conservation and maintenance assistance of the wells. The SCVWD charges a fee to pump water from these wells to cover the cost of managing, recharging, and protecting the groundwater basin (City of Sunnyvale 2015a).

Santa Clara Valley Water District

The SCVWD was founded in 1929 and is the management agency for the Santa Clara groundwater basin. The SCVWD manages 10 dams and reservoirs, three water treatment plants, a recycled water purification center, a water quality laboratory, and various groundwater recharge ponds and streams. In addition, the SCVWD provides water supplies and management services to local municipalities, such as the City (SCVWD 2015a).

The Rinconada Water Treatment Plant is the second largest of the SCVWD. It was completed in 1967, and has a capacity to treat and delivering up to 80 million gallons per day.

The City purchases imported water from the SCVWD and receives management services for the City owned groundwater wells. The current contractual agreement between the City and SCVWD went into effect in 1976 with a 75 year term, and as such will finish in 2051. The City maintains two points of contact for the delivery of imported water from SCVWD, which mainly serves the southern end of the City, south of El Camino Real. SCVWD receives water from the State Water Project and the Central Valley Project via the United States Bureau of Reclamation, which includes a network of water sources including several reservoirs such as the Sacramento River Delta and Anderson Lake. This water supply is treated at the Rinconada Water Treatment Plant and then it is conveyed to the City through the West Valley transmission main (City of Sunnyvale 2015a; SCVWD 2015b).

San Francisco Public Utilities Commission

The SFPUC is a department of the County of San Francisco that was formed in 1932. This department provides water, wastewater, and power services to the San Francisco municipal departments. It also provides wholesale water to the three Bay Area counties, including Santa Clara County. Most of the water supply that the SFPUC receives and treats originates from snowpack stored in the Hetch Hetchy Reservoir, in the northwestern portion of Yosemite National Park (City of Sunnyvale 2015a; SFPUC 2015).

The City operates six connections from the SFPUC Bay Division pipelines. The water that originates at the Hetch Hetchy and other reservoirs is blended together and processed through a

series of tunnels, pipelines and treatment systems. The water is conveyed through the Irvington Tunnel, and the local Bay Division pipelines before entering the City water distribution system (City of Sunnyvale 2015a).

The business relationship between the SFPUC and the City is largely defined by the "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County" (WS Agreement) entered into in July 2009. The WS Agreement is supplemented by an individual Water Supply Contract between SFPUC and each individual retailer, also entered into in July 2009. These contracts expire in 25 years. The City has an Individual Supply Guarantee (ISG) of 12.58 million gallons per day (MGD) (or approximately 14,100 acre feet per year). Although the WS Agreement and accompanying Water Supply Contract expire in 2034, the ISG (which quantifies San Francisco's obligation to supply water to its individual wholesale customers) survives their expiration and continues indefinitely. The City's contract also includes an Individual Supply Allocation of 9.44 MGD (10,575 AFY) thru 2018, and a minimum purchase amount of 8.93 MGD (10,003 AFY), which Sunnyvale agrees to buy, regardless of whether sales drop below this level.

Recycled Water

The City has implemented a water recycling program that provides a sustainable and drought-resistant water supply for non-potable uses. Wastewater generated in the City is conveyed through sewer pipelines into the City's WPCP. The WPCP treats wastewater using a tertiary level treatment including oxidation, filtration, and disinfection. The water produced meets all state requirements for disinfected tertiary water and is approved for use in all agricultural situations, including orchards and food production. Currently, recycled water is only being used to irrigate parks, golf courses, and industrial parks in the northern region of the City. The City has constructed a separate distribution network of water lines in the northern region of the City to supply recycled water (City of Sunnyvale 2015b).

The WPCP has an average dry weather flow capacity of 29.5 MGD, though the capacity to treat water is lower. The highest use of recycled water occurs in the summer for landscape irrigation. The reuse rate of water in the past years has exceeded the regional goal of 20 percent, as such the City estimates that recycled water may be available city-wide in the future (City of Sunnyvale 2015b).

In September 2013, the City Council approved the Recycled Water Feasibility Study that identifies possible extensions of the recycled water system. Possible extensions to serve the south end of Sunnyvale along Wolfe Road are currently underway. Possible extensions to serve the south end of the City, in addition to Cupertino and Los Altos, may be evaluated in the future.

3.11.1.2 Regulatory Setting

A number of state and local regulations address water supply and water infrastructure. For regulations pertaining to water quality, please refer to Chapter 4.0, *Other CEQA Issues,* Section 4.4, *Hydrology and Water Quality*.

State Policies and Regulations

California Governors Drought Declarations of 2014/2015. California State Governor Brown on January 17, 2014 proclaimed a State of Emergency and directed state officials to take all necessary actions to make water immediately available. On April 25, 2014, the Governor issued an executive order to speed up actions necessary to reduce harmful effects of the drought, and he called on all Californians to redouble their efforts to conserve water. On December 22, 2014 Governor Brown issued Executive Order B-28-14 extending directives to the Department of Water Resources and the Water Board to take actions necessary to make water immediately available through May 31, 2016 and to extend CEQA suspensions for certain water supply projects. On April 1, 2015, the governor issued Executive Order B-29-15. Key provisions include ordering the State Water Resources Control Board to impose restrictions to achieve a 25 percent reduction in potable urban water usage through February 28, 2016. The Governor's drought declaration also calls upon local urban water suppliers and municipalities to implement their local water shortage contingency plans immediately in order to avoid or forestall outright restrictions that could become necessary later in the drought season.

California Water Plan: Update 2013 provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The plan outlines actions that together bring reliability, restoration, and resilience to California water resources, reinforcing the value of integrated water management, and examining policies that allow water managers to combine flood management, environmental stewardship, and surface water and groundwater supply.

Urban Water Management Planning Act. The Urban Water Management Planning Act (Act) (California Water Code Division 6, Part 2.6, Sections 10610 et seq.) was developed due to concerns over potential water supply shortages throughout California. It requires information on water supply reliability and water use efficiency measures. Urban water suppliers are required, as part of the Act, to develop and implement Urban Water Management Plans (UWMPs) to describe water supply, service area demand, population trends and efforts to promote efficient use and management of water resources. An UWMP is intended to serve as a water supply and demand planning document that is updated every five years to reflect changes in the water supplier's service area including water supply trends, and conservation and water use efficiency policies. Specifically, municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 AFY must adopt an UWMP.

CalGreen Building Code. California Code of Regulations Title 24, Part 11 of the California Code of Regulations (CCR), establishes the California Green Building Code or CALGreen. The CAL Green Code was recently updated in 2013 and went into effect January 1, 2014. CALGreen sets forth water efficiency standards (i.e., maximum flow rates) for all new federally-regulated plumbing fittings and fixtures. The 2013 mandatory standards for water use are shown in Table 3.11-4.

Table 3.11-4. CAL Green Mandatory Maximum Flow Rates

Facility	Residential	Commercial
Showerheads	2.0 gpm at 80 psi	
Residential Lavatory Faucet	1.5 gpm at 60 psi	N/A
Lavatory Faucet in Common Areas	0.5 gpm at 60 psi	
Kitchen Faucet	1.8 gpm at 60 psi	
Water Closets	1.28 gallons per flush	
Urinals	0.5 gallons per flush	
Metering Faucets	0.25 gallons per cycle	
Wash Fountains	N/A	20 gpm at 60 psi

gpm: gallons per minute; psi = pounds per square inch
Source: (CALGreen 2013).

California Water Code Sections 10910 et seq. Senate Bill (SB) 610 was adopted in 2001 and amended the statutes of the Urban Water Management Planning Act, as well as the CWC Sections 10910 et seq. SB 610 reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process.

CWC Section 10910 requires that for specified projects subject to CEQA, the urban water supplier must prepare a water supply assessment (WSA) that determines whether the projected water demand associated with a proposed project is included as part of the most recently adopted UWMP. Specifically, the WSA identifies adequate available water supplies necessary to meet the demand, as well as the cumulative demand for the general region over the next 20 years, under average, single-dry, and multiple dry year water conditions. Under CWC Section 10910, a WSA need only be prepared if a project exceeds the following specific thresholds of development:

- A proposed residential development of more than 500 dwelling units
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 sf of floor space
- A commercial building employing more than 1,000 persons or having more than 250,000 sf of floor space
- A hotel or motel with more than 500 rooms
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area
- A mixed-use project that includes one or more of these elements
- A project creating the equivalent water demand of 500 residential units

The WSA must be approved by the public water system at a regular or special meeting and must be incorporated into the CEQA document. The lead agency must then make certain findings related to water supply based on the WSA. In addition, under SB 610, an urban water supplier responsible for the preparation and periodic updating of an UWMP must describe the water supply projects and programs that may be undertaken to meet the total projected water use of the service

area. A WSA was prepared for the Land Use and Transportation Element (LUTE) in November 2015. Since the Project's water demand falls within the future water demand projected in the LUTE WSA, no WSA is needed for the Project.

2009 Water Conservation Act (SB X7-7): Senate Bill X7-7 was enacted in November 2009, requiring all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita urban water use by December 31, 2020 through water use targets for urban water suppliers, water management plans, and best management practices. Urban retailers can achieve the SB X7-7 goal using one of four specified methods:

- Option 1: 80 percent of baseline use (reduction of 20 percent)
- Option 2: Sum of specified performance standards
- Option 3: 95 percent of Department of Water Resources (DWR) Hydrologic Region target
- Option 4: A flexible alternative designed to adjust to local circumstances.

Urban retail water suppliers must monitor and report compliance on an individual or regional basis. Individual urban retail water suppliers are not required to achieve a reduction in urban per capita water use greater than 20 percent. Compliance with the water reduction target is required for continued state water grants and loan eligibility. After 2021, failure of urban retail water suppliers to meet their targets establishes a violation of law for administrative or judicial proceedings.

Regional Policies and Regulations

Santa Clara Valley Water District, 2010 Urban Water Management Plan

The 2010 SCVWD UWMP reflects the current status on water supply, water usage, recycled water, and water use efficiency programs. The plan reflects on the water supply future of Santa Clara County over the next 25 years. The plan addresses regulations to manage the projected demand and the challenges to supply reliability. It is used as a planning document to guide the water use and management efforts of the SCVWD.

Local Policies and Regulations

City of Sunnyvale Urban Water Management Plan

The City UWMP reflects the city's current supply and demand situation along with an updated presentation of future supplies, demand forecasted, and measures to monitor and control future demand. The UWMP, along with the city planning documents, is used by City staff to guide the City's water use and management efforts (SCVWD 2010).

City of Sunnyvale General Plan

Policies from the City's 2011 General Plan that relate to utilities are listed below (City of Sunnyvale 2011b).

Goal EM.1 Adequate Water Supplies. Acquire and manage water supplies so that existing and future reasonable demands for water, as projected in the 20-year forecast are reliably met.

Policy EM.1.2 Maximize recycled water use for all approved purposes both within and in areas adjacent to the City, where feasible.

Policy EM-1.3 Provide enough redundancy in the water supply system so that minimum potable water demand and fire suppression requirements can be met under both normal and emergency circumstances.

Goal EM-2 Water Conservation. Promote more efficient use of the City's water resources to reduce the demands placed on the City's water supplies.

Policy EM-2.1 Lower overall water demand through the effective use of water conservation programs in the residential, commercial, industrial and landscaping arenas.

Goal EM-3 Reliable and Safe Water Distribution. Proactively maintain the water distribution system infrastructure to ensure the reliable and safe delivery of water under normal and emergency conditions to both current and future customers.

Policy EM-3.1 Maintain a preventive maintenance program that provides for reliability of potable and recycled water systems.

Policy EM-3.2 Maintain a proactive Long Range Infrastructure Plan that identifies schedules and funds and implements needed system upgrades and replacements before facilities exceed their effective useful lives.

City of Sunnyvale Water Conservation Program (WCP)

The City has taken action on the California drought emergency. On May 12, 2015 the City Council declared a water reduction target of 30 percent through June 30th, 2016. The reduction and conservation plan regulates irrigation and implements a citation for violating these regulations.

3.11.1.3 Impacts and Mitigation Measures

Significance Criteria

The following thresholds of significance are based on Appendix G of the 2015 CEQA Guidelines. For purposes of this EIR, implementation of the Project may have a significant adverse impact on water supply and infrastructure if:

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

Methodology

The section analyzes proposed goals and policies within the Project area to determine whether or not implementation of the Project would result in significant impacts to water infrastructure and supply. The analysis further identifies and describes how the proposed goals and policies, in addition to existing regulations and standards (e.g., General Plan and Water Utility Master Plan), provide enforceable requirements and/or performance standards that avoid or minimize significant impacts and uphold the City's standing as an environmentally conscious community.

Impact PU-1: Implementation of the Project may require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be reduced to less than significant with mitigation.

To analyze potential upgrades needed for the water supply systems to serve development under the Project, new development expected to occur was analyzed for its associated increase in water demand, as shown in Table 3.11-5. The Project's anticipated buildout was analyzed for additional square feet of commercial, industrial, and residential space. Water duty factors, established by the November 2010 City of Sunnyvale Water Utility Master Plan, were used to calculate the potential increase in water demand associated with the Project (City of Sunnyvale 2010).

Commercial, industrial, and medium density residential uses anticipated to occur under the Project would increase water demand. Based on the water duty factors from the 2010 Water Utility Master Plan and the Draft WSA for the LUTE, it is estimated that new land uses anticipated to occur under the Project would potentially increase water demand by an estimated 340,550 gpd (refer to Table 3.11-5). The increased demand for water would have the potential to result in the need for new or expanded water infrastructure and/or water supplies.

Table 3.11-5. Estimated Increased Water Demand generated by the Project

Land Use/ Zoning	Project Buildout	Water Duty Factors[1]	Estimated Increased Water Demand (gpd)
Commercial	200,000 sf	270 gpd /1000 sf	54,000
Industrial	2,000,000 sf	125 gpd /1000 sf	250,000
Medium Density Residential (R3)	215 units	170 gpd / unit	36,550
TOTAL			340,550 gpd

[1] The estimated increase in water demand was calculated using the duty factors from the 2010 City of Sunnyvale Water Utility Master Plan and WSA for the LUTE (City of Sunnyvale 2010, 2015c).

Project Area Water Distribution System

New land uses anticipated to occur under the Project would increase the demand on the City's existing water distribution system, which consists of a network of water lines of various sizes and ages. With the increase in water demand, new on-site and off-site improvements (both public and private) would be required to provide adequate service. Preliminary analysis indicate that several water pipeline segments within the Project area appear to be undersized and would likely need to be upgraded over the course of the Project. Analysis conducted by the EIR consultant's Project Engineer found that potential upgrades included segments that are currently undersized and would need to be upgraded to 12 inch pipes to accommodate the additional circulation and fire flow requirements in the supply lines. Aside from upsizing pipe segments, the water system has many dead ends that should be eliminated or connected into a looped network to improve the operation and efficiency of the system to accommodate land uses anticipated to occur under the Project. Adequacy of pipeline shall be evaluated on a project-by-project basis to assess if upsizing of certain pipeline segments would be needed. For example, to accommodate the potential activity center in the northern end of the Project area along Almanor Avenue, the water pipeline along Almanor Avenue would need to be upsized from an 8 to 12 inch pipe. Table 3.11-6 provides a list of example pipelines that would need improvement if development would be proposed within the region of the pipeline segment. However, as mentioned above these improvements would be evaluated on a project-by-project basis.

Table 3.11-6. Projected Undersized Water Line Pipe Segments

Water Line Location	Length (ft)	Current Size (in.)	Status	Size to serve Project (in.)
Saborante (portion California & Central)	472	8	undersized	12
Mathilda (portion Indio & Maude)	739	8	undersized	12
Maude (portion Mary to Potrero)	375	10	undersized	12
Mathilda (portion Del Rey & Almanor	1,334	8	undersized	12
Almanor (portion Palomar & Vaqueros)	885	8	undersized	12

Based upon the size of existing water lines, new land uses anticipated to occur under the Project would potentially result in the need for construction of new water facilities or expansion of existing facilities. With assurance of adequate funds to finance the capital improvements necessary as provided for in MM UT-1, impacts would be reduced. MM UT-1, Peery Park Infrastructure Fee (PPIF), would be in compliance with Policy 3.2 of the Environmental Management Element in the General Plan and would ensure that responsible agencies and developers would be responsible to pay a fee to fund the improvements. Therefore, impacts would be less than significant with mitigation.

Replacement of several water lines in the Project area would also create secondary short-term periodic construction impacts. Construction of new water lines would require excavation, removal of older mains, and installation of the new lines located within existing paved streets and public

rights of way. This would involve typical short term construction impacts, such as air emissions, noise, and disruption of traffic flows, as discussed in Sections 3.2, 3.7, and 3.10, respectively.

Mitigation Measures

MM UT-1. Peery Park Infrastructure Fee: The City shall ensure adequate financing for funding of infrastructure improvements to serve the Project area. The PPIF shall be calculated prior to the approval of the first entitlements for a development within the Project area, following adoption of the Project. All agencies or developers responsible for new development within the Project area shall be conditioned to be subject to payment of its fair share of any impact fees identified under this program. The PPIF shall determine the costs of and establish a funding program for capital improvements to upgrade water delivery as needed to serve the demands of new land uses anticipated to occur under the Project. As part of the PPIF, a supplemental water system impact fee shall be established to assess developers their proportional cost of water line improvements to accommodate the planned development capacity in Peery Park. Each project will be required to prepare a hydraulic analysis to determine the required fire flow requirement for the site. As determined by the City, a developer would either pay an impact fee for its proportional share of the cost of Peery Park improvements, or be required to upgrade/replace specific water lines that serve the project site.

The PPIF shall also:

a. Identify the cost of improvements to or replacement of undersized water and wastewater lines within the Project area needed to serve the Project;
b. Clearly apportion existing and projected demand on these facilities and costs between existing users, the City and proposed future development.
c. Identify potential funding mechanisms for sewer and water line construction, including the equitable sharing of costs between new development, the City and existing users, including development impact fees, grants, assessments, etc.
d. Identify the impact fees for all residential and non-residential development to ensure that development pays its fair share of public infrastructure costs; and
e. Include a regular fee update schedule, consistent with the City's Capital Improvement Program.

Residual Impact

Implementation of MM UT-1 and compliance with existing local regulations would ensure the funding of necessary improvements to the water distribution system to serve future land uses anticipated to occur under the Project. Therefore, potential impacts to water infrastructure would be reduced to *less than significant with mitigation*.

Impact UT-2: The Project would increase the demand for water; however, this demand would be adequately met by existing and planned future water supplies. This impact would be *less than significant*.

As described in Impact UT-1 above, the Project would increase water demand in the Project area, however, the City has an adequate amount of water supply to accommodate the increased demand generated from the anticipated development under the Project. The development anticipated to occur under the Project would potentially increase demand by an estimated 340,550 gpd (382 AFY). Current projections from the City estimate a total maximum water supply of 25,791 AFY from all its supply sources by 2030. According to the 2010 UWMP, the City projects a demand of 23,732 AFY by 2030. Adding the increased demand of 382 AFY that would potentially be generated by the project, would still leave the City with excess of approximately 1,678 AFY of water supply (see Table 3.11-7) (City of Sunnyvale 2011a). The City is also increasing the use of reused water for non-potable purposes, and it projects to increase its supply over the years to potentially have supply to serve more locations around the City. Additionally, the draft WSA for the LUTE estimates that projected demand for 2030 under the LUTE would be 27,211 AFY, however, it also projects a supply total of 37,975 AFY resulting in a surplus of approximately 10,764 AFY which is still enough to serve the Project (City of Sunnyvale 2015c). Therefore, there would be sufficient water supply to serve the water demands of the Project and this impact would be *less than significant*.

Table 3.11-7. Projected Water Supply and Demand in 2030

Description	Amounts
Total Projected Water Supply[a]	25,791 AFY
Citywide Projected Demand in 2030 (without Project)[b]	23,731 AFY
Project Demand	382 AFY
Available Remaining Supply	1,678 AFY

[a] Projection for water supply availability includes 10,003AFY from the SFPUC, 12,728 AFY from SCVWD, 1,000 AFY from local wells, and 1,775 AFY from recycled water.
[b] Projected water demand from the 2010 Urban Water Master Plan

Cumulative Impacts

The cumulative setting for water services, including supplies and related infrastructure, consists of City boundaries and SCVWD's service boundaries, which include the entirety of Santa Clara County. In addition, the cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in the SFPUD and Cal Water service areas and the Santa Clara County Groundwater Basin.

Water Demand

The Project would allow increased development within the Project area that would contribute to the overall development in the City. This growth would consist of projected increases to water demand. However, as discussed in Impact UT-2, local water supplies would be adequate to serve buildout throughout the City. The Santa Clara Groundwater Basin is not adjudicated and has not been identified or projected to be in overdraft, as such water demand increases would be adequately served with no effect on the Santa Clara Groundwater Basin (City of Sunnyvale 2015a). Additionally, compliance with state and local regulation on water usage and conservation, would ensure reliability of water supply sources for the City and other service area. Therefore, it

is assumed that adequate supply would be available to meet cumulative demand and impacts would be *less than significant*.

Water Supply Distribution System

The Project could also contribute to impacts to the City's water supply system, contributing the need of infrastructure upgrades to serve anticipated development. In addition, regional growth would also result in the need for new water supply infrastructure. However, it is anticipated that such infrastructure would be evaluated on a project-by-project basis and that any necessary improvements would be required to be installed by developers as part of individual developments. Implementation of a mitigation, such as MM UT-1, would ensure that funding is available for such improvements and would be in compliance with local regulations on public infrastructure improvements. Therefore, cumulative impacts would be *less than significant*.

3.11.2 Wastewater Collection Systems

The City has two wastewater collection systems. Water used indoors is collected in the sanitary sewer system and conveyed to the Donald M. Somers Sunnyvale Water Pollution Control Plant (WPCP) for treatment. Water used or falling outdoors is collected via catch basins and storm sewer pipes and generally conveyed, untreated, to channels, rivers, and ultimately the San Francisco Bay.

3.11.2.1 Sewer and Wastewater Systems

All sanitary sewer pipelines in the Project area flow to the WPCP for tertiary treatment before the effluent is released to the San Francisco Bay.

The wastewater from businesses in the Project area is carried by sewer lines to the WPCP, located approximately 1.75 miles northeast from the Project. WPCP was originally constructed in 1956 and operates primary, secondary, and tertiary wastewater treatment methods. The most recent plant capacity upgrade occurred in 1984. For average dry weather flow, the WPCP is now designed for an ultimate tertiary (3 stage) flow treatment capacity of 29.5 MGD and a peak wet weather capacity of 40 MGD. Current estimated average dry weather flow through the WPCP averages approximately 13 MGD, which are projected to increase to 16.7 MGD of wastewater in 2035 under General Plan buildout conditions (City of Sunnyvale 2009). Based on growth projections, the City does not anticipate that flows would exceed the capacity of the overall collection system; however, specific locations within the collection system may require additional capacity in the future. Additionally, components of the system, such as piping, manholes, pumps, etc., would also require replacement as they exhaust their life expectancy.

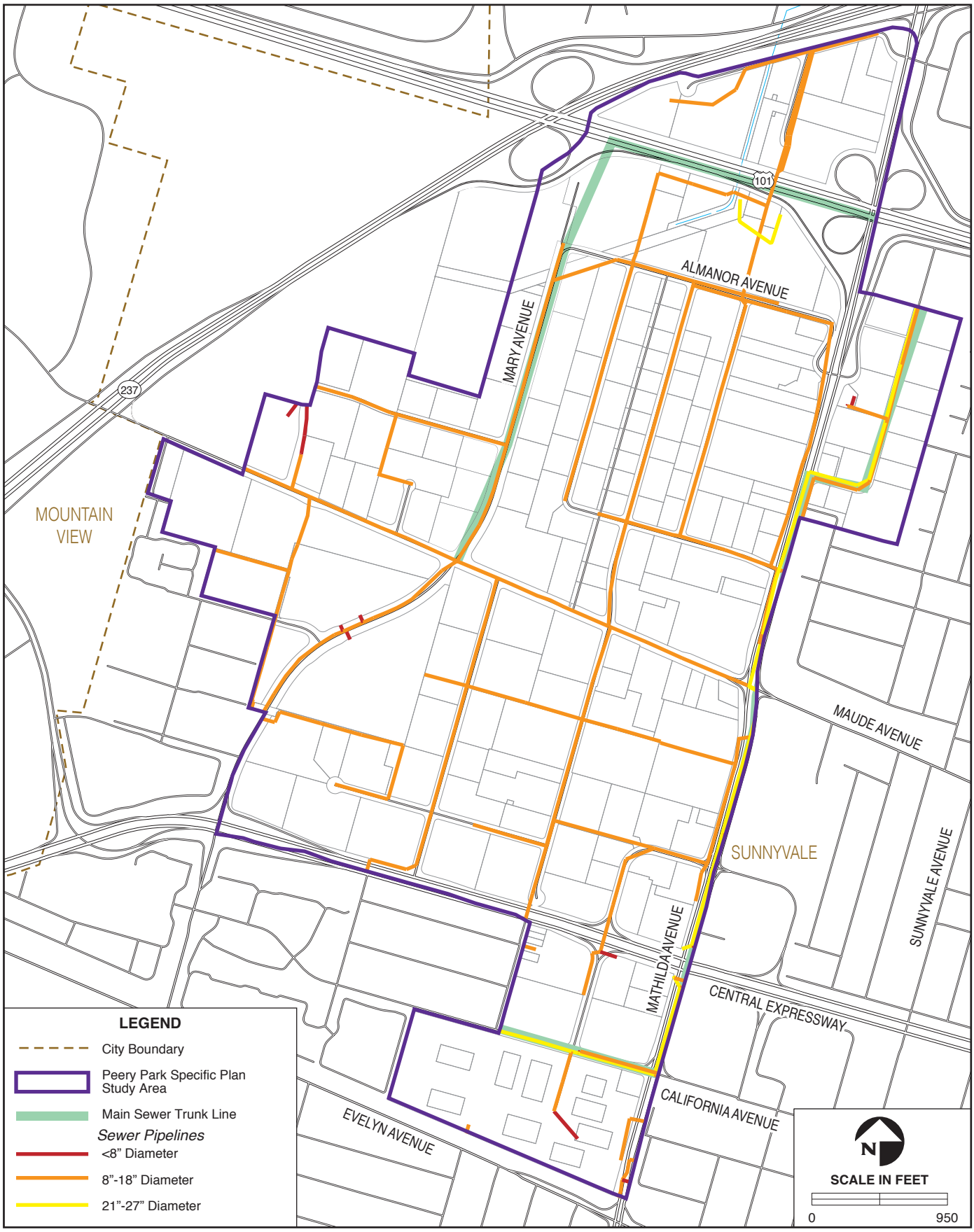
The City is currently undergoing a master planning effort to rebuild the WPCP over the next 20 years through the development of a Master Plan. The plan will upgrade existing outdated equipment and aging infrastructure, and address the WPCP's current and future challenges to providing treatment of the City's wastewater while complying with all applicable federal, state, and local regulations. A Program EIR is currently in process for the Master Plan, with a Final EIR is expected by the second or third quarter of 2016. The average dry weather design capacity of the WPCP is expected to decrease to 19 MGD.

A majority of treated effluent is discharged to the Moffett Channel, which drains to Guadalupe Slough and then on to San Francisco Bay (Figure 3.11-2). A portion of the treated effluent, which complies with state regulations for non-potable waters, is recycled for landscape use and conveyed to various sites via a separate underground pipeline system. The amount and quality of this effluent is regulated by the San Francisco Bay Regional Water Quality Control Board. The Board's purpose is to protect beneficial uses of San Francisco Bay in compliance with the California Water Code and the federal Clean Water Act.

The wastewater collection laterals and mains in the Project area were primarily constructed in the 1960s and 1970s and are therefore of relatively recent construction. As wastewater collection lines age, gaps from cracks, joints, aging gaskets, and leaking tend to allow some groundwater or rainwater to enter the system. This process is called infiltration. A certain amount of rainwater may also find its way into the wastewater system as inflow. Inflow can result from direct connections of storm drains or downspouts to the wastewater system, either in the right-of-way or on private property. Approximately 96 percent of the existing sewer pipelines are constructed from vitrified clay pipe, which has a life expectancy of approximately 100 years, but is subject to damage from root systems and water infiltration (National Clay Pipe Institute 2014). Such infiltration and inflow can increase flows into the wastewater treatment plant, increasing the amount of wastewater that must be treated. Increased amounts of wastewater requiring treatment and discharge to receiving water bodies increases costs associated with treatment and discharge. While the clay pipes may be more susceptible to damage than metal or plastic pipelines, there is no evidence that infiltration or inflow are currently a major issue in the Project area requiring systematic improvements. It is expected that components of the system such as piping, manholes, pumps, etc., will require replacement as they exceed their life expectancy during incremental project development within the Project area.

Wastewater generated in the Project area is collected by the Borregas Trunk Line, one of the City's five major sewer trunk lines. While lift stations are located in the City's Lawrence I and Lawrence II Sewer Collection Areas, it appears that the Project area's wastewater collection system requires only gravity flow operation. The sewer system includes extends 62,134 linear feet (11.5 miles) of sewer mains and laterals ranging from 4 inches to 27 inches in diameter (Table 3.11-8). While the 8" pipelines at minimum slope are typically sufficient to handle these flows, offsite flows may cumulatively overwhelm the capacity of this system[2].

[2] Preliminary assessment, Amec Foster Wheeler Senior Utilities Engineer, Darin Miller, PE – September 2013



amec foster wheeler

Sewer System

FIGURE 3.11-2

Table 3.11-8. Project area Sewer and Wastewater System

Pipe Diameter	Total Length (feet)	
< 8"	15,567	
8" - 18"	38,517	
20" - 27"	8,050	
Total	62,134	
Pipe Material	**Length (feet)**	**Percentage of Total System**
Asbestos concrete pipe	522	0.84%
Corrugated metal pipe	639	1.03%
Plastic irrigation pipe	1,195	1.92%
Reinforced concrete pipe	45	0.07%
Vitrified clay pipe	59,734	96.14%
Concrete cylinder pipe	--	--
Cast iron pipe	--	--
Ductile iron pipe	--	--
Steel water line	--	--

Source: City of Sunnyvale GIS, clipped to the Project area, September 2014

The City discharges stormwater to local streams which ultimately discharge to the San Francisco Bay under the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) permit No. CAS612008. It is a Municipal Regional Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board and regulates multiple jurisdictions and entities in the San Francisco Bay region by requiring the cities and jurisdictions included on the permit to prevent the discharge of non-stormwater (materials other than rain water) from entering the municipal storm drain system and San Francisco Bay. Accordingly, the City requires major development and redevelopment projects to implement best management practices (BMPs) to control stormwater. BMPs are detailed in a Stormwater Management Plan, which is typically reviewed by the City during the planning review and building permit review processes (City of Sunnyvale 2011c). To facilitate compliance with the MRP, the City developed the Storm Water Quality Best Management Practices Guidance Manual, intended to guide project applicants and City staff in the preparation, review and approval of new and redevelopment projects according to the current requirements of the MRP (City of Sunnyvale 2011d).

As part of its implementation of the MRP, the City works with a variety of other municipalities, regulatory agencies, special districts and other stakeholders to promote watershed protection and urban runoff management, such as the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) and the Santa Clara Basin Watershed Management Initiative.

3.11.2.2 Regulatory Setting

Federal Policies and Regulations

Federal Water Pollution Control Act (Clean Water Act).

The Water Pollution Control Act, or Clean Water Act, is a comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation's waters, including discharge waters of wastewater treatment processes. In combination with the Clean Water Act, other federal environmental laws also regulate the location, type, planning, and funding of wastewater treatment facilities.

National Pollutant Discharge Elimination System (NPDES).

As authorized by the Clean Water Act, the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The NPDES permit system is authorized and implemented by states and local water boards.

State Policies and Regulations

Operation of WPCP is subject to regulations set forth by the California Department of Public Health (CDPH) and the State Water Resources Control Board (SWRCB) incompliance with the Clean Water Act and NPDES permits.

Local Policies and Regulations

Sunnyvale Municipal Code (SMC) Section 12.04 through 12.18 — Water and Sewers.

This section of the SMC provides guidance regarding allowable discharges into the city's wastewater collection system. It addresses the need to preserve hydraulic capacity and to preserve the health, safety, and general welfare of the public through the continued maintenance and provision of an adequate wastewater collection system. This section of the SMC also describes permitting requirements, such as industrial wastewater permits, that would be required for various uses within the City.

City of Sunnyvale Stormwater Quality BMP Guidance Manual For New and Redevelopment Projects

Guides project implementation for site design as it relates to stormwater quality. The BMP Guidance Manual addresses permit pre-application, the planning and building permitting processes for design and qualification criteria, and post construction management of BMP operations and maintenance.

City of Sunnyvale General Plan

Policies from the City's 2011 General Plan that relate to sewer and stormwater utilities are listed below (City of Sunnyvale 2011e):

Policy EM.1.2 – Maximize recycled water use for all approved purposes both within and in areas adjacent to the City, where feasible.

Policy EM.3.2 – Maintain a proactive Long Range Infrastructure Plan that identifies schedules and funds and implements needed system upgrades and replacements before facilities exceed their effective useful lives.

Goal EM.5 – Minimal Pollution and Quantity of Wastewater. Ensure that the quantity and composition of wastewater generated in the City does not exceed the capabilities of the wastewater collection system or the water pollution control plant.

Goal EM.6 – Effective Wastewater Collection System. Continue to operate and maintain the wastewater collection system so that all sewage and industrial wastes generated within the City are collected and conveyed under safe and sanitary conditions to the water pollution control plant.

Goal EM.7 – Effective Wastewater Treatment. Continue to operate and maintain the water pollution control plant, using cost effective methods, so that all sewage and industrial wastes generated within the City receive sufficient treatment to meet the effluent discharge and receiving water standards of regulatory agencies.

Goal EM.9 – Adequate Storm Drain System. Maintain storm drain system to prevent flooding.

Goal EM.10 – Reduced Runoff and Pollutant Discharge. Minimize the quantity of runoff and discharge of pollutants to the maximum extent practicable by integrating surface runoff controls into new development and redevelopment land use decisions.

3.11.2.3 Impacts and Mitigation Measures

Significance Criteria

The following thresholds of significance are based on Appendix G of the 2015 CEQA Guidelines and local City sustainability policies. For purposes of this EIR, implementation of the Project may have a significant adverse impact on wastewater infrastructure if:

- The project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

- The project would require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- The project would result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Methodology

This section builds upon and updates information provided in existing plans and studies, including the City's General Plan as well as analysis provided in various EIRs. The Infrastructure Engineering Corporation (IEC) conducted an impact study for the Project (Appendix I) to identify where buildout from the Project may affect existing City sewer infrastructure, and is further discussed under Impact UT-4. The impact methodology of the impact analysis below also considers the existing 2011 LUTE and the General Plan Environmental Management goals and policies to analyze the potential for the Project to result in significant wastewater and stormwater management impacts. The analysis discloses how existing plans, policies and goals and other City regulations provided may avoid or minimize significant impacts. This analysis also accounts for the mitigating effects of the goals, policies, development standards and implementation measures of the Project.

Impacts to wastewater infrastructure are considered significant if the Project would result in sewer line or treatment plant system deficiencies.

Impact UT-3: Implementation of the Project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). This would be a *less than significant* impact.

The SFBRWQCB, in connection with the implementation of the NPDES program, has imposed requirements on the treatment of wastewater and its discharge into local water bodies, including San Francisco Bay. Wastewater produced by new land uses in the Project area would meet these requirements through treatment at the WPCP, which utilizes full tertiary treatment. In addition, the implementation of wastewater BMPs required by the Sunnyvale Municipal Code would also help meet wastewater quality treatment standards. Therefore, SFBRWQCB wastewater treatment requirements would not be exceeded, and potential impacts related to the Project would be *less than significant*.

Impact UT-4: The Project may require or result in the construction of new wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be reduced to *less than significant with mitigation*.

The sewer system was analyzed by first determining the potential increase in wastewater associated with the Project. The Project's anticipated buildout was analyzed for additional square

feet of retail, industrial, and residential space. The IEC conducted an impact study (Appendix I) to identify where the Project may affect existing City sewer infrastructure. Pipeline segment locations, proposed pipeline diameter changes, and more detailed information are fully described within the attached IEC study. The City's wastewater system and associated hydraulic capacity was analyzed based on the maximum proposed buildout of the Project, and corresponding capital improvements were identified that would be necessary to compensate for the increased land use intensity. Using projected, built-out flows, the study determined that upon full buildout under the Project, approximately 0.6 MGD could be added to the City's sewer system by 2035.

Pipes analyzed within the study primarily consisted of pipes 8 inches in diameter and greater, and notes that some pipes 8 inches or smaller would require additional assessments during planning and implementation of future proposed projects. The study period extended to the Project's intended end date of 2035, considering the Baseline (2015), and "Early Finish" (2025), and total "Buildout" (2035). Each year was assessed under Average Dry Weather Flow (ADWF), Peak Dry Weather Flow (PDWF), and Peak Wet Weather Flow (PWWF) conditions, with PWWF being the primary condition used to assess necessary capital improvements. A summary of the recommended result of pipeline upsizing diameters and lengths are included in Table 3.11-9.

Table 3.11-9. Summary of Recommended Resulting Pipeline Improvements

Proposed Diameter (inches)	Length (linear feet)
12	518
15	3,521
18	3,814
21	313
27	429
30	1,132
33	402
36	428
39	212
42	549

Since existing pipelines are permitted to flow up to 75 percent full before identifying projects deemed for capital improvement, the following sizing criteria was used to determine the proposed diameters of upgraded pipelines:

- Pipes 12-inches in diameter and smaller: ½ full at peak wet weather flow
- Pipes over 12-inches in diameter: ¾ full at peak wet weather flow
- Minimum velocity: 2 feet per second (1/2 full or full)
- Maximum velocity: 10 feet per second

- Manning's n: .013 [3]

The study determined that at least 51 pipeline segments would require upsizing to accommodate the Project buildout and future developments within the City, of which 18 identified pipeline segments are also proposed for upsizing as part of the City's Wastewater Master Plan. The 18 identified pipeline segments would require increased pipeline diameter widths beyond that proposed in the Wastewater Master Plan, due to the Project. Some pipelines indicated deficiency due to backwater[4] conditions, which could be remedied following upsizing of downstream pipelines. Costs associated with implementing the wastewater capital improvements were estimated at approximately $6,702,411. The quantity and diameters of pipes requiring upsizing are included in Table 3.11-10, summarized from information contained in Table 2 of the IEC study (Appendix I).

Table 3.11-10. Summary of Quantity and Diameters of Pipe Segments Requiring Upsizing

Proposed Diameter Increase (inches)	Quantity of Upsized Segments	Total Length of Upsizing (linear feet)
8 to 12	1	273.8
10 to 12	1	244.6
10 to 15	1	115
12 to 15	15	3,349.8
12 to 18	11	2,883.5
15 to 18	3	577.2
16 to 18	1	353
16 to 27	2	429
18 to 21	3	312.5
27 to 30	5	1,131.7
27 to 33	2	402.2
33 to 36	2	428.3
33 to 39	1	211.6
33 to 42	2	251.5
39 to 42	1	297

[3] A measure of channel flow efficiency. Using the radius of the pipe, the cross sectional area of flow, and the portion of the cross section's perimeter that is 'wet', the flow speed, efficiency, and volume transferred can be determined. In this case, .013 was used as the threshold.

[4] Locations where flow is backed up in its course by an obstruction or restriction, such as a bend in the pipeline, reduction in pipeline diameter, or inability to handle all upstream flows in downstream pipelines.

Sewer and water pipe replacement would require excavation and removal of existing pipelines, replacement and/or repair of inadequate pipe segments, and replacement of pavement, sidewalk, and landscaping disturbed during construction.

Wastewater in the Project area is primarily conveyed through two sewer routes that exit the Project area carrying wastewater northeast extending from Hamlin to North Mathilda Avenue in the north and from Maude Avenue to Borregas Avenue in the east (Figure 3.11-2). Given that all wastewater from the Project area flows out of the northern and eastern edges of the District, the two sewer routes that carry wastewater northeast to the WPCP from these points are expected to receive substantial additional flows. The sewer route along Hamlin Court (on to Ross Drive and towards North Mathilda) was constructed in 1959, and has a redundant 1979 system in place; however, the pipeline analysis determined that with sufficient buildout, the pipes connecting under US Highway 101 through to this system would necessitate upsizing. The pipeline segments under State Route (SR) 237 would likewise require upsizing as the downstream wastewater exits the northern boundary. From the eastern boundary, the Borregas sewer route which holds a large amount of wastewater once it leaves the Project area's eastern side also necessitates upsized pipeline segments under full buildout.

Based on the study analysis, land use changes in the Project area anticipated to occur under the Project would increase wastewater flows to sewer line segments such that the operational criteria could be exceeded. As a result, development of land uses under the Project may incrementally trigger the need for expansion or replacement of individual sewer line segments. With assurance of adequate funds to finance the capital improvements necessary as provided for in Mitigation Measure U-2, impacts would be reduced to *less than significant with mitigation*.

Replacement of several sewer mains in the Project area could also create secondary short-term periodic construction impacts. Construction of new sewer mains would require excavation, removal of older mains, removal of existing manholes, and installation of the new manholes and lines located within existing paved roads and public rights of way. This would involve typical short term construction impacts, such as air emissions, noise, and disruption of traffic flows, as discussed in Sections 3.2, 3.7, and 3.10, respectively.

Mitigation Measures

MM U-2. Peery Park Infrastructure Fee: In addition to the improvements to the water delivery system described in MM U-1, the City shall ensure adequate financing for funding of infrastructure improvements to the wastewater system. The PPIF shall determine the costs of and

establish a funding program for capital improvements to wastewater conveyance as needed to serve the demands of new development occurring under the Project.

Residual Impact

Implementation of Policy EM-3.2, MM U-1, and MM U-2 as well as compliance with existing local regulations related to development in the City would ensure the funding of necessary improvements to the sewer system to serve land use changes anticipated to occur under the Project. Therefore, potential impacts to wastewater infrastructure would be reduced to *less than significant with mitigation*.

Impact UT-5: Implementation of the Project would result in an increase in wastewater generation; but such increase would not exceed the wastewater treatment provider's capacity. *Impacts would be less than significant.*

As discussed under Impact UT-3 above, wastewater flows from the City are treated at the WPCP, which has a dry weather capacity of approximately 29.5 MGD (wet weather capacity of 40 MGD) processed through full tertiary wastewater treatment. Currently this facility receives and treats approximately 15.9 MGD dry to 17.6 MGD wet weather average flows of wastewater. The Project would add approximately 0.6 MGD (approximately 3.4 to 3.8 percent of current flows). Given that the existing system has approximately 14 MGD of additional dry weather capacity and the increased wastewater flow from implementation of the Project would be an anticipated and relatively small incremental increase, the WPCP would have sufficient capacity to serve the Project's projected demand in addition to the provider's existing commitments. Proposed upgrades to the facility per the Wastewater Master Plan would decrease the average dry weather design capacity to approximately 19 MGD. Nevertheless, the potential upgrade to the facility would still be able to handle the approximate 0.6 MGD increase due to the Project. The facility has more than enough capacity for wet weather flow and treatment. This impact would therefore be *less than significant*.

Cumulative Impacts

Water Pollution Control Plant

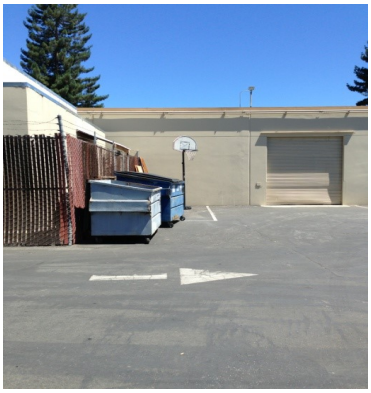
Effluent from the WPCP receives primary, secondary and tertiary treatment to remove biosolids and prevent potential environmental impacts to San Francisco Bay. Additional wastewater flows contributed by cumulative development, including new development allowed under the Project and as described in Impact UT-5, would be treated in accordance with existing requirements. As such, impacts would be less than significant and the cumulative effect on treatment plant capacity is considered a less-than-significant impact. The WPCP is projected to have sufficient capacity to treat cumulative wastewater flows for the next 20 years through 2035 (City of Sunnyvale 2009). Therefore, the Project's contributions to cumulative wastewater treatment impacts would be *less than significant*.

Sewer System

The Project could also contribute to impacts to the City's wastewater conveyance system, contributing to exceedance of sewer line segment capacities. In addition, cumulative development citywide may also increase demand on existing sewer lines. The sewer analysis study included interceptors outside the Project area that carry wastewater flows from the Project area to the WPCP. Portions of the Lockheed Interceptor, which is the sewer main that carries the majority of the Project area's wastewater flows, are included in the IEC study as described in Impact UT-4. The Moffett and Borregas Interceptors also carry flows from the Project area; however, the Project area flows are a small portion of the total flows carried by these mains. These lines contain multiple segments that are at or near defined City thresholds, also included in the IEC study as described in Impact UT-4. However, the Project's contributions to cumulative impacts to wastewater conveyance alongside implementation of Policy EM-3.2 and MM U-2 would be *less than significant with mitigation*.

3.11.3 Solid Waste and Energy Generation

The Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®) processes solid waste and recyclable materials collected in the City, including the Project area. The SMaRT Station has the capacity to receive and process 1,500 tons of solid waste and source-separated recyclable materials per day. The station receives approximately 1,000 tons of material per day (260,000 tons annually) and uses mixed waste processing to remove recyclables and compostable organics from solid waste. Source-separated yard trimmings and recyclable materials are also prepared for shipment to recycling and composting markets. The unused capacity of the station is available, at an appropriate price, to public or private enterprises outside the City. The Sunnyvale City Council selects the service providers for the collection of solid waste within the City and the operation of the SMaRT Station. Specialty Solid Waste & Recycling (Specialty) is the contracted service provider for all garbage collection in the City. The current contracted service provider for the operation of the SMaRT Station is Bay Counties Waste Services (BCWS).



Solid waste generation is typically managed with dumpsters or roll-off containers for the industrial business in the Project area. The solid waste disposal areas often double as employee break or recreation areas as well.

The solid waste generated in the City is hauled from the SMaRT Station to the Kirby Canyon Landfill 27 miles away in south San Jose. The City has contracted with Waste Management of California, Inc. for disposal capacity through December 31, 2031. This disposal agreement was signed in 1991, and the City began delivering solid waste to the Kirby Canyon Landfill in 1993.

In addition to the Kirby Canyon Landfill, some solid waste from the City is disposed at the Zanker Road Landfill and the City is within the vicinity of other operating solid waste disposal facilities within Santa Clara (see Table 3.11-11).

Table 3.11-11. Operating Solid Waste Disposal Facilities in Santa Clara

Facility	Permitted Daily Throughput (tons/day) *(tons/year)*	Estimated Remaining Capacity (CY)	Estimated Closure Date
SMaRT Station	1,500 *(547,500)*	NA	NA
Kirby Canyon Recycling and Disposal Facility (Landfill)	2,600 *(949,000)*	57,271,507	2022
Guadalupe Sanitary Landfill	1,300 *(474,500)*	11,055,000	2048
Newby Island Sanitary Landfill	4,000 *(1,460,000)*	21,200,000	2041
Zanker Material Processing Facility (Landfill)	350 *(127,750)*	540,000	2029

Source: CalRecycle 2015.
NA = not available
cy = cubic yards

The City completed a comprehensive waste reduction and recycling plan in compliance with Assembly Bill (AB) 939, which required every city in California to reduce the waste it sends to landfills by 50 percent by the year 2000. As of 2011, the City was recycling or otherwise diverting 66 percent of its solid waste, thereby complying with the standards established by AB 939 (CalRecycle 2012).

In 2013, City Council adopted a Zero Waste Strategic Plan, which describes implementation of the City's 2008 Zero Waste Policy and guides waste management policy decisions to increase diversion to 75 percent by the years 2020 and 90 percent by 2030. The primary focus of this plan includes organics (especially food waste) and source controls (i.e. bans) on problematic materials such as single-use plastic bags and expanded polystyrene foam food containers. The plan discusses enhanced use of the SMaRT Station, and the possible application of new "conversion" technologies, including dry anaerobic digestion, to the City waste stream, either on their own or in cooperation with nearby cities.

3.11.3.1 Regulatory Setting

State Policies and Regulations

California Integrated Waste Management Act (AB 939)

The California Integrated Waste Management Act (IWMA) of 1989 established an integrated waste management hierarchy to guide the California Integrated Waste Management Board and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. The Act required each county to establish a task force to coordinate the development of city Source Reduction and Recycling Elements (SRREs) and a countywide siting element. The Act also required each county to prepare, adopt, and submit to the Board an Integrated Waste Management Plan (IWMP).

Additionally, waste diversion mandates were set in AB 939. The law required each city or county plan to include an implementation schedule which shows: diversion of 25 percent of all solid waste

from landfill or transformation facilities by January 1, 1995 through source reduction, recycling, and composting activities; and, diversion of 50 percent of all solid waste by January 1, 2000 through source reduction, recycling, and composting activities. A city or county may be deemed exempt from these goals or to reduce the requirements if the city or county demonstrates that attainment of the goals is not feasible due to the small geographic size of the jurisdiction and the small quantity of waste generated. After 1/1/95, the Act authorized the Board to establish an alternative goal to the 50 percent requirement, if the Board finds that the local agency is effectively implementing all source reduction, recycling, and composting measures to the maximum extent feasible.

SB 1016

SB 1016 built on AB 939 compliance requirements by implementing a simplified measure of jurisdictions' performance. SB 1016 accomplished this by changing the measurement of waste reduction from a diversion rate to a disposal-based indicator, the per capita disposal rate. The purpose of the per capita disposal measurement system was to make the process of goal measurement as established by AB 939 simpler, more timely, and more accurate. Beginning with reporting year 2007 jurisdiction annual reports, diversion rates were no longer measured. With the passage of SB 1016, only per capita disposal rates were measured. For 2007 and subsequent years, CalRecycle compared reported disposal tons to population to calculate per capita disposal expressed in pounds/person/day.

2011 Assembly Bill 341

AB341 established a state policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020, and requiring CalRecycle to provide a report to the Legislature that recommends strategies to achieve the policy goal by January 1, 2014. AB341 builds on the existing AB 939 requirement that every jurisdiction divert at least 50 percent of its waste. The bill also mandates local jurisdictions to implement commercial recycling by July 1, 2012. AB341 requires any business (including schools and government facilities) that generates 4 cubic yards or more of waste per week, and multifamily buildings with 5 or more units to arrange for recycling services[5]. A recycling service may include mixed waste processing that yields diversion results comparable to source separation.

2014 Assembly Bill 1826

The City is now working to comply with AB 1826 (Chaptered on 9/28/2014), which requires that businesses separate and arrange for composting the food waste and compostable organics that they generate. The City operates a pilot food waste collection route that is transitioning into a regular collection service for this material. In brief, AB 1826 requires that businesses generating organic waste arrange for recycling services for that waste. A business must take this action if it generates: 8 cubic yards or more per week of organic waste on April 1, 2016; 4 cubic yards or

[5] The City offers free consultation to businesses and property owners to assist in arranging recycling services: http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Garbage,RecyclingandWasteReduction.aspx – Accessed November 2015.

more of organic waste on January 1, 2017; and 4 cubic yards or more of commercial solid waste per week on January 1, 2019. The bill also requires jurisdictions to implement an organic waste recycling program for businesses.

Local Policies and Regulations

City of Sunnyvale 2008 Zero Waste Policy and Zero Waste Strategic Plan

In 2008, the City adopted a Zero Waste Policy that calls for a reduction in the amount of waste being disposed, as well as efforts to minimize upstream impacts on materials through sustainable manufacturing and product stewardship. In 2013, the City adopted a Zero Waste Strategic Plan that defined "Zero Waste" as 90% diversion and established three progressive goals for achieving Zero Waste: 70 percent diversion by 2015; 75 percent diversion by 2020; and 90 percent by 2030 (City of Sunnyvale 2013b). The City's 2020 diversion rate goal of 75 percent parallels California Department of Resources Recycling and Recovery's (CalRecycle) goal of 75 percent statewide recycling by 2020.

City of Sunnyvale Demolition Permit

The City's Building Division requires applicants to obtain a demolition permit for removal of entire buildings and structures prior to the start of any demolition activities. As part of the demolition permitting process, applicants are required to follow a list of general requirements based on the 2013 California Plumbing Code, 2013 California Green Building Code and the Sunnyvale Municipal Code. A portion of the requirements include consideration of deconstructing (i.e., building dismantling) and/or salvage of reusable building materials to minimize the amount of demolition materials disposed (City of Sunnyvale 2014).

City of Sunnyvale General Plan 2011

Goal EM.14 – Recycling and Source Reduction Programs. Reduce solid waste through recycling, source reduction, education and special programs.

Goal EM.15 – Environmentally-Sound Disposal. Dispose of solid waste in an environmentally sound, dependable and cost-effective manner.

City of Sunnyvale General Plan 1996 – Environmental Management Element, Solid Waste Sub-Element

- 3.2B.1a – Provide source reduction programs that reduce the generation of solid waste.
- 3.2B.2 – Maximize diversion of solid waste from disposal by use of demand management techniques, providing and promoting recycling programs, and encouraging private sector recycling.
- 3.2B.2b – Provide, or facilitate the provision of, recycling collection services to residential, commercial, and industrial customers in a cost-effective way that allows achievement of the 50 percent diversion goal.

- 3.2B.2b – Meet or exceed all federal, state, and local laws and regulations concerning solid waste diversion and implementation of recycling and source reduction programs.
- 3.2B.3b – Continue to implement the source reduction and recycling programs described in the Sunnyvale Source Reduction and Recycling Element.
- 3.2D.1b – When available disposal capacity equals ten years or less, initiate actions to arrange for sufficient capacity to accommodate present and projected city needs.
- 3.2D.2 – Reduce the amount of refuse being disposed, generate recycling revenues, and minimize truck travel to the disposal site through use of the SMaRT Station.
- 3.2E.1b – Whenever practical, select to dispose of hazardous wastes by reuse, recycling, incineration, and landfilling, in that order.

Sunnyvale Municipal Code

- Section 8.16 – Solid Waste Management and Recycling: SMC Section 8.16 establishes terms and conditions for regulating recycling services to commercial and industrial facilities with the purpose of promoting public health, welfare and safety concerning storage, accumulation, and disposal of solid waste and recyclable materials. The Section addresses requirements for safe storage, removal, and disposal of solid wastes.
- Section 19.38.030 – Recycling and Solid Waste Facilities: SMC Section 19.38.030 establishes direction for ensuring adequate and accessible recycling and solid waste facilities to serve residential and industrial sites.

Sunnyvale Climate Action Plan – The Climate Action Plan identifies how the City will achieve the state-recommended GHG emission reduction target of 15 percent below 2008 levels by the year 2020 (equivalent to 1990 emissions). The CAP provides goals and associated measures, also referred to as reduction measures, in the sectors of energy use, transportation, land use, water, solid waste, and off-road equipment. Among which include the following for enabling solid waste efficiency:

Materials Management: Reduce the availability or use of common materials that are not recyclable or that are cost-ineffective to recycle.

- LW-1.1. Reduce the use of plastic bags at grocery stores and convenience stores in the community through incentives or requirements.
- LW-1.2. Ban the sale or dispersal of disposable, single-use plastic water bottles at public events permitted by the City.
- LW-1.3. Ban the use of expanded polystyrene (EPS) take-out containers at restaurants and fast-food facilities.

Recycling and Composting: Increase the amount of waste recycled and composted by one percent per year according to the City's Zero Waste Strategic Plan. Action Items:

- LW-2.1. Require multi-family homes to participate in the City's Multifamily Recycling Program.

- LW-2.2. Select materials to be targeted for diversion and diversion methods, services, or technologies based on the results of the Zero Waste Strategic Plan.

3.11.3.2 Impacts and Mitigation Measures

Significance Criteria

The following thresholds of significance are based on Appendix G of the 2015 CEQA Guidelines and local City sustainability policies. For purposes of this EIR, implementation of the Project may have a significant adverse impact on solid waste if:

- The project would not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- The project would not comply with federal, state, and local statutes and regulations related to solid waste.

Methodology

This section builds upon and updates information provided in existing plans and studies, including the City's General Plan, analysis provided in various EIRs, and California's Department of Resources Recycling and Recovery (CalRecycle). Based on these resources, this section assesses the existing capacity of landfills that serve the City, any planned improvements to or changes to landfill capacity and projected increases in solid waste generation associated with land use changes anticipated to occur by 2030 under the Project.

Solid waste generation was estimated using factors from CalRecycle's Estimated Solid Waste Generation and Disposal Rates (2013). Impacts to solid waste disposal would be considered a significant impact if solid waste generated by the Project exceeds the capacity of landfills and other solid waste facilities where such waste would be disposed or if the City fails to implement measures to reduce the amount of solid waste disposed of at landfills in accordance with state standards.

Impact UT-6: The Project has the potential to result in the generation of additional solid waste that would require landfill disposal. There is sufficient landfill capacity to accommodate the increased solid waste generation, so this impact would be *less than significant*.

The Project would increase solid waste generation in the Project area. The resulting increased demand for waste disposal has the potential to result in the need for additional landfill capacity to meet solid waste disposal needs. To determine if the City's landfill capacity is sufficient to accommodate waste generated under the Project, the projected waste generated by the Project was estimated based on the land use changes that may occur by 2035, including residential units and industrial square footage. The estimated potential increased waste generation in the Project area is up to 7.1 tons per day (2,617 tons per year) (see Table 3.11-12). Assuming the 2011 diversion rate of 66 percent, this would result in approximately 4.7 tons per day being diverted

and approximately 2.4 tons per day (1,716 tons per year) of waste that would need to be disposed in a landfill.

Table 3.11-12. Estimated Solid Waste Generation from Project Implementation

Land use	Projected Increase	Waste Generation Factor[1]	Estimated Waste
Retail	200,000 sf	0.006 lbs/sf/day	1,200 lbs/day
Office/Industrial	2,000,000 sf	0.006 lbs/sf/day	12,000 lbs/day
Residential	215 units	5.31 lbs/du/day	1142 lbs/day
Total	14,342 lbs/day (5,234,830 lbs/yr) or 7.1 tons/day (2,617 tons/yr)		

[1] Estimated solid waste generation was calculated using waste generation rates from CalRecycle. These rates are based on the various land uses of the Project, corresponding to the nearest estimated generation rates.
Source: CalRecycle 2015. Estimated Solid Waste Generation and Disposal Rates http://www.ciwmb.ca.gov/WASTECHAR/WasteGenRates/default.htm.

As described in the Environmental Setting, at least five solid waste disposal facilities currently serve the City, including landfills and recyclables and reclaiming facilities. The combined throughput capacity of the landfills is approximately 3.6 million tons per year. Although the Kirby Canyon Landfill's current plan shows its closure within the next seven years, it is anticipated that the plan will be modified (one or more times) to extend that date into the future. If Kirby Canyon closes prior to 2031, the City's contract with Waste Management, Inc. would require Waste Management to provide the City with disposal capacity at alternative disposal facility options. For example, there is available combined remaining capacity at three local landfills of 32.8 million tons, which currently have over 10 years of remaining life. This includes the Waste Management-owned Guadalupe Landfill, which has 11,055,000 tons of remaining capacity.

Bay Counties Waste Services is contracted to service the City and is required to acquire additional equipment and/or employees as needed to accommodate growth. Landfill capacity, either at Kirby Canyon Landfill or an alternate site provided by Waste Management is expected to be available through at least 2031 under the terms of the current disposal agreement. Any additional City costs related to collection, transfer or disposal as a result of an increased tonnage collected or a change in disposal site will be incorporated into refuse collection rates charged to customers. Any future landfill expansion options would be subject to their own CEQA compliance obligations.

Nevertheless, the combined maximum permitted solid waste daily throughput of the four solid waste landfills examined above is 8,250 tons of solid waste per day. The City's throughput utilizes the SMaRT facility, which operates with 1,000 tons of solid waste per day. Since the SMaRT facility has a capacity of 1,500 tons per day, 500 more tons of solid waste per day can be handled via the facility. The additional 7.1 tons of solid waste per day that is anticipated to be generated by implementation of the Project would comprise approximately 1.4 percent of the remaining SMaRT facility daily capacity. Further, implementation by Project area waste generators of waste reduction, recycling and composting actions that result in matching the current Citywide diversion rate of 66 percent would reduce disposal by 4.7 tons of waste per day from the Project implementation, meaning 2.4 tons per day would be disposed in a landfill. This amount of disposal

would comprise approximately 0.03 percent of the total daily permitted capacity of the four solid waste landfills examined above. Therefore, this additional waste would have a negligible impact on landfill capacity and this impact would be *less than significant*.

In addition, the City continues to strive for additional reductions in solid waste. The City has historically met and exceeded its goals for waste diversion, as defined in the City's Sustainable City Plan, achieving a diversion rate of 66 percent. The City has developed its new Zero Waste Strategic Plan, intended to identify the new policies, programs, and infrastructure that will enable the City to reach its Zero Waste goal of 90 percent diversion by 2030. So long as implementation of the Project provides the facilities and services necessary to meet the Zero Waste goals, waste generation from the Project will be reduced consistent with the Zero Waste Strategic Plan goals. Given the existing sufficient capacity of solid waste facilities combined with the City's efforts to reduce waste generation, this impact would be *less than significant*.

Impact UT-7: The Project would not result in generation of waste with the potential to conflict with federal, state, and local statutes and regulations related to solid waste. Due to existing and proposed City programs, there is *no impact*.

State law requires a 50 percent diversion of solid waste from landfills, which the City achieved in 1997. The City's Zero Waste Strategic Plan also mirrors the state's mandate for an increase to 75 percent diversion by 2020. The City attained a waste diversion rate of 66 percent and remains committed to continuing its existing waste reduction programs and minimization efforts with the programs previously discussed in the environmental setting for this section. Additionally, individual projects in the Project area would be required to comply with all applicable City solid waste regulations, permitting processes, and policies in effect at the time of operation, including Sunnyvale Municipal Code Section 8.16 (Solid Waste Management and Recycling) and Section 19.38.030 (Recycling and solid waste facilities) as those sections are amended in the future to promote achievement of the Zero Waste goals. Therefore, the City is in compliance with state law and implementation of the Project would not conflict with federal, state, or local statues and regulations related to solid waste disposal. Therefore, *no impact* would occur.

Cumulative Impacts

Land use changes anticipated to occur under the Project would incrementally contribute to cumulative solid waste generation impacts to regional landfills and waste disposal facilities associated with future growth within the City and the region. As discussed above, the combined maximum solid waste accepted daily capacity of the four examined solid waste disposal facilities in Santa Clara County is 8,250 tons of solid waste per day. Closure of the Kirby Canyon Landfill would reduce daily capacity for the examined landfills in the region by 2,600 tons per day; that is, these remaining landfills would be able to receive about 5,650 tons per day, with the Project buildout admitting 2.4 tons per day after diversion to the remaining 32,795,000 cubic yards of remaining space of the examined landfills.

The Project would generate an additional 7.1 tons per day, contributing to regional landfill use. However, this contribution may be further limited in that the City's goal is to reach a 90 percent diversion rate by 2030, substantially reducing projected waste generation across the City. Even with the closure of Kirby landfill, the examined regional landfills have daily capacity of over 5,650 tons per day. Given this large regional landfill capacity and projected increases in diversion rates, future solid waste in the City, including the Project, would not contribute considerably to regional solid waste disposal, and this impact would be *less than significant*.

3.11.4 Energy and Telecommunications Services

Electric and natural gas service in the City is provided by Pacific Gas and Electric (PG&E). PG&E provides natural gas and electric service to approximately 15 million people throughout a 70,000-square-mile service area in Northern and Central California. In 2014, PG&E provided 16,535,128,306 kilowatt hours (kWh) of electricity to industrial end uses in California, and provided 1,763,700,455 therms of gas to industrial end uses in California (California Energy Commission 2015). Each year, the California Energy Commission updates a ten year forecast for California energy demand, and anticipates growth rates, high, and low energy demands, adjusting needs and provisions accordingly (California Energy Commission 2014).

Electricity purchased from PG&E by local customers is generated and transmitted by a statewide network of power plants and transmission lines. Various transmission and distribution lines traverse the City, serving to carry electrical power from power plants within and outside the City to electrical substations where power is converted to voltages suitable for distribution to end-users. The majority of the Project area's electrical and telecommunication transmission lines run underground, consistent with City Code Chapter 15.04. Electrical Undergrounding Code. One exceptional area exists along Pastoria Avenue and Del Rey Avenue where aboveground utility poles exist along the roadways.

Pacific Gas & Electric (PG&E) provides the Project area with energy resources and services. AT&T was observed to provide aboveground telecommunication and fiber optic infrastructure to the Project area as well.

Additionally, PG&E provides natural gas utility through 1.5 million miles of transmission pipelines and distribution, with two pipelines which travel within the Project area. Stemming from the City of Milpitas area, two pipelines follow east to west along the San Francisco Bay edge through and adjacent to the Project area. One pipeline follows along the south side of SR 237 along the northern border of the Project area. The other pipeline travels from San Aleso Avenue to Mary Avenue approximately 300 feet south and parallel to Almanor Avenue (PG&E 2015).

Several purveyors provide telecommunications services such as telephone service, cable television, and internet services in the City. Telephone and internet service providers include Verizon Wireless, Cingular, Sprint, AT&T, Metro PCS, Pacific Bell, and Comcast. Cable television providers include Comcast, AT&T, Dish Network, and DirecTV. Cable fibers and underground and aerial telephone transmission lines are generally collocated and installed concurrently with other utility infrastructure.

3.11.4.1 Regulatory Setting

State Policies and Regulations

California Code of Regulations (CCR) Title 24:

Title 24 of the CCR is known as the California Building Code. The 2013 California Building Code was updated in 2013 and includes the following:

- CCR Title 24, Part 6 comprises the California Energy Code, which was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.
- CCR Title 24, Part 11 comprises the California's Green Building Standard Code (CALGreen), which establishes mandatory green building code requirements as well as voluntary measures (Tier 1 and Tier 2) for new buildings in California. The mandatory provisions in CALGreen will reduce the use of VOC-emitting materials, strengthen water efficiency conservation, increase construction waste recycling, and increase energy efficiency. Tier 1 and Tier 2 are intended to further encourage building practices that minimize the building's impact on the environment and promote a more sustainable design.

Local Policies and Regulations

2011 Sunnyvale General Plan

The General Plan contains goals and policies with the purpose of obtaining sustainable and energy efficiency for the City and would affect the Project area, among which include the following:

Goal HE-6 Sustainable Neighborhoods. Maintain sustainable neighborhoods with quality housing, infrastructure and open space that fosters neighborhood character and the health of residents.

Policy HE-6.2 Promote neighborhood vitality by providing adequate community facilities, infrastructure, landscaping and open space, parking, and public health and safety within new and existing neighborhoods.

Policy HE-6.6 Encourage use of sustainable and green building design in new and existing housing.

Policy EM-7.2 Coordinate operating procedures with the City energy policy to optimize an alternative energy program so that minimum use and reliance are placed on outside energy sources.

City of Sunnyvale Green Building Program

In effect as of January 1, 2015, the Green Building Program establishes standards for new construction, additions, and remodels of buildings. The Program identifies minimum standards, building permit plan submittal requirements, and verification of green building measures. The measures include CalGreen Mandatory Measures, Green Point Rater/LEED AP verification, USGBC Certification verification, and incentives.

City of Sunnyvale Municipal Code Section 19.37, Landscaping Requirements

Landscaping requirements include minimum standards for landscaped areas and usable open space, parking lot and perimeter landscaping, tree surveys and protection measures, water-efficient landscaping design, planting, soil management and water features, and irrigation systems.

City of Sunnyvale Climate Action Plan, Adopted May 20, 2014

The Climate Action Plan identifies how the City will achieve the state-recommended GHG emission reduction target of 15 percent below 2008 levels by the year 2020 (equivalent to 1990 emissions). The CAP provides goals and associated measures, also referred to as reduction measures, in the sectors of energy use, transportation, land use, water, solid waste, and off-road equipment. Among which include the following for enabling energy efficiency:

Lighting Efficiency: Increase the use of efficient indoor and outdoor lighting technologies.

- EC-1.1. Replace City-owned streetlights and park and parking lot lighting with energy-efficient lighting such as light-emitting diode (LED) or induction lights as technology becomes more affordable and when return on investment is less than five years.
- EC-1.2. Participate in an illumination bank that provides loans for upfront cost of energy-efficient lighting technologies to be paid back over three to seven years.
- EC-1.3. Require new private parking lot lighting to use energy-efficient lighting technologies.

New Construction and Remodels: Require green building practices in new residential and commercial development and remodels.

- EC-2.1. Evaluate and update the 2009 Zoning Code for Green Buildings for single-family, multi-family, and nonresidential building construction and major remodels every three to

five years consistent with upgrades to the California Green Building Standards Code (CALGreen).

- EC-2.2. Continue to require energy efficient siting of buildings. Buildings should be oriented and landscape material should be selected to provide maximum energy efficiency for the buildings.
- EC-2.3. Continue to provide incentives for new construction and remodels to adhere to a higher green building standard than required by the City.

Residential Energy Efficiency: Reduce residential energy use, with emphasis on existing homes built before 1990.

- EC-3.1. Participate in a Property Assessed Clean Energy (PACE) or similar financing program to offer low-interest loans to residents for energy-efficiency upgrades.
- EC-3.2. Prioritize non-general funds to assist low-income homeowners achieve energy-efficient improvements. Program annual Community Development Block Grant (CDBG) funds to fund weatherization programs.

Commercial Energy Efficiency: Establish a regulatory and incentive-based structure that facilitates commercial and industrial energy efficiency and conservation.

- EC-4.1. Consistent with California AB 1103, require all nonresidential building owners to disclose building energy consumption and building energy ratings upon sale or lease of the building.
- EC-4.2. Participate in a Property Assessed Clean Energy (PACE) or similar financing program to offer low-interest loans to businesses for energy efficiency upgrades.
- EC-4.3. Create an ordinance to facilitate energy efficiency improvements in nonresidential buildings through incentives and regulations that may include energy performance reports, time of sale upgrades, and/or innovative partnerships to reduce energy use.
- EC-4.4. Identify businesses that are likely to be the largest consumers of energy within the city and target City outreach to these businesses.

Smart Grid: Increase awareness and utilization of real-time energy consumption data and pricing available through PG&E's Smart Meter program.

- EC-5.1. Require new construction and major remodels to install interior real-time energy monitors.
- EC-5.2. Connect businesses and residents with rebate programs that give priority to appliances with smart grid technology.
- EC-5.3. Inform the community of metering options, such as online applications and in-home monitors.

"Cool" Roofs and Pavements: Reduce the amount of dark, non-reflective roofing and paving material in order to mitigate the urban heat island effect and reduce energy associated with heating and cooling.

- EC-6.1. Require all new and resurfaced parking lots, sidewalks, and crosswalks to be made of materials with high reflectivity, such as concrete or reflective aggregate in paving materials.
- EC-6.2. Require new multi-family buildings and re-roofing projects to install “cool” roofs consistent with the current California Green Building Code (CALGreen) standards for commercial and industrial buildings.
- EC-6.3. Commit to using a warm aggregate mix for all asphalt patching, overlay, and reconstruction.
- EC-6.4. Consider the lifespan and embedded GHG content of pavement materials for public projects.

Renewable Energy Portfolio: Increase the renewable energy portfolio of electricity delivered to the City so that more than 50 percent of delivered energy comes from renewable sources by 2035.

- EP-1.1. Create or join a community choice aggregation (CCA) program to take control of power generation for city residents and businesses.

Local Renewable Energy: Increase the number of renewable energy installations in and available to the community.

- EP-2.1. Require new homes and businesses and major remodels to be “solar ready” by pre-wiring for solar water heating and solar electricity.
- EP-2.2. Participate in a Property Assessed Clean Energy (PACE) or similar financing program to offer low-interest loans to residents and businesses for renewable energy installations.
- EP-2.3. Prevent buildings and additions from shading more than 10 percent of roofs of other structures.
- EP-2.4. Continue to allow and encourage solar facilities above paved parking areas.
- EP-2.5. Maintain incentives for alternative energy installations in new and existing development, including solar and small-scale wind turbines.
- EP-2.6. Advocate for the development of a regional or statewide feed-in tariff that further encourages the development of mid-sized renewable energy installations.

3.11.4.2 Impacts and Mitigation Measures

Significance Criteria

The following thresholds of significance are based on Appendix F of the 2015 CEQA Guidelines and local City sustainability policies. For purposes of this EIR, implementation of the Project may have a significant adverse impact related to energy if:

- The project would result in wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, or maintenance.

Methodology

This section builds upon and updates information provided in existing plans and studies, including the City General Plan.

This section utilizes data from the California Energy Commission. Based on this information, this section assesses the availability and level of energy services in the Project area, any planned improvements to or changes in these utilities and projected increases in energy demand associated with future residential and commercial development from the Project.

Electricity and natural gas demand was estimated using statewide average energy consumption factors by land use as documented in the California Energy Commission's (CEC) California Commercial End-use Survey (CEC 2006; p. 150). The Project would cause a significant impact on energy resources if energy consumption exceeds the projected supply or delivery capacity of either the electric or natural gas systems of the City, or if the Project does not take steps to reduce energy consumption through the use of efficient electrical and mechanical systems.

Impact UT-8: The Project would increase energy demand, but would not result in wasteful, inefficient, and unnecessary consumption of energy. Implementation standard regulations, as well as conformance with the City's Climate Action Plan, Zero Waste Policy, Green Building Program, Urban Forestry, Landscaping Requirements and the policies of the City's LUTE, would reduce impacts to *less than significant*.

The Project would increase the demand for electricity and natural gas within the Project area. The estimated potential increased electricity demand in the Project area is 12.8 million kilowatt-hours (kWh) per year (see Table 3.11-13), while the estimated potential increased natural gas demand in the Project area is 476,909 therms per year (see Table 3.11-14).

Table 3.11-13. Additional Energy Demand under Proposed Buildout

Land Use	Projected Increase	Consumption Factor[1]	Estimated Electricity
Retail	200,000 sf	14.06 kWh/sf/yr	2,812,000 kWh/yr
Office/Industrial	2,000,000 sf	16.08 kWh/sf/yr	8,670,336 kWh/yr
Residential	215 units	6,081 kWh/unit/yr	1,307,415 kWh/yr
Total			12,789,751 kWh/yr

[1] Estimated electricity demand for retail, office, and residential uses were calculated using statewide average energy consumption factors by land use as documented in the California Energy Commission's (CEC) California Commercial End-use Survey.
Source: California Energy Commission 2006. California Commercial End-use Survey (p. 150).

Table 3.11-14. Additional Natural Gas Demand under Proposed Buildout

Land Use	Projected Increase	Consumption Factor[1]	Estimated Electricity
Retail	200,000 sf	0.05 therms/sf/yr	10,000 therms/yr
Office/Industrial	2,000,000 sf	0.18 therms/sf/yr	360,000 therms/yr
Residential	215 units	492.6 therms/unit/yr	105,909 therms/yr
Total			475,909 therms/yr

[1] Estimated natural gas demand for retail, office, and residential uses were calculated using statewide average energy consumption factors by land use as documented in the California Energy Commission's (CEC) California Commercial End-use Survey.
Source: California Energy Commission 2006. California Commercial End-use Survey (p. 150).

The 12.8 million kWh/yr increase of energy demand over the next 20 years to PG&E's currently provided 16,535 million kWh/yr is an approximate 0.08 percent increase. The 475,909 therms/yr increase of additional gas over the next 20 years to PG&E's currently provided 1,764 million kWh/yr is an approximate 0.02 percent increase. These are negligible incremental increases with percentages that are allotted for within PG&E's 10 year California energy demand forecast, and would be contained under subsequent forecasts through 2035 (California Energy Commission 2014).

It should be noted that the estimated energy demand is highly conservative as the demand factors do not account for the most current energy efficiency standards of Title 24 of the California Code of Regulations (CALGreen). Additionally, project conformance with the City's Climate Action Plan, Zero Waste Policy, Green Building Program, Landscaping Requirements, and the policies of the City's LUTE, would reduce impacts associated with increased demand for electricity by implementing energy efficient standards for residential and non-residential buildings. These standards would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in the buildings. They would also reduce the energy impact of the building envelope through use of efficient building materials, such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs. The Project would also implement strategies to promote additional energy conservation. Policies and development standards in the Project that specifically address sustainability and energy efficiency are provided in Book 2 (Development Standards), among which include implementing green buildings (Peery Park Specific

Plan 1.3-7a), adhering to the Climate Action Plan to decrease energy use (Peery Park Specific Plan 1.3-7d), and aligning with sustainability plans such as the City's Zero Waste Policy and Green Building programs (Peery Park Specific Plan 1.3-7i).

PG&E currently has enough capacity to satisfy the existing electricity and natural gas demands of the City. PG&E periodically prepares 10-year load forecasts to ensure the reliability of its electricity supply and conveyance system. As implementation of the Project would occur gradually over the next 20 years, the projected electrical demand under the Project would be factored into load forecasts and associated supply planning. Similarly, PG&E would install new distribution facilities as needed to serve new land uses allowed under the Project, according to California Public Utilities Commission rules. Electric and natural gas services are provided upon demand from consumers and expanded as needed to meet demand, consistent with applicable local, state, and federal regulations.

Because there is currently adequate electrical and natural gas supply, and any increased demand for power utility services is anticipated to be available from PG&E, the potential impacts to energy facilities are considered to be *less than significant*.

Cumulative Impacts

Potential future development under the Project would incrementally contribute to the need for regional energy production and distribution facilities. As discussed above, these facilities are operated and maintained by private utility companies that plan for anticipated growth. Electric and natural gas services are provided upon demand from consumers and expanded as needed to meet demand, consistent with applicable local, state, and federal regulations. Additionally, the City is pursuing energy independence through renewable energy development (solar, solid waste conversion, etc.) to provide local energy sources, which reduces citywide contributions to energy demands. Therefore, this impact is *less than significant*.

4.0 OTHER CEQA ANALYSES

This chapter presents the evaluation of additional environmental impacts analyses required by the California Environmental Quality Act (CEQA) that are not covered within other chapters of this Program Environmental Impact Report (EIR), including significant unavoidable environmental effects of the Project, significant irreversible environmental effects, growth-inducing impacts, removal of obstacles to growth, and resource areas that are found not to be significant. In particular, Section 15126 of the CEQA Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. Accordingly, in addition to the analysis provided in Chapter 3.0, Environmental Impact Analysis, this EIR must identify growth-inducing impacts and significant irreversible environmental changes that would potentially result from the implementation of the proposed Peery Park Specific Plan (Project).

4.1 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. As analyzed in this EIR, the proposed Project would result in potentially significant and unavoidable adverse impacts to air quality, cultural (historic) resources, greenhouse gases, noise, and transportation / traffic (see Section 3.2, *Air Quality*, Section 3.3, *Cultural Resources*, Section 3.4, *Greenhouse Gas Emissions*, Section 3.7, *Noise*, and Section 3.10, *Transportation and Circulation*).

The Project's objectives, notwithstanding potentially significant unavoidable impacts, are described in Chapter 2.0, *Project Description*. As indicated, the Project is designed to be consistent with federal and state regulations and the City's adopted General Plan, as well as the future Land Use and Transportation Element (LUTE) update, which will ultimately provide revised goals and policies that will also be applicable to Peery Park (Project area). The LUTE update is currently undergoing public review, and is expected to be adopted in 2016. In accordance with state general planning law, the City must identify that general and specific plan goals and policies maintain internal consistency; therefore, the City is continuing to evaluate the ongoing plans to ensure conformance with state planning laws.

4.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL IMPACTS

CEQA Guidelines, Section 15126.2(c) requires a discussion of "significant irreversible environmental changes which would be caused by the Project should it be implemented. Uses of nonrenewable resources during the initial and continued phases of the Project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar

uses. Also irreversible damage can result from environmental accidents associated with the Project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

Analysis of environmental impacts of the proposed Project considers effects on the environment that may result from future land use changes anticipated under the proposed Project, through 2035. Construction and operation of new land use activities in the Project area would entail the commitment of non-renewable energy resources, human resources, and natural resources, such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, and water resources, most of which are non-renewable or locally limited natural resources. Resources that would be permanently and continually consumed during the life of the Project include water, electricity, natural gas, and fossil fuels, as well as landfill space; however, compliance with all applicable building codes, as well as General Plan and proposed Project policies, standard conservation features, and current City programs would ensure that natural resources are conserved to the maximum extent feasible. Therefore, the amount and rate of consumption of these resources would not be inefficient or wasteful, and would not result in significant impacts to such resources. Additionally, it is possible that new technologies or systems will emerge in the future, or will become more cost-effective or user-friendly, to further reduce the reliance on nonrenewable natural resources. While future construction activities and operational activities anticipated to occur under the proposed Project would result in the irretrievable commitment of nonrenewable energy resources (primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline for automobiles and construction equipment, as well as commitment of limited landfill space), consumption of such resources is associated with any development in the region, and are not unique or unusual to this Project.

Implementation of the Project would not be expected to result in environmental accidents that have the potential to cause irreversible damage to the natural or human environment. While land use changes anticipated to occur under the Project would result in the limited use, transport, storage, and disposal of hazardous materials, all activities would comply with applicable state and federal laws related to hazardous materials transport, use, and storage, which would significantly reduce the likelihood and severity of accidents that could result in irreversible environmental damage (see Section 3.5, *Hazards and Hazardous Materials*).

4.3 GROWTH-INDUCING IMPACTS

As required by the CEQA Guidelines (Section 15126.2[d]), this EIR must include a discussion of the ways in which the proposed Project could induce physical, economic, or population growth. A project may be growth inducing if it directly proposes the construction of additional housing or if it indirectly fosters economic or population growth by removing obstacles to population growth. Increases in population growth may increase the demand for community service facilities, requiring the construction of new facilities that could cause significant environmental effects. Additionally, a project may encourage or facilitate other activities that could cause significant

environmental effects. In accordance with CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of significant consequence.

In general, a project may foster physical, economic, or population growth in a geographic area if it meets any one of the criteria identified below:

- The project proposes the construction of new housing.
- The project results in the urbanization of land in a remote location (leapfrog development).
- The project removes an impediment to growth (e.g., the provision of new roads to a remote area that would otherwise be unreachable).
- The project establishes a precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment (e.g., a change in zoning or general plan amendment approval for conversion of undeveloped land).
- Significant economic expansion or growth occurs in an area in response to the project (e.g., establishment of employment centers, etc.).

If a project meets any one of these criteria, it may be considered growth inducing. Generally, growth-inducing projects are either located in isolated, undeveloped, or underdeveloped areas, necessitating the extension of major infrastructure, such as sewer and water facilities or roadways, or encourage premature or unplanned growth.

4.3.1 Population and Housing Growth

Growth projections for Santa Clara County are based on trends in the economy, in- and out-migration, births, and employment. Growth in the City of Sunnyvale (City) is based on those same factors and the partnership between the City and the business community. Planning documents such as the proposed Project, LUTE, Housing and Community Revitalization Sub-element, and the regional Association of Bay Area Governments (ABAG) Jobs-Housing Connection Strategy (Plan Bay Area) and Regional Housing Needs Allocation (RHNA) Plan provide the regulatory and planning framework for guiding how this growth should occur (ABAG 2012, 2015; City of Sunnyvale 2011a).

Section 3.8 of this EIR, *Population and Housing*, provides a summary of population and housing growth projected to occur under the Project through 2035. The Project would manage and guide where anticipated growth may occur. The core principles of the LUTE update are to integrate land use and transportation to manage economic development, incorporation of smart growth concepts, green technology and principles, and preservation and enhancement of existing neighborhoods. The Project would implement LUTE principles by guiding future development to enhance the existing industrial business park neighborhood. Furthermore, the Project would provide policies to manage the design of industrial and commercial buildings, as well as transportation and infrastructure improvements and would incorporate smart-growth concepts and green technology. The Project would also be consistent with the Plan Bay Area as the Project area is a designated Priority Development Area (PDA) that would expand the local economy, increase accessibility, and protect the region's natural environment. PDAs are regions where new

development will support the daily needs of residents and workers in a pedestrian-friendly environment served by public transit (ABAG 2012). As one of the most thriving industrial business areas of the City, Peery Park is important for the creation of jobs and enhancement of local economy.

Potential impacts associated with population, housing, and economic growth anticipated to occur under the Project have been fully addressed and analyzed in Chapter 3.0 of this EIR.

4.3.2 Removal of Obstacles to Population Growth

The Project would be implemented within the 446-acre (net) the Project area, an established urbanized area with an existing infrastructure system (e.g., roads, water distribution, wastewater and drainage collection, and energy distribution). The Project's proposed upgrades and improvements to local transportation and utilities infrastructure would serve anticipated land use changes in the Project area, and would not induce substantial new growth.

The Project area has an established transportation network that offers local and regional access in and around the area. The Project proposes network improvements to create a complete and coordinated multi-modal transportation system, including enhanced sidewalk connections and new transportation network connections, such as the expansion of light rail and bus services to the Project area (see Section 3.10, *Transportation and Circulation*). These network improvements are intended to fill gaps in the existing network and would not extend beyond the Project area into undeveloped and remote areas (e.g., Greenfield sites). Therefore, transportation improvements outlined in the Project would not remove any major barriers to growth.

Modification and/or replacement of existing utilities infrastructure (e.g., water and sewer mains) would be required to support land use changes that would result from implementation of the proposed Project (see Section 3.11, *Utilities and Service Systems*). These infrastructure upgrades would primarily serve new land uses or densities projected to occur under the Project, and are not anticipated to spur development outside of the Project area. It is anticipated that any necessary upgrading/upsizing of existing energy utilities would be sized only to support anticipated growth in the Project area and would not remove a major physical limitation or obstacle to population growth. As a result, infrastructure improvements would occur in a manner that adequately meet the needs of future local residents and employees and would not induce population/housing growth in undeveloped and remote areas.

4.3.3 Precedent-Setting Policies

The Project will require amendments to the Title 19 (Zoning) of the Sunnyvale Municipal Code, which are necessary to implement the vision, goals, and policies for the Project area. These amendments are not considered precedent-setting actions that would have the potential to induce growth in an undeveloped area. Rather, the Project is fully aligned with state and local goals, policies, and actions that state that growth should occur in a sustainable manner, including Senate Bill (SB) 375, SB 743, ABAG's Plan Bay Area/ RHNA, and the Sunnyvale General Plan. The

Project emphasizes land use changes and improvements to transportation networks that would reduce vehicle miles traveled and associated GHG emissions, air pollution, and traffic congestion. This approach of integrating land use and transportation would also reduce pressure for more growth in portions of the region that are located further from the urban core. Additionally, the proposed Project would provide a transitional change of use between the existing, surrounding residential neighborhoods and the Plan area by incorporating height limits, landscape buffers, and land use transitions to help preserve neighborhood character. Given the consistency of the Project's policies with the LUTE update and ABAG's vision and policies to emphasize sustainable growth, the plan would not result in precedent-setting actions that would induce growth in an undeveloped area.

4.4 RESOURCE AREAS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines, Section 15128, requires a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and, therefore, are not discussed in detail in the EIR. These environmental issue areas were analyzed against the criteria as presented in Appendix G of the State CEQA Guidelines. The resource areas are as follows:

Agricultural and Forestry Resources

The proposed Perry Park Specific Plan would not have the potential to result in significant impacts associated with important agricultural and forestry resources. Based on findings in the Initial Study, the Project area overlies prime soils[1] according to the US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) (NRCS 2015). However, virtually all of these soils have been developed or over covered with urban uses for several decades and no agriculturally designated land uses are present in the Project area. The one anomaly is an approximate 4.3-acre parcel that recently contained a nursery business but is now permanently closed (Mellow's Nursery and Farm) and is located along the west side of Mathilda Avenue, between California Avenue and Central Expressway. This parcel includes a partially fallow remnant orchard and plant nursery, and a historic farmhouse built in 1915 (the historic significance of the residence in this property is further discussed in Section 3.3, *Cultural Resources*). The existing use of this parcel negligibly contributes to agricultural resources and is not considered viable agricultural land due to the small size of the parcel, the existing use on site, and the surrounding uses, which consist primarily of industrial and commercial activities.

The California Department of Conservation (DOC) lists the entire Project area including Mellow's Nursery and Farm as "Urban and/or Built-Up Land", which is defined as land that is occupied by structures with a building density of at least 1 unit to 1.5 acres or approximately 6 structures to a 10-acre parcel (Dept. of Conservation 2011). As such, the project would not result in the loss or conversion of agricultural land, farmland, or timberland. Since the acreage associated with the

[1] "Prime Soils" are defined by the USDA as land that has the best physical and chemical characteristics to produce forage and fiber crops and is available for these uses (NRCS 2015).

former Mellow's Nursery and Farm site is small in size and is not considered viable agricultural land, the development of the 4.3-acre parcel would negligibly affect agricultural resources in the area.

No lands are designated or provide forest use in the Project area, although the City of Sunnyvale Tree Preservation Ordinance (Sunnyvale Municipal Code Chapter 19.94) provides for the protection, installation, removal, and long-term management of significantly sized trees on private property. Therefore, implementation of the proposed Project would not result in impacts to agricultural and forestry resources and further analysis of these resources is not required.

Biological Resources

The City is generally urbanized with few areas of natural open space. The Project area is fully developed and does not contain potential natural habitats for any sensitive species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations; or by the California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS) (CDFW 2015; USFWS 2015). The Sunnyvale West Channel is the primary waterway through the Project area, and this channel conveys storm water from the Project area to the Guadalupe Slough, a wetland area that supports a variety of wildlife. Additionally, the Project area supports several healthy mature trees and substantial landscaped areas, which could provide some habitat for both resident and migratory native and non-native bird species as well as small mammals. According to the City's street tree services and Urban Forest Management Plan, mature street tree species of stature are located throughout the Project area, including Ornamental Pear, Coast Redwood, Camphor Tree, Heritage Birch, Autumn Purple Ash, Deodar Cedar, Pine, Canary Island Pine, Sweetbay, Red Maple, Cork Oak, and Southern Live Oak (City of Sunnyvale 2011b, 2013). The potential development projects within the Project area may require removal of onsite mature trees or encounter root structures of mature trees adjacent to the development sites, and could potentially cause irreparable damage to their biological integrity. However, the Project requires a tree survey and landscape plan whenever development may affect a protected tree to address protection, care, and, in needed, replanting. Additionally, street trees within the Project area are protected and would remain in place, removed and replanted, and/or relocated during construction in accordance to City Municipal Code Chapter 13.16, City Trees. Removal and relocation of tree on private property would be addressed on a project by project basis, and such removal and relocation would be in accordance with the City Municipal Code Chapter 19.94, Tree Preservation. Both municipal codes mentioned above provide protection of all trees within the Project area. City Municipal Code Chapter 13.16, City Trees, regulates the management and preservation of trees within the public right-of way, including the street trees in the Project area, and states that it is unlawful to transplant or remove any City tree unless specifically authorized by the City. City Municipal Code Chapter 19.94, Tree Preservation, requires a permit to damage or remove protected or significant trees on private property, open space, and golf courses. All required landscape plans within the Project area shall comply with City regulations including preservation of all existing mature trees to the extent feasible, and replacement of any mature tree(s) unable to be preserved onsite at a 3:1 ratio and planting only City-approved species.

The Project area does not contain riparian corridors, wetlands, or any other sensitive habitat. Amec Foster Wheeler performed a site investigation (June 2013) and observed that the Sunnyvale West Channel runs primarily through a concrete pipe and a small portion passes through an earthen canal; as such, the channel lacks connectivity. Due to the lack of connectivity, implementation of the Project would not interfere with migratory fish or wildlife corridors as no fish species or vegetation are known to occur in the small portion of the artificial channel located within the Project area. Furthermore, the potential increase in pollutants associated with any development adjacent to the Channel that could enter storm water runoff and impact water quality in the Guadalupe Slough would be addressed via compliance with existing federal, state, and local water quality regulations, including compliance with National Pollutant Discharge Elimination System (NPDES) and Storm Water Pollution Prevention Plan (SWPPP) requirements, and the Streamside Development Review regulations of the City's Zoning Ordinance (Sec. 19.81.020, Guidelines and Standards for Land Use Near Streams). As a result, the Project would not conflict with any policies or ordinances protecting biological resources. Therefore, implementation of the proposed Project would not result in significant impacts to biological resources and further analysis of these resources is not required.

Geology and Soils

The Project would intensify industrial use in the Project area, drawing more development and people to the area due to increased employment opportunities. The substantial redevelopment of the area could result in ground disturbance in areas where demolition of existing structures or pavements are proposed. However, with implementation of standard soil retention and storm water management requirements, the potential for soil erosion and loss of topsoil would be minor, especially given the predominantly level topography of Perry Park. Furthermore, soils within the Project area are urban land soils, which have been altered and are not considered to be exceptionally susceptible to liquefaction or expansion (USGS 2015).

Additionally, as the Project would introduce more people into the area, risks associated with seismic activity may increase; however, risks would be mitigated through the implementation of seismic design standards consistent with local and state requirements. New developments within the Project area would be required to complete geotechnical reports and be constructed in accordance with the California State Building Code, which contains specifications to minimize adverse effects due to ground shaking from earthquakes (CBSC 2013). Many of the structures within the Project area were constructed prior to the publication of current rigorous seismic building codes. The replacement of older substandard structures with compliant structures could result in improvements to public safety. Moreover, the Project area is served by the City's sewer system and would not require the use of any septic tanks or alternative wastewater disposal systems. Therefore, given existing state and City building and grading regulations, implementation of the proposed Project would not result in significant impacts to geology and soils and further analysis of these resources is not required (CBSC 2013; City of Sunnyvale 2015b).

Hydrology and Water Quality

Implementation of the Project would result in intensification of light industrial, office, commercial, and residential uses in the Project area. The intensification of new development could have the potential to result in an incremental increase in dry-weather runoff from activities such as excess irrigation, spills, car washing, and washing down paved areas. These activities would have the potential to increase pollution to the drainage system and reduce downstream water quality. However, implementation of low impact development (LID) site design standards as required by Sunnyvale Municipal Code Section 12.60.155 (City of Sunnyvale 2015c) and reductions in impermeable surfaces would counteract this effect, filtering and reducing the amount of polluted water that ultimately reaches the Sunnyvale West Channel. Additionally, the storm drain system is currently sufficient to convey existing surface flows during storm events. New developments in the Project area would also be subject to proactive Specific Plan requirements for protection of water quality (e.g., Section 2.6.8 Open Space Regulations, Stormwater Management Types). Project construction would occur in accordance with the requirements of the City's building and grading standards and General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit Order 2009-009-DWQ) which include pollutant control measures to control surface runoff using Best Management Practices such as soil erosion control, bioswales, and catchments. The Project would also result in changes to existing drainage patterns on individual sites, but would not substantially alter the existing drainage pattern of the Project area. In order to accommodate Project-related development, individual sites would be required to comply with NPDES low impact development site design and treatment standards and SWPPP guidance in order to address on-site drainage based on new building site designs (California Regional Water Quality Control Board 2015).

The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficiency in aquifer volume or a lowering of the groundwater table. The City obtains its potable water supply from three primary sources: treated surface water from the San Francisco Public Utilities Commission (SFPUC), treated surface water from the Santa Clara Valley Water District (SCVWD), and City groundwater supplies. Groundwater currently comprises a small percentage of the City's water supply. According to the City's Urban Water Management Plan (UWMP), increased demand associated with the Project would be fulfilled with existing contracted supplies from SFPUC and SCVWD (City of Sunnyvale 2011b). Groundwater pumping would actually decrease with implementation of water efficiency standards and expansion of the recycled water program.

Additionally, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City does not identify the project area as being located in a 100-year flood hazard zone, nor is the project area located in a tsunami inundation zone (FEMA 2015). Therefore, implementation of the Project would not result in significant impacts to hydrology and water quality and no further analysis of this resource is required.

Mineral Resources

The proposed Project would not have the potential to result in significant impacts to mineral resources. The Project area is almost entirely developed and the City's General Plan does not identify any regional or local important mineral resources within the Project area. In addition, the DOC does not identify any mineral resources in the vicinity of the Project area (Dept. of Conservation 2015). Further, the proposed Project area currently does not have active aggregate or petroleum mining operations and given the built nature of the Project area, no such operations would be feasible. Therefore, there would be no impact to mineral resources and no further analysis of this issue is required.

5.0 ALTERNATIVES ANALYSIS

In accordance with the California Environmental Quality Act (CEQA), an Environmental Impact Report (EIR) must include the evaluation of comparative effects of a range of reasonable alternatives to the project that 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 (CEQA Guidelines §15126.6[a]). The EIR is to consider a reasonable range of feasible alternatives that will foster informed decision-making and public participation. The nature and scope of the alternatives analyzed is governed by the "rule of reason." The discussion of alternatives focuses on alternatives to the project that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede, to some degree, the attainment of the project objectives, or would be more costly (CEQA Guidelines §15126.6[b]).

This EIR also identifies any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination (CEQA Guidelines §15126.6[c]). The EIR must include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Project (CEQA Guidelines §15126.6[d]). Evaluation of a No Project Alternative is required, to allow decision-makers to compare the impacts of approving the Project with the impacts of not approving the Project. The No Project analysis must discuss existing conditions at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the Project were not approved (CEQA Guidelines §15126.6[e]).

5.1 PROJECT OBJECTIVES

The objectives for the Peery Park Specific Plan (Project) are presented in Chapter 2.0, *Project Description,* and reiterated here for reference:

- Create a high-tech 21st century employment center within the City of Sunnyvale;
- Improve the visual characteristics of Peery Park through architectural and landscaping improvements;
- Support and attract the business of high-profile technology firms;
- Develop activity centers to provide recreational opportunities for residents and employees, and alleviate over-use of existing recreational facilities;
- Strengthen and provide opportunities for small-scale technology firms; and
- Provide opportunities to develop housing in a transition area to bridge the gap between residential neighborhoods and employment centers.

5.2 SUMMARY OF POTENTIALLY SIGNIFICANT AND UNAVOIDABLE IMPACTS

Based on the analysis provided in this EIR, the Project would result in potentially significant and unavoidable impacts related to air quality (refer to Section 3.2, *Air Quality*); cultural resources (refer to Section 3.4, *Cultural Resources and Historic Structures*); greenhouse gas (GHG) emissions (refer to Section 3.5, *Greenhouse Gas Emissions*), noise (refer to Section 3.7, *Noise*); and transportation and circulation (refer to Section 3.10, *Transportation, Circulation, and Traffic*). This EIR identifies the following significant and unavoidable impacts:

- **Air Quality:** Construction emissions would exceed Bay Area Air Quality Management District (BAAQMD) construction emission thresholds for volatile organic compounds (VOCs) and nitrogen oxide (NO_x). Operational emissions would exceed BAAQMD criteria pollutant emissions for VOCs and NO_x.
- **Cultural Resources and Historic Structures:** The alteration and redevelopment of historic resource Mellow's Nursery and Farm is considered a significant and unavoidable impact to cultural resources.
- **Greenhouse Gas Emissions:** The Project would result in 11,504.88 metric tons of carbon emissions ($MTCO_2e$)/year from stationary sources, 18,539.15 $MTCO_2e$/year from mobile sources, and 1,119.87 $MTCO_2e$/year of (amortized) construction emissions. This would exceed BAAQMD's 10,000 $MTCO_2e$/year threshold for stationary sources and 1,100 $MTCO_2e$/year threshold for mobile sources.
- **Noise:** The Project would generate excessive ground-borne vibration or noise during construction activities. The Project could temporarily or periodically increase ambient noise levels in the Project area. Implementation of mitigation measures would not reduce impacts to a less than significant level. Therefore, impacts associated with construction related noise and increases in ambient noise would be temporarily significant and unavoidable. Planned development would contribute to a substantial increase in permanent traffic noise levels on area roadways. Impacts to traffic related noise levels would be significant and unavoidable.
- **Transportation, Circulation, and Traffic:** Increased traffic generated by the Project would increase congestion at 5 of the 90 study intersections. While the Project would implement transit oriented development and include improvements to transit, pedestrian, and bike facilities and expand the City's Traffic Demand Management (TDM) Program to minimize new vehicle trips and vehicle miles traveled, potential peak period congestion would sill exceed existing City vehicular oriented level of service (LOS) thresholds. Increased traffic generated by buildout of the Project would increase congestion at 10 mixed-flow freeway segments and six HOV segments resulting in significant and unavoidable impacts.

5.2.1 Alternatives Selection Methodology

This EIR identifies five alternatives considered by the City, which represent a reasonable range of alternatives that are potentially capable of avoiding or substantially lessening any significant effects of the project. The alternatives are:

1. No Project Alternative
2. Mixed Use Housing Alternative
3. Higher Intensity Buildout Alternative
4. Reduced Project Alternative
5. Moffett Federal Airfield Comprehensive Land Use Plan (CLUP) Consistency Alternative

Alternatives to the Project were screened, and recommended to either be retained for further analysis or eliminated as described below. The Alternatives screening process consisted of the following steps:

Step 1: Define the alternatives to allow comparative evaluation.

Step 2: Evaluate each alternative in the context of the following criteria:

- The extent to which the alternative would accomplish most of the basic goals and objectives of the Project;
- The potential feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, General Plan consistency, and consistency with other applicable plans and regulatory limitations;
- The extent to which the alternative would avoid or lessen one or more of the identified significant environmental effects of the Project; and
- The requirement of the state CEQA Guidelines to consider a “no project” alternative and to identify, under specific criteria, an “environmentally superior” alternative. For example, pursuant to State CEQA Guidelines section 15126.6, subdivision (e), “if the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

Step 3: Determine the suitability of the proposed alternatives for full analysis in the EIR based on Steps 1 and 2 above. Alternatives considered to be unsuitable, were eliminated, with appropriate justification, from further consideration.

Based on the screening process, three alternative were considered for analysis and two were eliminated from further consideration (see Table 5-1). In Section 5.4, each of the selected alternatives is described and its potential environmental impacts and ability to meet basic Project objectives are compared with the Project.

Table 5-1. Summary of Alternatives Screening

Alternatives Considered and Rejected	• Reduced Project Alternative • Moffett Federal Airfield CLUP Consistency Alternative
Alternatives Analyzed in this EIR	• No Project Alternative • Mixed Use Housing Alternative • Higher Intensity Buildout Alternative

In addition, two alternatives were rejected. The rejected alternatives are described briefly below, along with the specific reason that they were rejected.

5.3 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER ANALYSIS

As discussed above, CEQA Section 15126.6(c) requires that an EIR disclose alternatives that were considered and rejected, and provide a brief explanation as to why such alternatives were not fully considered in the EIR. The following alternatives were considered but eliminated from further analysis by the City:

5.3.1 Rejected Alternative: Reduced Project Alternative

The Reduced Project Alternative would reduce potential future development through reduced limits the height and/or Floor to Area ratio (FAR) of potential development across the Project area. This would reduce environmental impacts, such as traffic congestion, air quality and utility demand, but would not effectively achieve Project objectives including the support of high-profile technology firms and creation of a 21st century employment center within the Project area. The Reduced Project Alternative would result in the reduction of employment opportunities and the loss community benefits associated with the Project.

Further, a Reduced Project Alternative would closely resemble the No Project Alternative, where development would proceed over time consistent with the 2011 General Plan; impacts under the No Project Alternative are evaluated in below in Section 5.4. Therefore, the Reduced Project Alternative was discarded as it is inconsistent with Project objectives and is not substantially different from the No Project Alternative.

5.3.2 Rejected Alternative: Moffett Federal Airfield Comprehensive Land Use Plan (CLUP) Consistency Alternative

The Moffett Federal Airfield CLUP Consistency Alternative would ensure that the Project is consistent with the guidelines for Moffett Federal Airfield CLUP, thereby avoiding or reducing potential impacts to land use and aircraft hazards. This alternative would be similar to the Project, with the exception of reduced maximum allowable building heights and restricted land uses, including a potential activity center, in all areas subject to CLUP restrictions. Specifically, the CLUP restricts maximum building heights in the Project area within and adjacent to the runway

protection and safety zones, with parcels closest to the end of the runway generally being limited to 0 to 2 stories in height and those farther from the end of the runway, west of Maude Avenue, permitted to construct buildings of up to 8 stories. Building height limitations are governed by a complex formula related to the relationship to mean sea level (MSL). Existing elevation of most of the Project area is approximately 55 feet above MSL. At this elevation and under this Alternative, building heights within the majority of this 150-acre area would be limited to 4 to 8 stories. As the employment density within the CLUP Safety Zones would be reduced, this would further reduce the number of employees subject to aircraft safety hazards as well as reducing traffic generation and other impacts. This alternative was discarded because it did not meet the Project objectives regarding employment and because the proposed Project includes mechanisms to reduce CLUP consistency issues and all future development within areas subject to Airfield influence would be subject to review for consistency with the CLUP.

5.4 ALTERNATIVES ANALYZED IN THIS EIR

This section summarizes the key assumptions and policy-related aspects of the three proposed alternatives to the Project that have been carried forward for analysis. Pursuant to CEQA, the alternatives were evaluated based on their ability to reduce potential project-related environmental impacts and meet basic project goals and objectives.

5.4.1 No Project Alternative

In accordance with CEQA Guidelines 15126.6(e), this EIR includes a No Project Alternative. In the context of a project involving the adoption of a long range plan such as the Project, the No Project Alternative does not mean "no future growth or land uses," but rather that permitted development under existing adopted plans and policies would occur. As such, the No Project Alternative considers the environmental impacts under conditions where the Project is not adopted, and the standards, policies, and actions of the plan are not implemented.

Under the required No Project Alternative, existing policies and development standards would continue to apply to properties in the Project area. New development and redevelopment of existing facilities would occur in accordance with 2011 General Plan land use designations, the current Zoning Ordinance, and all applicable development standards and regulations. Under the existing zoning within the Project area, there is potential for an additional 900,000 square feet (sf) of development to occur within the Project area, for a total of 8.4 million sf. The amount of future development under this alternative would therefore be approximately 40.9 percent of the 9.7 million sf of total potential buildout under the Project. This reduction in potential development would reduce the projected number of employees generated by development within the Project area, associated vehicle trips, roadway noise, air pollutant and GHG emissions, as well as demand for public services and utilities.

Land uses within the Project area would remain as identified in the 2011 General Plan: 77 percent of the site would remain designated for Industry, with 12 percent designated for service and retail

uses, 10 percent for recreational uses, and very limited residential uses (less than 1 percent). The No Project Alternative would maintain the existing M-S Industrial zoning, which limits building height to a maximum of 8 stories (75 feet) and 35 percent FAR over approximately 95 percent of the Project area; portions of the site currently zoned from 70 to 100 percent FAR along Mathilda Avenue would retain their higher potential FAR buildout allotment. The remainder of the Project area would maintain C1 Neighborhood Business zoning, which limits maximum building heights to 2 stories or up to 40 feet. The 215 housing units that are proposed under the Project could potentially be developed under the No Project Alternative with a Use Permit, as indicated by the Use Regulations for the M-S zone, but would not be specifically planned for or facilitated.

Potential Impacts to Resource Areas

Aesthetics and Visual Resources

Future development under the No Project Alternative would generate new sources of light and glare such as outdoor lighting fixtures on buildings, signage and architectural lighting, and reflective building materials, and could result in the removal of street trees. However, new development under the No Project Alternative would be less than that anticipated to occur under the Project, incrementally reducing impacts associated with increased light and glare, and to visual resources such as the urban tree canopy. Because no designated state scenic highways or scenic vistas exist within or adjacent to the Project area, the No Project Alternative would not have an adverse effect on scenic highways or scenic vistas.

Under the No Project Alternative, the amount of development would be reduced, with less potential for construction of taller buildings, incrementally reducing the overall change in existing aesthetic character of the area. However, in contrast to the Project, the No Project Alternative would not implement the Project's detailed development standards or design guidelines. Without the application of these development standards or design guidelines, new buildings in the Project area would not be required to provide higher quality architectural design, open space, and pedestrian-friendly landscaping. Along North Mathilda Avenue, new buildings would not be subject to standards that ensure a respectful transition to neighborhoods. Therefore, overall effects to the visual character of the No Project Alternative would have the potential to be slightly greater than the Project, particularly in neighborhood transition areas.

Overall, under the No Project Alternative, impacts to aesthetics and visual resources would be comparable to the Proposed Project and would remain *less than significant*.

Air Quality

Construction activities for future development occurring under the No Project Alternative would result in construction-related air pollutant emissions and have the potential to expose adjacent sensitive receptors to construction emissions. While individual projects would be small and likely not generate construction emissions that would exceed the BAAQMD's recommended thresholds of significance, combined emissions from multiple development projects would have the potential to exceed VOC and NO_x thresholds. All projects would continue to be subject to BAAQMD's

regulations. The amount of future development under this alternative would be approximately 40.9 percent of the total possible buildout offered under the Project, thereby resulting in less new construction and associated construction emissions. However, estimated construction emissions under this alternative were pro-rated based on Project emissions data and have the potential to result in up to 178.49 pounds/day of VOCs and 213.78 pounds/day of NO_x; if this rate of emissions occurred, this would result in the exceedance of BAAQMD's thresholds of significance (54 pounds/day). While emissions would continue to exceed construction thresholds resulting in short term significant impacts, emissions under this alternative would be reduced from the Project (553.50 pounds/day of VOCs and 641.95 pounds/day NOx).

Under the No Project Alternative, the mix of allowable land uses under the LUTE would continue to generate operational emissions from both stationary and mobile sources, including those associated with vehicle trips and the use of natural gas and landscaping maintenance equipment. In comparison to the Project, the No Project Alternative would result in reduced trip generation and a reduced FAR, and associated stationary emissions, compared to the Project, thereby resulting in a substantial reduction of operational air emissions, with an estimated net increase of 33.84 pounds/day of VOCs and 29.85 pounds/day of VOCs. These emissions would be below BAAQMD criteria pollutant thresholds and therefore long term operational emissions would be *less than significant.* Similar to the Project, the No Project Alternative would not conflict with implementation of the Air Quality Management Plan (AQMP) as this alternative would result in slightly reduced emissions compared to the Project and would not exceed BAAQMD thresholds.

In addition, the No Project Alternative would not propose coordinated implementation of streetscape, pedestrian, bike path and transit improvements as set forth in the draft Specific Plan. Rather such features may be implemented incrementally with future development; however, the Project area could continue to develop in a more auto oriented pattern, retaining a discontinuous bike path and sidewalk system, as well as relatively low levels of transit service. Further, proposed TDM Programs which would reduce per capita peak hour trip generation and Vehicle Miles Travelled (VMT) would not be implemented. Therefore, while overall emissions would be reduced due to the reduction in development, a greater emphasis on alternative forms of transportation would not occur and per capita VMT and associated per capita pollutant emissions would increase. However, under the No Project Alternative, impacts to air quality would be less than the Project, operational emissions would no longer exceed thresholds and would be *less than significant.* However, construction emissions under this alternative would potentially to exceed BAAQMD construction emissions thresholds and impacts would continue to be *significant and unavoidable*.

Biological Resources

Similar to the Project, individual projects anticipated to occur under the No Project Alternative could potentially require the removal and/or the relocation of existing vegetation and trees onsite and nesting and/or migratory birds that may be present. Trees within public right-of-ways would be protected in place in accordance with the City's Tree Ordinance and Urban Forest Master Plan (UFMP). Removal of public trees would generally only be permitted for public improvement

projects and would require a tree removal permit in accordance with the City's Tree Ordinance and UFMP. Street trees within the Project area are protected and would remain in place, removed and replanted, and/or relocated during construction in accordance to City Municipal Code Chapter 13.16, City Trees. Removal and relocation of tree on private property would be addressed on a project by project basis, and such removal and relocation would be in accordance with the City Municipal Code Chapter 19.94, Tree Preservation. Both municipal codes mentioned above provide protection of all trees within the Project area. City Municipal Code Chapter 13.16, City Trees, regulates the management and preservation of trees within the public right-of way, including the street trees in the Project area, and states that it is unlawful to transplant or remove any City tree unless specifically authorized by the City. City Municipal Code Chapter 19.94, Tree Preservation, requires a permit to damage or remove protected or significant trees on private property, open space, and golf courses. All required landscape plans within the Project area shall comply with City regulations including preservation of all existing mature trees to the extent feasible, and replacement of any mature tree(s) unable to be preserved onsite at a 3:1 ratio and planting only City-approved species. Impacts would be similar to the Project since compliance with regulations would be required and mitigation would be on a project-by-project basis. Overall, impacts to biological resources under the No Project Alternative would be similar to the Project and would remain *less than significant*.

Cultural Resources and Historic Structures

Similar to the Project, the City's existing regulatory framework for the protection of historic resources within the Project area, including the City's Landmark and Historic Preservation Guidelines and Municipal Code (Section 19.96.030) would apply to new development under the No Project Alternative. Impacts to identified historical resources within the Project area, including the Libby Tower and the Mellow's Nursery would be largely similar to those described for the Project. The Libby Tower may be potentially affected by future development adjacent to the landmark; however, any development that may result in impacts to the Libby Tower would be subject to review by the Heritage Preservation Commission and would therefore mitigate potential impacts to the Libby Tower. Additionally, while a historic resources evaluation and approval by the Heritage Preservation Commission could retain the historic qualities and significance of Mellow's Nursery, the existing General Plan does not include relocation or preservation of the historic resource. Similar to the Project, Mellow's Nursery could potentially be redeveloped under the No Project Alternative given its existing land use designation and result in the loss of a historic resource.

Mellow's Nursery is identified as a Near-term Project site and would therefore result in the loss of a historic resource even under No Project conditions.

Potential impacts of the No Project Alternative to archaeological and paleontological resources would be similar to the Project since excavation for construction of projects would occur in a

similar manner. Mitigation measures would be expected to be implemented on a project-by-project basis as new projects are proposed.

Overall, impacts to cultural resources under this alternative would be similar to the Project, and as Mellow's Nursery would be subject to redevelopment, impacts would continue to be *significant and unavoidable*.

Geology and Soils

Geological impacts are generally site-specific, and similar to the Project, all new development under the No Project Alternative would be required to adhere to regulations and standards in the City's Municipal Code and Building Code, which adopts California Building Code (CBC) standards by reference with local amendments. Adherence to the Municipal Code and Building Code requirements would ensure the maximum practicable protection available for all structures constructed in the Project area. Additionally, the City would require the preparation of site-specific geotechnical investigations for individual projects and the incorporation of recommendations from the site-specific geotechnical investigations (regarding site preparation, grading, backfill, and foundations) into the project design.

Overall, potential impacts related to geology and soils under the No Project Alternative would be similar to those for the Project and would remain *less than significant*.

Greenhouse Gas Emissions

Construction of new development under the No Project Alternative would result in temporary construction-related GHG emissions; however, based on the potential buildout under the No Project Alternative, there would be less construction activities and associated construction-related GHG emissions than under the Project (1,119.87 $MTCO_2e$/year). Operational GHGs would be generated from motor vehicles, natural gas consumption, solid waste handling and electricity generation. However, under the No Project Alternative, trip generation, energy demand, and emissions from building operations would be reduced compared to the Project (30,044.03 $MTCO_2e$/year), due to the reduction in potential development that would occur under the No Project Alternative.

As the No Project Alternative would result in a maximum buildout potential of approximately 40.9 percent of the 9.7 million sf of total potential buildout of the Project, total GHG emissions would be reduced from the 11,504.88 $MTCO_2e$/year stationary operational emissions anticipated to occur under the Project. As such, annual GHG stationary emissions are anticipated to be below the 10,000 $MTCO_2e$/year threshold. However, as the Project would result in 18,539.15 $MTCO_2e$/year of mobile source emissions, the No Project Alternative may still have the potential to exceed the 1,100 $MTCO_2e$/year threshold for mobile source GHG emissions.

Overall, the No Project Alternative would not greatly advance the sustainability and GHG reduction goals in the Climate Action Plan, Zero Waste Policy, and Green Building Program. The No Project Alternative would not implement the coordinated streetscape, pedestrian, bike path

and transit improvements as set forth in the draft Specific Plan, with the potential to create a more pedestrian oriented and sustainable community. Future development would continue in a primarily auto oriented context in an area that would support a discontinuous bike path and sidewalk system, as well as relatively low levels of transit service. Therefore, while overall GHG emissions would be reduced due to the reduction in development, a focused shift to alternative forms of transportation would not occur. Nevertheless, City required TDM programs for individual projects would result in reduction of per capita peak hour trip generation by 25 to 35 percent. Further, Vehicle Miles Travelled (VMT) would still be implemented. Individual project conditions would be required that would result in improved per capita VMT and associated per capita pollutant emissions; however, in a less comprehensive method. While additional existing LUTE policies would ensure that future development proposals in the Project area would not conflict with GHG goals, progress toward meeting such goals would be reduced.

Overall, impacts to GHG emissions under the No Project Alternative would be less than under the Project, but would remain *significant and unavoidable* as the mobile source GHG threshold would likely be exceeded under this alternative.

Hazards and Hazardous Materials

Similar to the Project, future construction activities under the No Project Alternative would involve demolition, grading and excavation that could potentially result in the accidental release of hazardous materials. Based on the age of many existing buildings within the Project area, construction workers and the public could be exposed to lead and asbestos that may be present within structures to be demolished. In compliance with all pertinent regulations for the handling of such waste including the City's Municipal Code (Title 20) and California Department of Industrial Relations Division of Occupational Safety and Health, asbestos, lead, or other hazardous material would be removed and disposed of prior to demolition. It is expected that project-specific mitigation measures would be applied as necessary on an individual project basis to mitigate the risks of hazards to the public or the environment.

Similar to the Project, future development anticipated to occur under the No Project Alternative would utilize limited quantities of potentially hazardous materials consisting of typical maintenance products (e.g., paints, fuels/lubricants, cleaning solvents, adhesives, sealers, pesticides/herbicides). These potentially hazardous materials are common in urban areas and already occur within the Project area. The limited transport, storage, and disposal of hazardous materials is subject to applicable federal, state, and local regulations to reduce the risk of accidental spills, leaks, fire, or other hazardous conditions.

Overall, impacts to hazards and hazardous materials under the No Project Alternative would be similar to those described under the Project and would remain *less than significant*.

Hydrology and Water Quality

The Project area is already largely developed with impermeable surfaces and as such, anticipated development under the No Project Alternative would not increase runoff or alter drainage patterns. Runoff would be routed to the same treatment facilities and storm drains as under the Project.

Similar to the Project, stormwater runoff from future development under the No Project Alternative would be managed consistent with the provisions of the San Francisco Bay Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) permit, which requires that new development projects to incorporate Low Impact Development (LID) measures to reduce the amount of pollutants washing off the site and to maintain pre-development surface water runoff rates. Existing regulations require that new projects implement Low Impact Development (LID) and best management practices (BMPs) to reduce urban polluted runoff. Each project developed under the No Project Alternative would be required by the City to prepare an erosion and sediment control plan, and for projects greater than one acre, comply with the provisions of a Construction General Stormwater Permit.

Overall, with compliance with existing regulations, impacts to hydrology and water quality under the No Project Alternative would be similar to the Project, and would remain *less than significant*.

Land Use and Planning

The No Project Alternative would retain existing land uses and would be consistent with, or require allowances from the Moffett Federal Airfield CLUP, the Plan Bay Area, the City of Sunnyvale (City) General Plan, Southern Pacific Corridor Specific Plan, Design Guidelines of the City, and the Heritage Preservation Program. This alternative would maintain the existing low-profile nature of the Project area due to generally low FAR percentages and the absence of a coordinated community benefits program, and would continue to allow industrial development without coordinated design standards. Further, the No Project Alternative would not physically divide an established community as it would not introduce land uses that would physically or functionally conflict with existing land uses.

Under the No Project Alternative, the beneficial effects to the community associated with attracting high-profile employment centers would not be fully realized.

However, continued development of the Project area under the existing auto oriented land use and regulatory framework could conflict with the intent of statewide legislation such as AB 32 and SB 375 for sustainable development, reductions in VMTs and GHG emission, at least on a per capita basis. While the Project is not technically required to carry out streetscape alterations and some aspects would be required with redevelopment, the No Project Alternative does not propose

implementation of the coordinated streetscape, pedestrian, bike path and transit improvements as set forth in the draft Specific Plan. Future development would continue in an auto oriented context in an area that would support a discontinuous bike path and sidewalk system, as well as relatively low levels of transit service. Further, proposed TDM Programs that would reduce per capita peak hour trip generation and Vehicle Miles Travelled (VMT) would not be implemented. Therefore, while overall emissions would be reduced due to the reduction in development, a shift to alternative forms of transportation would not occur and per capita VMT and associated per capita pollutant emissions would increase. This trend would conflict with established statewide goals for infill development, particularly that proximate to high quality transit.

Under the No Project Alternative, the current character adjacent to surrounding communities would be maintained. Nevertheless, the Project's beneficial effects to the community such as the creation of a high-profile employment center developed under detailed design guidelines to provide community benefits, including enhanced recreational opportunities and activity centers, would not be realized.

While the No Project Alternative would retain much of the existing development and streetscape character within the District, this alternative would not address a number of key land use goals and policies that would be implemented by the Project. The full extent of opportunities for innovative and sustainable land use designs provided by the Project would not occur in a coordinated manner nor with the intensity of beneficial community benefits or economic potential. Land use impacts associated with development based on existing land use patterns under the No Project Alternative would be *less than significant*, similar to the Project.

Noise

Similar to the Project, construction activities anticipated to occur under the No Project Alternative would have the potential to generate temporary noise and groundborne vibration that could affect nearby sensitive receptors. Similar to the Project, construction activities would be temporarily adverse, but adherence to the City's Municipal Code would ensure that noise levels would not cause significant impacts to sensitive receptors or damage to buildings.

Further, as the No Project Alternative would result in less development and generation of increases in Average Daily Trips (ADT) compared to the Project, noise from operational sources, such as motor vehicle trips, large ventilation, and air conditioning (HVAC) systems and commercial delivery operations would be reduced. Overall, noise and vibration impacts under the No Project Alternative would be reduced from when compared to the Project. In particular, increases in the volume of ADTs along both Maude and Mathilda Avenues would be reduced by more than 50 percent when compared to the Project. As such, increases in noise levels in adjacent residential areas would be reduced below the Thresholds of Significance. Therefore, impacts would be *less than significant*.

Population and Housing

Compared to the Project, development under the No Project Alternative would result in less population and employment growth. Based on a linear projection between the two alternatives, the Project would generate approximately 14,401 jobs; whereas, the No Project Alternative would result in approximately 5,891 jobs (8,510 fewer jobs than the Project) with a related housing demand of up to 2,042 additional housing units, less than required under the Project. Therefore, this alternative would have less effect on jobs/housing ratio than the Project. This rate of growth is also well within the City and ABAG's growth projections.

As housing units would be permitted in the Project area with a use permit under the No Project Alternative, the residential population and number or housing units has the potential to be the same as the Project. Based on the average occupancy per unit in the City (2.67 persons per unit), this alternative could result in a similar residential population growth (approximately 576 persons total). Further, the No Project Alternative would not displace a substantial residential population as the Project area is developed mainly with industrial and commercial uses.

Overall, impacts related to population and housing under the No Project Alternative would be less than under the Project, but would remain *less than significant.*

Public Services

Increases in commercial/visitor populations in the Project area under the No Project Alternative would slightly increase the demand on police and fire protection services, public schools, and parks. Under the No Project Alternative, the forecasted growth in the Project area, and the associated demand on public services, would be less than that of the Project. Therefore, impacts to public services would be incrementally reduced compared to the Project. Further, the population growth anticipated under this alternative is not expected to result in the need for additional police and fire department facilities. Individual developers within the Project area would be required to pay development fees that would assist to offset impacts to public services.

Overall, impacts to public services under the No Project Alternative would be incrementally reduced compared to the Project, and would remain *less than significant*.

Transportation, Circulation, and Traffic

Under the No Project Alternative, construction-related traffic associated with potential future projects would incrementally contribute to increased congestion and disruption of travel routes within the vicinity. While each future project's contribution would be temporary and short-term, ongoing construction would periodically affect circulation in the Project area. However, construction-related traffic would be less than under the Project, and project-specific mitigation measures would be applied on a project-by-project basis to ensure that circulation on the local street network would not be adversely affected.

Under the proposed Project, new development was projected to generate approximately 2,870 trips in the AM peak hour and 3,362 trips in the PM peak hour. Under the No Project alternative, the reduction in buildout from roughly 2,200,000 sf under the proposed Project to 900,000 sf under the No Project Alternative, peak hour trip generation would decrease by approximately 59.1 percent to roughly 1174 AM peak hour trips and 1,375 trips in the PM peak hour. Based on the methodology for determining Project intersection impacts within Section 3.10, *Transportation, Circulation and Traffic*, and data provided in Table 3.13-6, trip generation under this alternative would continue to have the potential to significantly impact LOS at three study intersections: 1) Mary Avenue and Central Expressway, 2) Lawrence Expressway and Cabrillo Avenue, and 3) Lawrence Expressway and Benton Street. However, reduced trip generation under this alternative would result in lower levels of vehicular congestion and impact LOS at fewer intersections than under the Project (five intersections). Cumulative impacts would also be reduced. However, mitigation measures identified for the Project may not be applied under this alternative, such as MM T-2a, additions of a westbound left-turn lane at the intersection of Mary Avenue and Central Expressway.

Under No Project conditions, the streetscape, pedestrian, bike path and transit improvements set forth in the draft Specific Plan, with the potential to reduce per capita peak hour trip generation and reliance of automobile use would not occur. Future development would continue in the existing auto oriented context in an area that would support a discontinuous bike path and sidewalk system, as well as relatively low levels of transit service. Further, proposed Project TDM Programs that would reduce per capita peak hour trip generation by 25 to 35 percent as well as VMTs would not be implemented. Therefore, while overall congestion would be reduced due to the reduction in development, a shift to alternative forms of transportation would not occur and per capita peak hour trip generation, VMTs, and associated congestion would occur. Streetscape, bikepath and pedestrian and transit improvements included in the Project would not be carried out, resulting in an unbalanced transportation system. TDM measures would be limited to those identified in the LUTE, but not the enhanced measures proposed by the Project. Therefore, the Project's trip reduction targets of 20 to 35 percent would not be realized.

Therefore, while overall, impacts to transportation and circulation under the No Project Alternative would be less than under the Project, many beneficial transportation system improvements would not be carried forward. However, based on existing LOS auto oriented thresholds of significance, while impacts to intersections would be reduced, they would continue to be *significant and unavoidable*.

Utilities and Infrastructure

Development anticipated to occur under the No Project Alternative would result in increased demand on utilities; however, as development under the No Project Alternative would be less than the Project, utility demand would be less. Increased water demand would be approximately 140,550 gallons per day (gpd) or 157.5 acre-feet per year (AFY), which is 200,000 gpd less than net new water demand projected under the Project.

Wastewater produced by development under the No Project Alternative would meet Regional Water Quality Control Board (RWQCB) requirements through treatment at the Sunnyvale Water Pollution Control Plant (WPCP). This treatment plant utilizes full tertiary treatment and has the ability to accommodate 29.5 million gallons per day (MGD) of wastewater and currently treats an average of 15.9 MGD. Development under the No Project Alternative would increase the amount of wastewater transported by the sewer system by approximately 124,025 gpd but would not exceed the WPCP capacity. Further, this amount is 184,000 gpd less that the 308,025 gpd of net wastewater generated under the Project. However, several utility line segments are in currently need of upgrades and installation of new utility lines would continue to be required on an individual project basis.

The amount of solid waste generation under the No Project Alternative would be approximately 865 tons/year, and would be 1,752 tons/year less than under the Project. However, as the City is served by five solid waste disposal facilities with a current throughput of 3.6 million tons/year, the increase of 865 tons/year under this alternative is considered an incremental increase and there would be sufficient existing capacity of solid waste to accommodate the No Project Alternative. Future development under the No Project Alternative would incrementally increase the demand for regional electric and natural gas production and distribution facilities. These facilities are operated and maintained by private utility companies that plan for anticipated growth and expand as needed to meet demand, consistent with applicable local, state, and federal regulations.

Overall, impacts to utilities under the No Project Alternative would be reduced from the Project, and would be *less than significant*.

Attainment of Project Objectives

Under the No Project Alternative, the Project's policies and standards aimed at creating a high-tech 21st century employment center, attracting business of high-profile technology firms to ensure the long term wellbeing of the local and regional economy would not be fully implemented. Additionally, the No Project Alternative would not foster the development of activity centers to provide recreational opportunities for residents and employees, and alleviate use of existing recreational facilities. Therefore, this alternative would not achieve many of the Project Objectives.

5.4.2 Mixed Use Housing Alternative

The Mixed Use Housing Alternative would replace some proposed commercial uses with residential uses to diversify the land uses within the Project area. Specifically, this alternative would adjust the land use plan to allow housing at the Southern Mixed Use Activity Center. This proposed activity center involves 16 acres of land near the intersection of Mary Avenue and Central Expressway. This alternative would replace approximately 500,000 sf of proposed office uses with residential uses, which would allow up to 640 dwelling units (du) at an average density of 40 du/acre. This alternative would continue to include retail uses at the Activity Center area to serve new residents and employees as well as existing residents in the surrounding area.

Under this alternative, the Project would include use of development standards to prescribe the height, FAR, and allowed uses of potential mixed use development in appropriate locations in the Project area. These areas would be restricted in terms of allowable use to ensure compatibility between residential and commercial uses. This Alternative would limit mixed use development to the Activity Center, while retaining other areas in the Project area for office and R&D uses. This alternative would incrementally reduce potential impacts, but would not provide as great an increase in employment within the Project area and therefore not as effectively meet the intent of many of the Project objectives to high-tech, high-profile employment center. The incremental reduction in impacts would also be associated with the loss of employment opportunities and potential community benefits associated with the Project, but would increase housing to partially address housing demand in Sunnyvale and regional housing demands (see Figure 5-1).

Table 5-2. Proposed Net Increase in Building Space under the Mixed Use Housing Alternative

Use	Amount
Commercial	**1,700,000 sf**
Retail	200,000 sf
Office/R&D/Industrial	1,500,000 sf
Residential	**640 units**

Potential Impacts to Resource Areas

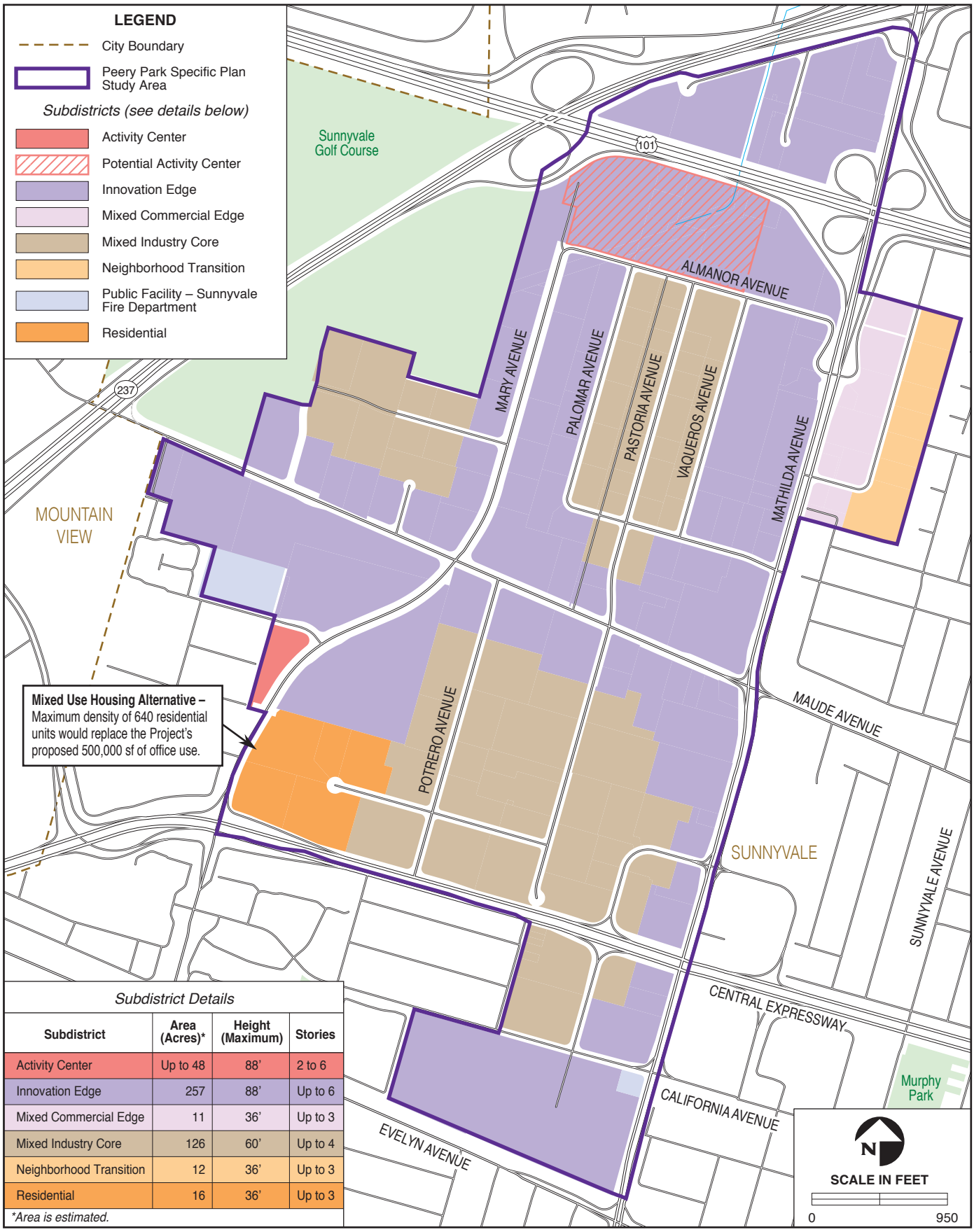
Aesthetics and Visual Resources

Because no designated state scenic highways or scenic vistas exist within or adjacent to the Project area, the Mixed Use Housing Alternative would not have an adverse effect on scenic highways or scenic vistas.

New industrial and commercial development under this alternative would have the ability to generate new sources of light and glare such as outdoor lighting fixtures on buildings, signage and architectural lighting, and reflective building materials, and could result in the removal of street trees. New development under the Mixed Use Housing Alternative would continue to result in multi-story office buildings that may use reflective materials and exterior lighting, thereby resulting in similar impacts to light and glare, and to visual resources such as the urban tree canopy.

Similar to the Project, this alternative would implement the Project's detailed development standards or design guidelines and would ensure that the design of proposed buildings would enhance the character and quality of the Project area, contributing to a high quality urban environment.

Therefore, overall impacts to aesthetics and visual resources would be similar to the Project and impacts to would remain *less than significant*.



Subdistrict Details

Subdistrict	Area (Acres)*	Height (Maximum)	Stories
Activity Center	Up to 48	88'	2 to 6
Innovation Edge	257	88'	Up to 6
Mixed Commercial Edge	11	36'	Up to 3
Mixed Industry Core	126	60'	Up to 4
Neighborhood Transition	12	36'	Up to 3
Residential	16	36'	Up to 3

*Area is estimated.

amec foster wheeler

Mixed Use Housing Alternative

FIGURE 5-1

Air Quality

Construction activities for new development occurring in the Project area would result in construction-related air pollutant emissions and have the potential to expose adjacent sensitive receptors to construction emissions. While individual projects would be small and likely not generate construction emissions that would exceed the BAAQMD's recommended thresholds of significance, combined emissions from multiple development projects would have the potential to exceed VOC and NO_x thresholds. All projects would continue to be subject to BAAQMD's regulations and project mitigation measures identified in Section 3.2, *Air Quality*. Total new development under the Mixed Use Housing Alternative would be slightly less than that anticipated to occur under the Project, thereby resulting in slightly less new construction activities, and a slight reduction in associated construction emissions with less than 553.50 pounds/day of VOCs and 641.95 pounds/day of NO_x. However, as the BAAQMD threshold for VOCs and NOx is 54 pounds/day, this alternative would likely result in an exceedance of these construction emission thresholds.

Under the Mixed Use Housing Alternative, new residential land uses would replace industrial land uses and would result in either incrementally less or comparable operational emissions from both stationary and mobile sources, including those associated with vehicle trips from residents and employee and the use of natural gas and landscaping maintenance equipment. In comparison to the Project, the Mixed Use Housing Alternative would result in slightly less peak hour trip generation compared to the Project, thereby resulting in an incremental reduction of mobile source air emissions. However, operational emissions would only be incrementally reduced from the estimated net increase of 125.35 pounds/day of VOCs and 110.55 pounds/day of VOCs. Therefore, operational emissions are anticipated to exceed BAAQMD criteria pollutant thresholds of 54 pounds/day.

Overall, under the Mixed Use Housing Alternative, impacts to air quality may be incrementally less than under the Project, but would remain *significant and unavoidable*.

Biological

Similar to the Project, individual projects anticipated to occur under the Mixed Use Housing Alternative could potentially require the removal and/or the relocation of existing vegetation and trees onsite and subsequently directly impact nesting and/or migratory birds that may be present. Trees within public right-of-ways would be protected in place in accordance with the City's Tree Ordinance and Urban Forest Master Plan (UFMP). Removal of public trees would generally only be permitted for public improvement projects and would require a tree removal permit in accordance with the City's Tree Ordinance and UFMP. Street trees within the Project area are protected and would remain in place, removed and replanted, and/or relocated during construction in accordance to City Municipal Code Chapter 13.16, City Trees. Removal and relocation of tree on private property would be addressed on a project by project basis, and such removal and relocation would be in accordance with the City Municipal Code Chapter 19.94, Tree Preservation. Both municipal codes mentioned above provide protection of all trees within the Project area. City Municipal Code Chapter 13.16, City Trees, regulates the management and

preservation of trees within the public right-of way, including the street trees in the Project area, and states that it is unlawful to transplant or remove any City tree unless specifically authorized by the City. City Municipal Code Chapter 19.94, Tree Preservation, requires a permit to damage or remove protected or significant trees on private property, open space, and golf courses. All required landscape plans within the Project area shall comply with City regulations including preservation of all existing mature trees to the extent feasible, and replacement of any mature tree(s) unable to be preserved onsite at a 3:1 ratio and planting only City-approved species. Impacts would be similar to the Project since compliance with regulations would be required and mitigation would be on a project-by-project basis. Additionally, construction activities in the Project area would not result in a significant disturbance to wildlife as the Project area is developed with industrial uses and any habitat would be highly isolated/fragmented, and not likely to support substantial wildlife. Overall, impacts to biological resources under the Mixed Use Housing Alternative would be similar to the Project and would remain *less than significant*.

Cultural Resources

Under the Mixed Use Housing Alternative, the City's existing regulatory framework for the protection of historic resources within the Project area, including the City's Landmark and Historic Preservation Guidelines and Municipal Code (Section 19.96.030) would continue to apply. Impacts to identified historical resources within the Project area, including the Libby Tower and the Mellow's Nursery would be largely similar to the Project. The Libby Tower would continue to be potentially affected by future development adjacent to the landmark; however, any future development that may result in impacts to the Libby Tower would be subject to review by the Heritage Preservation Commission. Similar to the Project, Mellow's Nursery would continue to be the site of a redevelopment project under the Mixed Use Housing Alternative, resulting in the loss of a historic resource. The Heritage Preservation Commission could find that historic qualities and significance of Mellow's Nursery are retained with site specific project development; however, the Mixed Use Housing Alternative does not include relocation or preservation of the historic resource. As discussed in Section 3.3, implementation of MM CR-2 could reduce the potential impacts of alterations or on-site relocation of Mellow's Nursery; however, given the unknown nature of future historic preservation, impacts would remain *significant and unavoidable*.

Potential impacts of the Mixed Use Housing Alternative to archaeological and paleontological resources would be similar to the Project since excavation for construction of projects would occur in a similar manner. Mitigation measures would be expected to be implemented on a project-by-project basis as new projects are proposed.

Overall, impacts to cultural resources under this alternative would be similar to the Project. While potential future development and implementation of MM CR-2 may result in adequate cultural and historical preservation of Mellow's Nursery, the impact of this potential action is unknown, the site would remain subject to redevelopment, and impacts would remain *significant and unavoidable*.

Geology and Soils

Geological impacts are generally site-specific; and all new development would be required to adhere to the most current and stringent building standards of the City's Municipal Code and Building Code, which adopts CBC standards by reference with local amendments. Adherence to the municipal code and building code requirements would ensure the maximum practicable protection available for all structures constructed in the Project area. Additionally, individual projects would prepare site-specific geotechnical investigations in accordance with City requirements and would be required to incorporate recommendations from the site-specific geotechnical investigations (regarding site preparation, grading, backfill, and foundations) into the project design.

Overall, potential impacts related to geology and soils under the Mixed Use Housing Alternative would be similar to those for the Project and would remain *less than significant*.

GHG Emissions

The construction of new development anticipated to occur under the Mixed Use Housing Alternative would result in temporary construction-related GHG emissions comparable to the Project. Operational GHGs would be generated from motor vehicles, natural gas consumption, solid waste handling and electricity generation. However, under the Mixed Use Housing Alternative, motor vehicle trip generation, energy demand, and emissions from building operations and residential uses would be comparable to the Project (30,044.03 $MTCO_2e$/year), due to the conversion of industrial land uses to residential, and employee and residential trip generation.

As the Mixed Use Housing Alternative would result in slightly less development compared to the project, total GHG emissions from building operations are anticipated to be slightly reduced. Nonetheless, this alternative would continue to have the potential to exceed the stationary GHG threshold of 10,000 $MTCO_2e$/year due to expanded residential uses. Further, as the Project would result in 18,539.15 $MTCO_2e$/year of mobile source emissions, the slight reduction in trip generation under the Mixed Use Housing Alternative would still result in the exceedance of the 1,100 $MTCO_2e$/year threshold for mobile source GHG emissions.

The Intensified Mixed Use Housing Alternative would implement the same sustainability measures and GHG reduction goals as the Project, and similar to the Project, would not conflict with the Climate Action Plan, Zero Waste Policy, Green Building Program, LUTE and Urban Forestry.

Overall, impacts to GHG emissions under the Mixed Use Housing alternative would be less than under the Project, but would remain *significant and unavoidable* as the mobile source GHG threshold would likely be exceeded under this alternative.

Hazards and Hazardous Materials

Similar to the Project, future construction activities under the Mixed Use Housing Alternative would involve demolition, grading and excavation that could potentially result in the accidental release of hazardous materials. Based on the age of many existing buildings within the Project area, construction workers and the public could be exposed to lead and asbestos that are present within structures to be demolished. Asbestos, lead, or other hazardous material would be removed and disposed of prior to demolition, in compliance with all pertinent regulations for the handling of such waste including the City's Municipal Code (Title 20) and California Department of Industrial Relations Division of Occupational Safety and Health. It is expected that individual projects in the Project area may require mitigation measures as necessary to mitigate the risks of hazards to the public or the environment.

Similar to the Project, future development anticipated to occur under the Mixed Use Housing Alternative would utilize limited quantities of potentially hazardous materials consisting of typical maintenance products (e.g., paints, fuels/lubricants, cleaning solvents, adhesives, sealers, pesticides/herbicides). These potentially hazardous materials are common in urban areas and already occur within the Project area. The limited transport, storage, and disposal of hazardous materials is subject to applicable federal, state, and local regulations to reduce the risk of accidental spills, leaks, fire, or other hazardous conditions.

Overall, impacts to hazards and hazardous materials under the Mixed Use Housing Alternative would be similar to those described under the Project and would remain *less than significant*.

Hydrology and Water Quality

The Project area is already largely developed with impermeable surfaces and as such, anticipated development under the Mixed Use Housing Alternative would not increase runoff or alter drainage patterns. Runoff would be routed to the same treatment facilities and storm drains as under the Project.

Similar to the Project, stormwater runoff from future development under the Mixed Use Housing Alternative would be managed consistent with the provisions of a NPDES permit, which requires that new development projects to incorporate LID measures to reduce the amount of pollutants washing off the site and to maintain pre-development surface water runoff rates. Existing regulations require that new projects implement LID and BMPs to reduce urban polluted runoff. Each project developed under the Mixed Use Housing Alternative would be required by the City to prepare an erosion and sediment control plan, and for projects greater than one acre, comply with the provisions of a Construction General Stormwater Permit.

Overall, with compliance with existing regulations, impacts to hydrology and water quality under the Mixed Use Housing Alternative would similar to the Project, and would be *less than significant*.

Land Use

The Mixed Use Housing Alternative would result in changes to existing land uses that would convert 16 acres of industrial land uses to residential uses. These residential uses would be located near the intersection of Mary Avenue and Central Expressway, outside of the Moffett Airfield Airport Safety Zones. Similar to the Project, this alternative would be consistent or require allowances from the Moffett Federal Airfield CLUP, the Plan Bay Area, the City of Sunnyvale General Plan, Southern Pacific Corridor Specific Plan, Design Guidelines of the City, and the Heritage Preservation Program. Further, the Mixed Use Housing Alternative would not physically divide an established community as it would not displace substantial residential populations or functionally conflict with adjacent land uses.

Overall, impacts to land use under the Mixed Use Housing Alternative would be comparable to the Project and would remain *less than significant*.

Noise

Similar to the Project, construction activities anticipated to occur under the Mixed Use Housing Alternative would have the potential to generate temporary noise and groundborne vibration that could affect nearby sensitive receptors. However, construction activities would be temporary. Additionally, adherence to the City's Municipal Code would ensure that noise levels would not cause significant impacts to sensitive receptors or damage to buildings.

Similar to the Project, the Mixed Use Housing Alternative would result in noise from operational sources, such as motor vehicle trips, large ventilation, and air conditioning (HVAC) systems and commercial delivery operations would be incrementally reduced.

Overall, noise and vibration impacts under the Mixed Use Housing Alternative would be incrementally reduced compared to the Project, and impacts would remain *less than significant*.

Population and Housing

Compared to the Project, the conversion of 16 acres of industrial land to residential uses would result in less employment generation and increased residential population. Job creation under this alternative is estimated to be approximately 20 to 30 percent less than the 14,401 employees estimated under the Project. This alternative would also result in 640 residential units, and a residential population of approximately 1,709 persons.

Therefore, the number of units and residential population growth under this alternative would be greater than under the Project, and the number of jobs would be reduced. As such, this alternative would be beneficial to the jobs/housing ratio and would not exceed the City's population projections. As additional housing units would be permitted in the Project area under the Mixed Use Housing Alternative, the residential population and number or housing units has the potential to be the same as the Project. However, Project benefits related to employment and economic growth would be reduced.

Overall, impacts related to population and housing under the Mixed Use Housing Alternative would be less than those under the Project, and would remain less than significant.

Public Services

Increases in residential and employee populations in the Project area under the Mixed Use Housing Alternative would slightly increase the demand on police and fire protection services, public schools, and parks. Under this alternative, the forecasted growth in the Project area would comparable to than that of the Project. Therefore, impacts to public services would be similar to the Project. Further, the population growth anticipated under this alternative is not expected to result in the need for additional police and fire department facilities. Individual developers within the Project area would be required to pay development fees that would assist to offset impacts to public services.

Overall, impacts to public services under the Mixed Use Housing Alternative would be incrementally reduced compared to the Project, and would remain *less than significant*.

Transportation and Circulation

Under the Mixed Use Housing Alternative, construction-related traffic associated with potential future projects would incrementally contribute to increased congestion and disruption of travel routes within the vicinity. While each future project's contribution would be temporary and short-term, ongoing construction would periodically affect circulation in the Project area. However, mitigation measures would be applied on a project-by-project basis to ensure that circulation on the local street network would not be adversely affected.

With the conversion of 16 acres of industrial land uses to residential, trip generation from employees would be reduced, while resident trip generation would be increased. Overall, peak hour trip generation would be comparable to the Project, with an estimated 5,855 AM peak hour trips and 7,083 PM peak hour trips anticipated to occur under the Project. Based on the methodology for determining Project intersection impacts in Section 3.10, *Transportation, Circulation and Traffic*, this alternative would result in comparable LOS impacts as the Project at the same five study intersections: 1) Mary Avenue and Central Expressway, 2) Lawrence Expressway and Cabrillo Avenue, 3) Lawrence Expressway and Benton Street, 4) Lawrence Expressway and Homestead Road, and 5) Lawrence Expressway and Pruneridge Avenue. Further, under this alternative, increased traffic generated by buildout of the proposed General Plan, including the Project, would result in increased congestion at 10 mixed-flow freeway segments and nine HOV segments.

Overall, impacts to transportation and circulation under the Mixed Use Housing Alternative would be similar to the Project; however, impacts would continue to be *significant and unavoidable*.

Utilities

Development anticipated to occur under the Mixed Use Housing Alternative would result in increased demand on utilities due to new residential uses and development of up to 1.7 million sf of industrial and commercial space. As such, utility demand would be slightly greater than the Project. Increased water demand would be approximately 375,300 gpd or 420.7 AFY, which is 34,750 gpd more than the net new water demand projected under the Project.

Wastewater produced by development under the Mixed Use Housing Alternative would meet RWQCB requirements through treatment at the Sunnyvale Water Pollution Control Plant (WPCP). This treatment plant utilizes full tertiary treatment and has the ability to accommodate 29.5 MGD of wastewater and currently treats an average of 15.9 MGD. Development under the Mixed Use Housing Alternative would increase the amount of wastewater transported by the sewer system by approximately 330,400 gpd but is not anticipated to exceed the WPCP capacity. However, this amount is 22,375 gpd greater that the 308,025 gpd of wastewater generated under the Project. Several utility line segments are in currently need of upgrades and installation of new utility lines would be required. However, Project Mitigation Measure U-2 would apply to this alternative and would mitigate impacts to utility infrastructure.

The amount of solid waste generation under the Mixed Use Housing Alternative would be approximately 2,700 tons/year, and would be 83 tons/year greater than under the Project. However, as the City is served by five solid waste disposal facilities with a current throughput of 3.6 million tons/year, the increase of 2,700 tons/year under this alternative is considered an incremental increase and there would be sufficient existing capacity of solid waste to accommodate this alternative. Future development under the Mixed Use Housing Alternative would incrementally increase the demand for regional electric and natural gas production and distribution facilities. These facilities are operated and maintained by private utility companies that plan for anticipated growth and expand as needed to meet demand, consistent with applicable local, state, and federal regulations.

Overall, impacts to utilities under the Mixed Use Housing Alternative would be slightly greater than the Project, but would be *less than significant*.

Attainment of Project Objectives

Under the Mixed Use Housing Alternative, Project Objectives, including development of housing in transition areas, could be met or partially met. However, development of high-tech, high-profile employment centers would not be as fully realized as the Project; however, opportunity for redevelopment would still be possible throughout most of the Project area. With less employment center development, employment would be reduced given the conversion of approximately 500,000-sf of employment-generating uses to residential uses. Nevertheless, increased housing opportunities would be located closer to workplace locations, which would improve multi-modal accessibility for pedestrians and cyclists, reduce vehicular traffic, and bridge another gap between residential and employment center locations. Overall, this alternative would address many Project Objectives, but not to the extent of the Project.

5.4.3 Higher Intensity Buildout Alternative

The Higher Intensity Buildout Alternative would implement an urban form, land use, and circulation plan for the industrial park and would be implemented through individual development projects over the next 20 years. This alternative would further concentrate development within the proposed activity centers and edges of the Project area to increase the employment and economic viability of the Project area beyond that of the Project. Under this alternative, the Project would include use of development standards to increase potential development. In total, this alternative would increase the development potential of the Project area by 1 million sf beyond the Project for a net increase of 3.2 million sf and total of 10.7 million sf of development. This alternative would focus development on areas of the Project designated to support and attract high profile firms, as well as the proposed new activity centers. This alternative would also allow for the development of 215 residential units.

Table 5-3. Proposed Net Increase in Building Space under the Higher Intensity Buildout Alternative

Use	Amount
Commercial	**3,200,000 sf**
Retail	200,000 sf
Office/R&D/Industrial	3,000,000 sf
Residential	**215 units**

Potential Impacts to Resource Areas

Aesthetics and Visual Resources

The Higher Intensity Buildout Alternative would result in similar increased impacts to light and glare, and to visual resources such as the urban tree canopy. Future development under the Higher Intensity Buildout Alternative would allow for higher FAR development and would have the potential to generate additional sources of light and glare through outdoor lighting fixtures on buildings, signage and architectural lighting, and reflective building materials. However, new light and sources of glare would be required to comply with the Municipal Code and Project policies and design standards that address luminaire and light fixtures. Therefore, this alternative would not affect offsite light-sensitive receptors. Further, greater development under this alternative has the potential to result in removal of street trees and trees on private property; however, similar to the Project, development would be required to comply with the Tree Ordinance, UFMP, and Municipal Code and would therefore result in less than significant impacts.

Because no designated state scenic highways or scenic vistas exist within or adjacent to the Project area, the Higher Intensity Buildout Alternative would not have an adverse effect on scenic highways or scenic vistas.

Similar to the Project, this alternative would implement the Project's detailed development standards or design guidelines and would ensure that the design of proposed buildings would

enhance the character and quality of the Project area, transition higher densities to address compatibility concerns with neighboring residential use, and contribute to a high quality urban environment. Therefore, overall effects to the visual character of the Project could be greater due to increased development and densities with in the Project area, but residual effects would be similar to the Project based on compliance with existing City design regulations.

Overall, under the Higher Intensity Buildout Alternative, impacts to aesthetics and visual resources could be greater than the Project but would remain *less than significant*.

Air Quality

Construction activities for new development occurring in the Project area would result in construction-related air pollutant emissions and have the potential to expose adjacent sensitive receptors to construction emissions. As the scope of construction activities under this alternative would be greater than the proposed project, maximum construction emissions for CO, VOCs, NO_x, PM_{10} and $PM_{2.5}$, and SO_x would be increased by up to 10 percent. As construction emissions would be greater than the Project, emissions under this alternative would further exceed BAAQMD's thresholds of significance for construction emissions for VOCs and NO_x (54 pounds/day), with emissions estimated at a maximum of 608.85 pounds/day of VOCs and 706.15 of NO_x after project mitigation measures are applied.

Under the Higher Intensity Buildout Alternative, intensified industrial and commercial land uses would to generate greater operational emissions from both stationary and mobile sources, including those associated with vehicle trips and the use of natural gas and landscaping maintenance equipment. Emissions for criteria pollutant would be slightly increased with an approximate net increase of 137.89 pounds/day of VOCs and 121.61 pounds/day of NO_x. Following, the increased emissions under this alternative would exceed BAAQMD thresholds for VOC and NO_x.

Overall, under the Higher Intensity Buildout Alternative, impacts to air quality would be greater than under the Project and would remain *significant and unavoidable*.

Biological Resources

Similar to the Project, individual projects anticipated to occur under the Higher Intensity Buildout Alternative could potentially require the removal and/or the relocation of existing vegetation and mature trees onsite and subsequently directly impact nesting and/or migratory birds that may be present. Trees within public right-of-ways would be protected in place in accordance with the City's Tree Ordinance and Urban Forest Master Plan (UFMP). Removal of public trees would generally only be permitted for public improvement projects and would require a tree removal permit in accordance with the City's Tree Ordinance and UFMP. Street trees within the Project area are protected and would remain in place, removed and replanted, and/or relocated during construction in accordance to City Municipal Code Chapter 13.16, City Trees. Removal and relocation of tree on private property would be addressed on a project by project basis, and such removal and relocation would be in accordance with the City Municipal Code Chapter 19.94, Tree

Preservation. Both municipal codes mentioned above provide protection of all trees within the Project area. City Municipal Code Chapter 13.16, City Trees, regulates the management and preservation of trees within the public right-of way, including the street trees in the Project area, and states that it is unlawful to transplant or remove any City tree unless specifically authorized by the City. City Municipal Code Chapter 19.94, Tree Preservation, requires a permit to damage or remove protected or significant trees on private property, open space, and golf courses. All required landscape plans within the Project area shall comply with City regulations including preservation of all existing mature trees to the extent feasible, and replacement of any mature tree(s) unable to be preserved onsite at a 3:1 ratio and planting only City-approved species. Impacts would be similar to the Project since compliance with regulations would be required and mitigation would be on a project-by-project basis. Overall, impacts to biological resources under the Higher Intensity Buildout Alternative would be similar to the Project and would remain *less than significant*.

Cultural Resources

Under the Higher Intensity Buildout Alternative, the City's existing regulatory framework for the protection of historic resources within the Project area, including the City's Landmark and Historic Preservation Guidelines and Municipal Code (Section 19.96.030) would continue to apply. Impacts to identified historical resources within the Project area, including the Libby Tower and the Mellow's Nursery would be largely similar to the Project. The Libby Tower would continue to be potentially affected by future development adjacent to the landmark; however, any future development that may result in impacts to the Libby Tower would be subject to review by the Heritage Preservation Commission. Similar to the Project, Mellow's Nursery would continue to be the site of a redevelopment project under the Higher Intensity Buildout Alternative, resulting in the loss of a historic resource.

The Heritage Preservation Commission could find that historic qualities and significance of Mellow's Nursery are retained with site specific project development; however, the Mixed Use Housing Alternative does not include relocation or preservation of the historic resource.

Potential impacts of the Higher Intensity Buildout Alternative to archaeological and paleontological resources would be similar to the Project since excavation for construction of projects would occur in a similar manner. Mitigation measures would be expected to be implemented on a project-by-project basis as new projects are proposed.

Overall, impacts to cultural resources under this alternative would be similar to the Project. While potential future development and implementation of MM CR-2 may result in adequate cultural and historical preservation of Mellow's Nursery, the impact of this potential action is unknown, the site would remain subject to redevelopment, and impacts would remain *significant and unavoidable*.

Geology and Soils

Geological impacts are generally site-specific; and all new development would be required to adhere to the most current and stringent building standards of the City's Municipal Code and

Building Code, which adopts CBC standards by reference with local amendments. Adherence to the municipal code and building code requirements would ensure the maximum practicable protection available for all structures constructed in the Project area. Additionally, individual projects would prepare site-specific geotechnical investigations in accordance with City requirements and would be required to incorporate recommendations from the site-specific geotechnical investigations (regarding site preparation, grading, backfill, and foundations) into the project design.

Overall, potential impacts related to geology and soils under the Higher Intensity Buildout Alternative would be similar to those for the Project and would remain *less than significant*.

GHG Emissions

The construction of new development anticipated to occur under the Higher Intensity Buildout Alternative would result in temporary construction-related GHG emissions. Construction-related GHG emissions would vary on an annual basis and as development would be greater under the Higher Intensity Buildout Alternative, total construction-related GHG emissions would be up to 30 percent greater than the 1,119.87 $MTCO_2e$/year amortized emissions under the Project.

Operational GHGs would be generated from motor vehicles, natural gas consumption, solid waste handling and electricity generation. Under the Higher Intensity Buildout Alternative, trip generation, energy demand, and emissions from building operations would be increased compared to the Project's anticipated emissions of 30,044.03 $MTCO_2e$/year, due to the increase in potential development and building operations, and potential trip generation that would occur. As such, annual GHG stationary emissions are anticipated to exceed the 10,000 $MTCO_2e$/year threshold for stationary sources and 1,100 $MTCO_2e$/year for mobile sources.

The Higher Intensity Buildout Alternative would implement the same sustainability measures and GHG reduction goals as the Project, and similar to the Project, would not conflict with the Climate Action Plan, Zero Waste Policy, Green Building Program, LUTE and Urban Forestry.

Overall, impacts to GHG emissions under the Higher Intensity Buildout Alternative would be greater than those under to the Project, and would remain would remain *significant and unavoidable* as the stationary and mobile source GHG thresholds would likely be exceeded under this alternative.

Hazards and Hazardous Materials

Construction activities are anticipated to occur under the Higher Intensity Buildout Alternative, which would involve demolition, grading and excavation that could potentially result in the accidental release of hazardous materials. Based on the age of many existing buildings within the Project area, construction workers and the public could be exposed to lead and asbestos that are present within structures to be demolished. Asbestos, lead, or other hazardous material would be removed and disposed of prior to demolition, in compliance with all pertinent regulations for the handling of such waste including the City's Municipal Code (Title 20) and California Department

of Industrial Relations Division of Occupational Safety and Health. Mitigation measures HAZ-1a and b would apply to this alternative as necessary and would mitigate the risks of an accidental release of asbestos, lead, and polychlorinated biphenyls (PCBs) to the public or the environment.

Similar to the Project, future development anticipated to occur under the Higher Intensity Buildout Alternative would utilize limited quantities of potentially hazardous materials consisting of typical maintenance products (e.g., paints, fuels/lubricants, cleaning solvents, adhesives, sealers, pesticides/herbicides). These potentially hazardous materials are common in urban areas and already occur within the Project area. The limited transport, storage, and disposal of hazardous materials is subject to applicable federal, state, and local regulations to reduce the risk of accidental spills, leaks, fire, or other hazardous conditions.

Overall, impacts to hazards and hazardous materials under the Higher Intensity Buildout Alternative would be similar to those described under the Project and would remain *less than significant*.

Hydrology and Water Quality

The Project area is already largely developed with impermeable surfaces and as such, anticipated development under the Higher Intensity Buildout Alternative would not increase runoff or alter drainage patterns. Runoff would be routed to the same treatment facilities and storm drains as under the Project.

Similar to the Project, stormwater runoff from future development under the Higher Intensity Buildout Alternative would be managed consistent with the provisions of the NPDES permit, which requires that new development projects to incorporate LID measures to reduce the amount of pollutants washing off the site and to maintain pre-development surface water runoff rates. Existing regulations require that new projects implement LID and BMPs to reduce urban polluted runoff. Each project developed under the Higher Intensity Buildout Alternative would be required by the City to prepare an erosion and sediment control plan, and for projects greater than one acre, comply with the provisions of a Construction General Stormwater Permit.

Overall, with compliance with existing regulations, impacts to hydrology and water quality under the Higher Intensity Buildout Alternative would similar to the Project, and would be *less than significant*.

Land Use

The Higher Intensity Buildout Alternative would retain the Project area's industrial and commercial land uses but would include development standards that would result in intensification of these uses with greater development. The Higher Intensity Buildout Alternative would not physically divide an established community. However, intensified land uses under this alternative have the potential to physically or functionally conflict with adjacent residential land uses due to increases in densities that could result increased building heights, mass and scale, FARs, and/or increased compatibility issues (e.g., increases in traffic, noise, nighttime lighting, etc.). Further, this

alternative has the potential to be inconsistent with land use policies within the City General Plan, in particular, Policy LT-4.1a through d, which relate to the transition between sensitive and less compatible uses, and Policy LT-5.5b, which only allows land uses that can be supported by the planned transportation system.

Individual projects under this alternative would also be subject to safety requirements as detailed within the CLUP, including safety zones and similar mapped areas. Similar to the Project, because this alternative would result in standards that allow for a higher footprint, building height, and intensity of use, this alternative would be subject to discretionary review and approval and would be required to dedicate an avigation easement to the County of Santa Clara to remain consistent with Policy O-1 of the Moffett Airfield CLUP.

Overall, impacts to land use under the Higher Intensity Buildout Alternative would be slightly greater compared to the Project, but would remain *less than significant*.

Noise

Similar to the Project, construction activities anticipated to occur under the Higher Intensity Buildout Alternative would have the potential to generate temporary noise and groundborne vibration that could affect nearby sensitive receptors. Construction projects would occur incrementally over time as individual projects develop in various locations, with associated noise temporarily and intermittently affecting localized areas. However, construction activities would be temporary and adherence to the project mitigation measures NOI-4a and b, and City's Municipal Code such as limited hours of construction, would ensure that noise levels would not cause significant impacts to sensitive receptors or damage to buildings.

The Higher Intensity Buildout Alternative would result in greater development compared to the Project, and therefore noise from operational sources, such as motor vehicle trips, large ventilation, and air conditioning (HVAC) systems and commercial delivery operations would be incrementally increased. However, operational noise under this alternative blend with the existing noise environment and would be within existing range of ambient noise levels within the Project area.

Overall, noise and vibration impacts under the Higher Intensity Buildout Alternative would be incrementally more compared to the Project, but impacts would remain *less than significant*.

Population and Housing

Compared to the Project, increased development under the Higher Intensity Buildout Alternative would result in a slightly increased population and employment growth. Anticipated employment under this alternative would increase 10 to 30 percent from the 14,401 jobs projected under the Project. This job growth is consistent with the General Plan and ABAG projections for the City.

This future workforce would require up to 7,000 housing units, which is more than the required 5,179 units under the Project. This alternative would continue to provide 215 residential units and

would result in a residential population growth of approximately 576 persons. This alternative would further exacerbate the jobs/housing ratio in the City and would increase the housing need; however, housing needs not absorbed by the City would be met within the County of Santa Clara and the surrounding metropolitan area.

Overall, impacts related to population and housing under the Higher Intensity Buildout Alternative would be increased compared to the Project, but would remain *less than significant*.

Public Services

Increases in employee/visitor populations in the Project area under the Higher Intensity Buildout Alternative would slightly increase the demand on police and fire protection services, public schools, and parks. Under the Higher Intensity Buildout Alternative, the forecasted growth in the Project area would be greater than that of the Project and associated impacts to public services would be increased. The population growth anticipated under this alternative is not expected to result in the need for additional police and fire department facilities; however, increases in population and development under this alternative would lead to an incremental increase in the number of calls and incidents within the Project area, and has the potential to incrementally increase demand on police and fire protection. Individual developers within the Project area would be required to pay development fees that would assist to offset impacts to public services.

Overall, impacts to public services under the Higher Intensity Buildout Alternative would be slightly greater compared to the Project, but would remain *less than significant*.

Transportation and Circulation

Greater development potential under the Higher Intensity Buildout Alternative would result in more construction-related traffic associated with potential future projects and would incrementally contribute to increased congestion and disruption of travel routes within the vicinity. While each future project's contribution would be temporary and short-term, ongoing construction would periodically affect circulation in the Project area. Mitigation measure T-1a would apply under this alternative, requiring a Construction Impact Mitigation Plan, to ensure that circulation on the local street network would not be adversely affected.

With more development potential and greater employment generation under this alternative, trip generation would be 20 to 30 percent greater than the 5,855 AM peak hour trips and 7,083 PM peak hour trips estimated to occur under the Project. Based on the methodology for determining Project intersection impacts in Section 3.10, *Transportation, Circulation, and Traffic*, this alternative would result in comparable LOS impacts as the Project at least five study intersections: 1) Mary Avenue and Central Expressway, 2) Lawrence Expressway and Cabrillo Avenue, 3) Lawrence Expressway and Benton Street, 4) Lawrence Expressway and Homestead Road, and 5) Lawrence Expressway and Pruneridge Avenue. Further, under this alternative, increased traffic generated by buildout of the proposed General Plan, including the Project, would result in increased congestion at least 10 mixed-flow freeway segments and nine HOV segments.

Overall, impacts to transportation and circulation under the Higher Intensity Buildout Alternative would be greater than the Project, and would continue to be *significant and unavoidable*.

Utilities

Development anticipated to occur under the Higher Intensity Buildout Alternative would result in increased demand on utilities due to the development of up to 3.2 million sf of additional industrial and commercial space. As such, utility demand would be greater than under the Project. Increased water demand would be 465,550 gpd or 521.8 AFY, which is 125,000 gpd greater than the net new water demand projected under the Project.

Wastewater produced by development under the Higher Intensity Buildout Alternative would meet RWQCB requirements through treatment at the Sunnyvale WPCP. This treatment plant utilizes full tertiary treatment and has the ability to accommodate 29.5 MGD of wastewater and currently treats an average of 15.9 MGD. Development under the Higher Intensity Buildout Alternative would increase the net amount of wastewater transported by the sewer system to 423,025 gpd (from 308,025 gpd under the Project) but is not anticipated to exceed the WPCP capacity. Further, as this amount is greater than the wastewater generated under the Project, several utility line segments are in currently need of upgrades and installation of new utility lines would be required on an individual project basis. However, Project Mitigation Measure U-2 would apply to this alternative and would mitigate impacts to utility infrastructure.

The amount of solid waste generation under the Higher Intensity Buildout Alternative would be approximately 3,712.4 tons/year, and would be 1,095 tons/year greater than under the Project. However, as the City is served by five solid waste disposal facilities with a current throughput of 3.6 million tons/year, the increase of 3,712.4 tons/year under this alternative is considered an incremental increase and there would be sufficient existing capacity of solid waste to accommodate this alternative. Future development under the Higher Intensity Buildout Alternative would incrementally increase the demand for regional electric and natural gas production and distribution facilities. These facilities are operated and maintained by private utility companies that plan for anticipated growth and expand as needed to meet demand, consistent with applicable local, state, and federal regulations.

Overall, impacts to utilities under the Higher Intensity Buildout Alternative would be greater than the Project, but would be *less than significant*.

Attainment of Project Objectives

The Higher Intensity Buildout Alternative would attain most of the key Project Objectives through implementation of policies and development standards within the Project. These development standards and policies would be aimed at attracting high-profile technology firms, generating employment, strengthen and provide opportunities for small-scale technology firms, improving the visual characteristics of the Project area through architectural and landscaping, and developing activity centers. However, the Project Objective to improve multi-modal accessibility and improve circulation of traffic within the district would be more difficult under this alternative due to a higher

amount of buildout and associated travel by members of the workplace. Overall, this alternative would meet most of the Project Objectives.

5.4.4 Identification of the Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an EIR identify the Environmentally Superior Alternative to the proposed project from among the alternatives analyzed. If the No Project Alternative is found to be environmentally superior alternative, the EIR also identifies an Environmentally Superior Alternative from among the other alternatives.

Table 5-4 provides a summary comparison of the likely environmental impacts of the three alternatives with those of the Project. Per CEQA Guidelines §15126.6(d), "The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project."

None of the alternatives analyzed where found to reduce any significant and unavoidable impact to a less than significant level. The No Project Alternative is eliminated from consideration as the Environmentally Superior Alternative as this alternative would not meet any of the key Project Objectives. The Environmentally Superior Alternative for the Project is identified as the Project. On balance, the Project meets more key Project Objectives than the Mixed Use Housing project, including provisions of 215 residential units, while it results in less impacts to the environment than the Higher Intensity Buildout Alternative. Although, the Higher Intensity Buildout would also meet Project Objectives, it would result in greater impacts to Air Quality, GHG Emissions, Land Use, Population and Housing, Transportation, and Utilities due to greater development densities. The Lead Agency retains the authority to identify the Environmentally Superior Alternative based on the evidence in the EIR, agency and public input, Lead Agency standards and policies, and the Lead Agency's independent decision-making.

Table 5-4. Comparison of Alternatives to the Proposed Project

Impact	Proposed Project	No Project	Mixed Use Housing	Higher Intensity Buildout
Aesthetics and Visual Resources	Less than Significant	Similar but slightly less (Less than Significant)	Similar (Less than Significant)	Similar but slightly greater (Less than Significant)
Air Quality	Significant and Unavoidable	Less (Significant and Unavoidable)	Slightly Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Biological Resources	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Cultural Resources and Historic Structures	Significant and Unavoidable	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Geology & Soils	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Greenhouse Gas Emissions	Significant and Unavoidable	Less (Significant and Unavoidable)	Incrementally Less or Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Hazards and Hazardous Materials	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Hydrology and Water Quality	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Land Use and Planning	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Slightly Greater (Less than Significant)
Noise	Less than Significant	Incrementally Less (Less than Significant)	Incrementally Less (Less than Significant)	Incrementally More (Less than Significant)
Population and Housing	Less than Significant	Less (Less than Significant)	Less (Less than Significant)	Greater (Less than Significant)
Public Services	Less than Significant	Incrementally Less (Less than Significant)	Similar (Less than Significant)	Slightly Greater (Less than Significant)
Transportation, Circulation, and Traffic	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Utilities and Infrastructure	Less than Significant	Less (Less than Significant)	Slightly Greater (Less than Significant)	Greater (Less than Significant)
Project Objectives Met?	Yes	No	Partially met	Yes

Table 5-4. Comparison of Alternatives to the Proposed Project

Impact	Proposed Project	No Project	Mixed Use Housing	Higher Intensity Buildout
Aesthetics	Less than Significant	Similar but slightly less (Less than Significant)	Similar (Less than Significant)	Similar but slightly greater (Less than Significant)
Air Quality	Significant and Unavoidable	Less (Significant and Unavoidable)	Slightly Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Biological Resources	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Cultural Resources	Significant and Unavoidable	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Geology & Soils	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
GHG Emissions	Significant and Unavoidable	Less (Significant and Unavoidable)	Incrementally Less or Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Hazards & Hazardous Materials	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Hydrology and Water Quality	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Land Use	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Slightly Greater (Less than Significant)
Noise	Less than Significant	Incrementally Less (Less than Significant)	Incrementally Less (Less than Significant)	Incrementally More (Less than Significant)
Population & Housing	Less than Significant	Less (Less than Significant)	Less (Less than Significant)	Greater (Less than Significant)
Public Services	Less than Significant	Incrementally Less (Less than Significant)	Similar (Less than Significant)	Slightly Greater (Less than Significant)
Transportation & Circulation	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Utilities	Less than Significant	Less (Less than Significant)	Slightly Greater (Less than Significant)	Greater (Less than Significant)
Project Objectives Met?	Yes	No	Partially met	Yes

6.0 MITIGATION MONITORING AND REPORTING PROGRAM

This section will be prepared following public review and provided in the final EIR.

7.0 LIST OF PREPARERS

CITY OF SUNNYVALE

Office of the City Manager

Hanson Hom	Assistant City Manager/Chief of Downtown Planning

Community Development Department

Trudi Ryan	Director of Community Development
Amber Blizinski	Principal Planner

Department of Public Works

Manuel Pineda	Director of Public Works

Office of the City Attorney

Rebecca Moon	Senior Assistant City Attorney

Department of Public Safety

Lynne Kilpatrick	Fire Marshal
Dave Pitts	Deputy Chief

Community Services Department

Anne Cain	Interim Library and Community Services Director

AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE, INC.

Dan Gira	Project Principal
Rita Bright	Project Manager
Erika Leachman	Deputy Project Manager
Ryan Binns	Senior QA/QC
Steve Ochs, PE	Senior Air Quality Specialist
Brian Cook	Senior Noise Specialist
Darin Miller, PE	Senior Utilities Engineer
Linn Zukor	Senior Environmental Analyst
Kristina Tierney	Environmental Analyst
Julia Pujo	Environmental Analyst
Taylor Lane	Environmental Analyst
Matthew Buggert	Environmental Analyst
Edgar De La Torre	Environmental Analyst

Jason White	Environmental Analyst
Laura Ingulsrud	Environmental Analyst
Janice Depew	Word Processor

HEXAGON TRAFFIC CONSULTANTS

Gary Black	Principal Investigator/President
Ollie Zhou	Engineer I

GRAPHICS CONSULTANT

Deirdre Stites	Graphics Specialist

8.0 REFERENCES

SECTION 3.1 AESTHETICS AND VISUAL RESOURCES

Amec Foster Wheeler. 2013. Peery Park Specific Plan EIR Project Site Photo Inventory. June 27.

Caltrans. 2014. Scenic Highway System, Eligible and Officially Designated Routes. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm. Accessed July 2014.

City of Sunnyvale. 1993. Industrial Development Guidelines. Community Development Department.

——. 2011. City of Sunnyvale General Plan. Community Development Department.

——. 2013. Citywide Design Guidelines. Community Development Department.

——. 2014. Sunnyvale Municipal Code Title 13.16 City Trees. Accessed at http://qcode.us/codes/sunnyvale/ on July 31, 2014.

——. 2015. Street Trees: City of Sunnyvale Urban Forest. Public Works. Accessed at http://sunnyvale.ca.gov/Departments/PublicWorks/StreetTrees.aspx on September 24, 2015.

Davidson, Cody. 2014. Determining the Class of an Office Building. Commercial Real Estate Education Center. Accessed at http://42floors.com/edu/negotiations/determining-the-best-length-term-in-a-lease on July 24, 2014.

SECTION 3.2 AIR QUALITY

BAAQMD. 1998. Particulate Matter Monitoring Network Description for the Bay Area Air Quality Management District Planning Area. April.

2015. Available at http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#fourteen. Accessed on 11/11/15.

California ARB. 2014. Air Quality Data (PST) Query Tool. Available at http://www.arb.ca.gov/aqmis2/aqdselect.php. Accessed on February 9, 2016.

City of Sunnyvale Climate Action Plan. May 2014.

USA. 2015. Available at http://www.usa.com/sunnyvale-ca-weather.htm. Accessed on 11/13/2015.

USEPA. 2015. Available at http://www3.epa.gov/airtrends/aqtrends.html. Accessed on 11/13/2015.

SECTION 3.3 CULTURAL RESOURCES AND HISTORIC STRUCTURES

California History Center. 1988. IMAGES: Sunnyvale's Heritage Resources, prepared by California History Center, De Anza College.

City of Sunnyvale. 2015. HERITAGE RESOURCES INVENTORY. Accessed: Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Residential/Heritage%20Resources%20and%20Landmark%20Alteration%20%20Inventory-%20%20FINAL.pdf.

Denato-Weinstien. 2014. Spear Street picks up 4-acre Mellow's Nursery site in Sunnyvale, plans office development - Silicon Valley Business Journal. Accessed: 25 November 2015. Retrieved from: http://www.bizjournals.com/sanjose/news/2014/07/14/spear-street-picks-up-4-acre-mellows-nursery-site.html.

Garcia and Associates. 2010. Cultural Resources for the City of Sunnyvale.

National Park Service. 2008. Paleontological Resource Inventory and Monitoring for the San Francisco Bay Area Network (SFAN). Accessed: Retrieved from: http://www.nps.gov/pinn/learn/nature/upload/Paleo_Inventory_Executive_Briefing.pdf.

NPS. 2010. NFD - Paleontological Resources Preservation Act. Accessed: 24 November 2015. Retrieved from: https://nature.nps.gov/geology/nationalfossilday/prpa_text.cfm.

——. 2015. National Historic Preservation Act of 1966. Accessed: 24 November 2015. Retrieved from: http://www.nps.gov/history/local-law/nhpa1966.htm.

Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Accessed: Retrieved from: https://vertpaleo.org/PDFS/68/68c554bb-86f1-442f-a0dc-25299762d36c.pdf.

Sunnyvale Planning Commission. 2012. APPROVED MINUTES, Sept. 24, 2012. Accessed: 24 November 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/bc_minutes/2012/pc-20120924-m.pdf.

SECTION 3.4 GREENHOUSE GAS EMISSIONS

BAAQMD. 2012. Bay Area Air Quality Management District CEQA Guidelines Updated May 2011.

California ARB. 2014. Edition California Greenhouse Gas Emission Inventory: 2000-2012 May, 2014.

City of Sunnyvale. 2011. General Plan. Available at: http://ecityhall.sunnyvale.ca.gov/cd/GeneralPlan.pdf. Accessed: 31 July 2014.

——2014. City of Sunnyvale Climate Action Plan. Available at: http://www.pmcworld.com/client/sunnyvale/index.html. Accessed on July 31, 2014.

Intergovernmental Panel on Climate Change (IPCC). 2013a. Cubasch, U., D. Wuebbles, D. Chen, M.C. Facchini, D. Frame, N. Mahowald, and J.-G. Winther, 2013: Introduction. In:

Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

——2013b. Climate Change 2013. The Physical Science Basis. Technical summary. Page 52.

——2014. Mitigation of Climate Change. Summary for policy makers.

Governor's Office of Planning and Research (OPR). 2008. CEQA AND CLIMATE CHANGE: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review. June.

USEPA. 2013. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2011. EPA-R-13-001. Available at: http://www.epa.gov/climatechange/ghgemissions/usinventoryreport/archive.html. Accessed on November 30, 2015.

SECTION 3.5 HAZARDS AND HAZARDOUS MATERIALS

ABAG. 2010. Taming Natural Disasters: Multi-Jurisdictional Local Hazard Mitigation Plan for the San Fernando Bay Area.

CalEPA. 2015. Unified Program. Accessed: 4 December 2015. Retrieved from: http://www.calepa.ca.gov/CUPA/About.htm.

California Department of Public Health. 2011. Statement on Building Dampness, Mold, and Health. Accessed: 11 November 2015. Retrieved from: https://www.cdph.ca.gov/programs/IAQ/Documents/statement_on_building_dampness_mold_and%20health2011.pdf.

City of Sunnyvale. 2011a. General Plan-Safety Element. Accessed: Retrieved from: http://ecityhall.sunnyvale.ca.gov/cd/GeneralPlan.pdf.

——. 2011b. General Plan. Accessed: 11 November 2015. Retrieved from: http://ecityhall.sunnyvale.ca.gov/cd/GeneralPlan.pdf.

——. 2015a. City of Sunnyvale: Hazardous Materials Compliance, Certified Unified Program. Accessed: 4 December 2015. Retrieved from: http://sunnyvale.ca.gov/Departments/PublicSafety/FirePrevention/HazardousMaterials.aspx.

——. 2015b. Local Hazard Mitigation Plan. Accessed: 12 November 2015. Retrieved from: http://sunnyvale.ca.gov/Departments/PublicSafety/LocalHazardMitigationPlan.aspx.

——. 2015c. Sunnyvale Municipal Code (Sunnyvale, California). Accessed: 12 November 2015. Retrieved from: http://qcode.us/codes/sunnyvale/.

County of Santa Clara. 2012. Comprehensive Land Use Plan. Accessed: 11 November 2015. Retrieved from: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_20121128_NUQ_CLUP.pdf.

——. 2015. Closures - Hazardous Materials Program - County of Santa Clara. Accessed: 4 December 2015. Retrieved from: https://www.sccgov.org/sites/hazmat/programs/closures/Pages/home.aspx.

DTSC. 2015. CA Department of Toxic Substance Control-EnviroStor Database. Accessed: 11 November 2015. Retrieved from: http://www.envirostor.dtsc.ca.gov/public/mapfull.asp?global_id=&x=-119&y=37&zl=18&ms=640,480&mt=m&findaddress=True&city=sunnyvale&zip=&county=&federal_superfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&ca_site=true&tiered_permit=true&evaluation=true&military_evaluation=true&school_investigation=true&operating=true&post_closure=true&non_operating=true.

EPA. 2015a. CERCLIS Search Results | Envirofacts | US EPA. Accessed: 3 December 2015. Retrieved from: http://iaspub.epa.gov/enviro/efsystemquery.cerclis?fac_search=primary_name&fac_value=&fac_search_type=Beginning+With&postal_code=&location_address=&add_search_type=Beginning+With&city_name=sunnyvale&county_name=&state_code=&program_search=1&report=1&page_no=1&output_sql_switch=TRUE&database_type=CERCLIS.

——. 2015b. National Priorities List (NPL) Sites - by State | Superfund | US EPA. Accessed: 4 December 2015. Retrieved from: http://www2.epa.gov/superfund/national-priorities-list-npl-sites-state#CA.

——. 2015c. Radon | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/radon.

——. 2015d. Find Information about Local Radon Zones and Radon Programs | Radon | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/radon/find-information-about-local-radon-zones-and-radon-programs#radonmap.

——. 2015e. Map of Radon Zones in California based on Environmental Protection Agency (EPA) data. Accessed: 4 December 2015. Retrieved from: http://www.city-data.com/radon-zones/California/California.html.

——. 2015f. Summary of the Clean Water Act | Laws & Regulations | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/laws-regulations/summary-clean-water-act.

——. 2015g. Summary of the Resource Conservation and Recovery Act | Laws & Regulations | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act.

——. 2015h. Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) | Laws & Regulations | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act.

——. 2015i. Summary of the Toxic Substances Control Act | Laws & Regulations | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/laws-regulations/summary-toxic-substances-control-act.

——. 2015j. Summary of the Clean Air Act | Laws & Regulations | US EPA. Accessed: 12 November 2015. Retrieved from: http://www2.epa.gov/laws-regulations/summary-clean-air-act.

ERS. 2011. Phase I Environmental Site Assessment (ESA) Report.

U.S. Department of Transportation. 2012. FEDERAL HAZARDOUS MATERIALS TRANSPORTATION LAW. Accessed: 12 November 2015. Retrieved from: http://phmsa.dot.gov/pv_obj_cache/pv_obj_id_8B0613B02C53F9AB88D506C3FC7C0D42DC330400/filename/Federal%20Hazardous%20Materials%20Transportation%20Law%202012.pdf.

SECTION 3.6 LAND USE AND PLANNING

Association of Bay Area Governments. 2013. *Plan Bay Area - Adopted Plan Bay Area 2013*. Accessed: 29 November 2015. Retrieved from: http://planbayarea.org/the-plan/adopted-plan-bay-area-2013.html.

City of Sunnyvale. 1994. *Southern Pacific Corridor Specific Plan: Sites 1-3; Site 2: Industrial Portion*. Accessed: 22 November 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Non-Residential/SPCSP_Sites_1-3web.pdf.

——. 2011. *City of Sunnyvale General Plan*. Community Development Department.

——. 2013. *Citywide Design Guidelines*. Community Development Department, . Accessed: 16 November 2015. Retrieved from: https://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Non-Residential/CityWideDesignGuidelines.pdf.

——. 2015a. *Community Condition Indicators 2014*. Community Development Department, . Accessed: 16 November 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Maps/2014-CCI-Report-for%20Web.pdf.

——. 2015b. *Sunnyvale Municipal Code (Sunnyvale, California)*. Accessed: 16 November 2015. Retrieved from: http://qcode.us/codes/sunnyvale/.

Federal Aviation Administration. 2015. *Land Use Compatibility and Airports, a Guide for Effective Land Use Planning*. Accessed: 28 March 2016. Retrieved from: http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/planning_toolkit/media/III.B.pdf.

Santa Clara County Airport Land Use Commission. 2012. *Comprehensive Land Use Plan. Moffett Federal Airfield*.

SECTION 3.7 NOISE

California Department of Transportation, Noise, Air Quality, and Hazardous Waste Management Office, *Technical Noise Supplement* (October 1998).

California Department of Transportation (Caltrans). 2013. Transportation and Construction Vibration Guidance Manual. September. Available at: http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf. Accessed on June 29, 2015.

City of Sunnyvale. 2011. *City of Sunnyvale General Plan*. Community Development Department.

City of Sunnyvale. 2012. *Land Use and Transportation Element Update and Climate Action Plan Environmental Impact Report*. October 2012.

City of Sunnyvale. 2013. *East Weddell Environmental Impact Report*. 31 August 2013.

City of Sunnyvale. 2015. Peery Park Specific Plan Air Quality California Emissions Estimator Model Inputs. 7 December 2015.

Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06.

Santa Clara County Airport Land Use Commission. 2012. *Final Draft Comprehensive Land Use Plan Santa Clara County, Moffett Federal Airfield.*

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

U.S. Department of Transportation. 2006. Construction Noise Handbook. August. http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm. Accessed on June 29, 2015.

U.S. Department of Transportation. 2012. "High-Speed Ground Transportation Noise and Vibration Impact Assessment, Final Report."

SECTION 3.8 POPULATION AND HOUSING

Association of Bay Area Governments (ABAG). 2013a. Bay Area Plan Final Forecast of Jobs, Population and Housing. July. Accessed at http://planbayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Forecast_of_Jobs_Population_and_Housing.pdf on November 10, 2015.

——. 2013b. Regional Housing Need Plan Accessed at http://www.abag.ca.gov/planning/housingneeds/pdfs/ABAG_Final_RHNA_Publication.pdf on July 30, 2014.

——. 2015. Executive State of the Region: Economy, Population, and Housing Accessed at http://reports.abag.ca.gov/sotr/2015/executive-summary.php on December 3, 2015.

California Department of Finance. 2015. *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011- 2015*. Sacramento, California, May 2015.

City of Sunnyvale. 2011. City of Sunnyvale General Plan. Community Development. Accessed at http://ecityhall.sunnyvale.ca.gov/cd/GeneralPlan.pdf on July 29, 2014.

——. 2014a. Community Condition Indicators 2013. Community Development Department. April. Accessed at http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Maps/2013%20CCI%20Report.pdf. On July 31, 2014.

——. 2014b. Housing Element, January 31, 2015-January 31, 2023, City of Sunnyvale General Plan. Community Development Department. Accessed at http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Housing/HousingElement/Draft%202015-2023%20Housing%20Element.pdf on Nov 10, 2015.

U.S. Census Bureau. 2010. Census of Population and Housing. Available at http://www.census.gov/prod/www/decennial.html. Accessed on July 30, 2014.

SECTION 3.9 PUBLIC SERVICES

California Department of Finance. 2015. *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011- 2015*. Sacramento, California. May.

City of Sunnyvale. 2011a. City of Sunnyvale General Plan. Community Development Department.

City of Sunnyvale 2011b. Ordinance No. 2953-11: “An ordinance of the city council of the city of Sunnyvale amending certain sections of chapter 18.10 (parks and open space dedication) of title 18 (subdivisions) and chapter 19.74 (park dedication fees for rental housing projects) of title 19 (zoning) of the Sunnyvale municipal code to clarify phasing of parkland dedication requirements for housing projects.” May 24.

City of Sunnyvale, 2015d. Business Demographics for the City of Sunnyvale. Available at: http://sunnyvale.ca.gov/DoingBusiness/EconomicDevelopment/BusinessDemographics.aspx. Accessed December 2, 2015.

City of Sunnyvale. 2014. Landbank Central & Wolfe Campus. Draft Environmental Impact Report. SCH#2013082063. Prepared by ESA for the City of Sunnyvale. April.

City of Sunnyvale. 2015a. City Website. “Fire” page. Accessed on November 24, 2015 at: http://sunnyvale.ca.gov/Departments/PublicSafety/DPSDivisions/Fire.aspx.

City of Sunnyvale. 2015b. City Website. “Police and technical Services” page. Accessed on November 30, 2015 at:

http://sunnyvale.ca.gov/Departments/PublicSafety/DPSDivisions/PoliceandTechnicalServices.aspx.

City of Sunnyvale. 2015c. Adopted Budget and Resource Allocation Plan Volume II: Operating Budget for Fiscal Year 2015/16. Accessed online on November 20, 2015 at: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/FIN/FY%2015-16a%20Vol%20II.pdf.

Freedman Tung + Sasaki. 2015. Peery Park Specific Plan. Administrative Draft. Prepared for the City of Sunnyvale. July.

Fremont Union High School District (FUHSD). 2015. Development Impact Fees. Effective as of 6-29-2015. Accessed online at: http://fuhsd.ca.schoolloop.com/file/1224957820900/1224957816940/8773796063134204048.pdf.

National Fire Prevention Association. 2015. NFPA 1710. *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*. 2016 Edition. Effective September 7, 2015.

Santa Clara County Parks. 2003. Strategic Plan: Santa Clara County Parks and Recreation System. August 5.

Sunnyvale Department of Public Safety. 2015a. Environmental Impact Report Information. 5 pp. Revised July 6, 2015.

Sunnyvale Department of Public Safety. 2015b. Personal communication with Steve Drewniany, Deputy Chief, Sunnyvale Department of Public Safety. Responses to questions regarding incident response time and services provided by the Sunnyvale Department of Public Safety Phone conversation at 3:24 PM on November 30, 2015.

Sunnyvale School District (SSD). 2015. Developer Fee Compliance. Accessed online on December 2, 2015 at: http://www.sesd.org/Page/662.

SECTION 3.10 TRANSPORTATION, CIRCULATION, AND TRAFFIC

Hexagon Transportation Consultants, Inc. 2016a. Peery Park Specific Plan Draft Traffic Impact Analysis. Prepared for City of Sunnyvale. January 22.

——. 2016b. Peery Park 7 Projects Near-Term Traffic Impact Analysis. February 3.

——. 2016c. Peery Park Irvine Company Project Near-Term Traffic Impact Analysis. February 3.

City of Sunnyvale. 2006. 2006 Bicycle Plan. Available at: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/DPW/Transportation/SunnyvaleBicyclePlan2006.pdf. Accessed on 21 January 2016.

——. 2010. Land Use and Transportation Element Update. Transportation Existing Conditions. Draft Report. Available at:

http://www.pmcworld.com/client/sunnyvale/documents/meetings/2010/082510/Horizon-2035-Transportation-Existing-Conditions.pdf. Accessed on 10 December 2015.

California Department of Transportation (Caltrans). 2015. Personal communication with Caltrans staff Jordan Chan. August 11, 2015

Transportation Research Board. 2000.

Hexagon Transportation Consultants, Inc. 2016a. Peery Park Specific Plan Draft Traffic Impact Analysis. Prepared for City of Sunnyvale. January 22.

——. 2016b. Peery Park 7 Projects Near-Term Traffic Impact Analysis. February 3.

——. 2016c. Peery Park Irvine Company Project Near-Term Traffic Impact Analysis. February 3.

City of Sunnyvale. 2006. 2006 Bicycle Plan. Available at: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/DPW/Transportation/SunnyvaleBicyclePlan2006.pdf. Accessed on 21 January 2016.

——. 2010. Land Use and Transportation Element Update. Transportation Existing Conditions. Draft Report. Available at: http://www.pmcworld.com/client/sunnyvale/documents/meetings/2010/082510/Horizon-2035-Transportation-Existing-Conditions.pdf. Accessed on 10 December 2015.

California Department of Transportation (Caltrans). 2015. Personal communication with Caltrans staff Jordan Chan. August 11, 2015.

Transportation Research Board. 2000.

Santa Clara County Transportation Authority (VTA). 2003. Traffic Level of Service Analysis Guidelines. Adopted January 1995. Updated June 2003. Available at: http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001ELtYIAW. Accessed on 20 January 2016.

——. 2009.

——. 2014. Transportation Impact Analysis Guidelines. October. Available at: http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001frgSIAQ. Accessed on 20 January 2016.

SECTION 3.11 UTILITIES AND INFRASTRUCTURE

BAWSCA. 2015. *Hetch Hetchy Water System | Bay Area Water Supply & Conservation Agency*. Accessed: 8 December 2015. Retrieved from: http://bawsca.org/water-supply/hetch-hetchy-water-system/?phpMyAdmin=3LDNfTAvw56OsdpX1Z3-2zjg-y5.

CALGreen. 2013. *2013 CALGreen Residential Mandatory Measures*. Accessed: 5 December 2015. Retrieved from: http://www.documents.dgs.ca.gov/bsc/documents/2013/2013-Green-Residential-Mandatory.pdf.

California Energy Commission. 2014. *California Energy Demand Updated Forecast, 2015-2025*. Accessed: 10 December 2015. Retrieved from: http://www.energy.ca.gov/2014publications/CEC-200-2014-009/CEC-200-2014-009-SD.pdf.

——. 2015. *California Energy Consumption Database*. Accessed: 10 December 2015. Retrieved from: http://www.ecdms.energy.ca.gov/.

CalRecycle. 2012. *California's New Goal: 75% Recycling*. Accessed: 10 December 2015. Retrieved from: http://www.calrecycle.ca.gov/75percent/Plan.pdf.

City of Sunnyvale. 2009. *Sunnyvale Strategic Infrastructure Plan for the WPCP*.

——. 2010. *Water Utility Master Plan*.

——. 2011a. *CITY OF SUNNYVALE 2010 Urban Water Management Plan*. Accessed: Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/DPW/Water/2010%20UWMP.pdf.

——. 2011b. *General Plan*. Accessed: 11 November 2015. Retrieved from: http://ecityhall.sunnyvale.ca.gov/cd/GeneralPlan.pdf.

——. 2011c. *Stormwater Management*. Accessed: 9 December 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Non-Residential/Stormwater%20Management%20Plans%20Brochure%20-FINAL.pdf.

——. 2011d. *The City of Sunnyvale Stormwater Quality BMP Guidance Manual For New and Redevelopment Projects*. Accessed: 9 December 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Permits/Planning/Stormwater_BMP_GuidanceManual_Dec_2011.pdf.

——. 2011e. *City of Sunnyvale General Plan*. Community Development Department.

——. 2013a. *GIS clipped to Peery Park Project Area*.

——. 2013b. *Zero Waste Strategic Plan: A Quantifiable Approach*. Accessed: 10 December 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/ESD/Recycling/Sunnyvale_ZW_COMPLETE%20REPORT%20Feb_2013.pdf.

——. 2014. *Demolition Permits*. Accessed: 10 December 2015. Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/CDD/Non-Residential/Demolition%20Permits.pdf.

——. 2015a. *Environmental Services: Water*. Accessed: 8 December 2015. Retrieved from: http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Water.aspx.

——. 2015b. *City of Sunnyvale: Recycled Water*. Accessed: 9 December 2015. Retrieved from: http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Water/WaterConservation/RecycledWater.aspx.

——. 2015c. *Water Supply Assessment for Draft Land Use and Transportation Element*.

National Clay Pipe Institute. 2014. *National Clay Pipe Institute - NCPI | Vitrified Clay Pipe Gravity Sewer Systems | VCP Technical Resource for Design, Installation, Operations*. Accessed: 9 December 2015. Retrieved from: http://www.ncpi.org/.

PG&E. 2015. *Gas Transmission Pipelines | PG&E*. Accessed: 8 December 2015. Retrieved from: http://www.pge.com/en/safety/systemworks/gas/transmissionpipelines/index.page.

SCVWD. 2010. *Santa Clara Valley Water Management Plan*. Accessed: Retrieved from: file:///C:/Users/edgar.delatorre/Desktop/2010%20Urban%20Water%20Management%20Plan.pdf.

——. 2015a. *District Fast Facts - Santa Clara Valley Water District*. Accessed: 9 December 2015. Retrieved from: http://www.valleywater.org/fastfacts/.

——. 2015b. *The Rinconada Water Treatment Plant - Santa Clara Valley Water District*. Accessed: 9 December 2015. Retrieved from: http://www.valleywater.org/Services/RinconadaWTP.aspx.

SFPUC. 2015. *San Francisco Public Utilities Commission : About Us*. Accessed: 9 December 2015. Retrieved from: http://www.sfwater.org/index.aspx?page=6.

Washington State. 2015. *Water Right Adjudications | Water Rights | Water Resources Program | Washington State Department of Ecology*. Accessed: 10 December 2015. Retrieved from: http://www.ecy.wa.gov/programs/wr/rights/adjhome.html.

SECTION 4.0 OTHER CEQA ANALYSES

ABAG. 2012. *Job-Housing Connection Strategy (Bay Area Plan)*. Accessed: Retrieved from: http://www.planbayarea.org/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Main_Report.pdf.

——. 2015. *ABAG Planning: RHNA Methodology*. Accessed: 3 December 2015. Retrieved from: http://www.abag.ca.gov/planning/housingneeds/methodology.html.

California Regional Water Quality Control Board. 2015. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit*. Accessed: Retrieved from: http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2-2015-0049.pdf.

CBSC. 2013. *CA Building Standards Commission-California Building Code*. Accessed: 3 December 2015. Retrieved from: http://www.bsc.ca.gov/Home/Current2013Codes.aspx.

CDFW. 2015. *California Natural Diversity Database*. Accessed: 3 December 2015. Retrieved from: https://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp.

City of Sunnyvale. 2011a. *General Plan*. Accessed: 11 November 2015. Retrieved from: http://ecityhall.sunnyvale.ca.gov/cd/GeneralPlan.pdf.

——. 2011b. *CITY OF SUNNYVALE 2010 Urban Water Management Plan*. Accessed: Retrieved from: http://sunnyvale.ca.gov/Portals/0/Sunnyvale/DPW/Water/2010%20UWMP.pdf.

——. 2013. *Street Trees Inventory*.

——. 2015a. *City of Sunnyvale: Street Trees*. Accessed: Retrieved from: http://sunnyvale.ca.gov/Departments/PublicWorks/StreetTrees.aspx.

——. 2015b. *Chapter 16.16. BUILDING CODE*. Accessed: 3 December 2015. Retrieved from: http://qcode.us/codes/sunnyvale/view.php?topic=16-16_16&showAll=1.

——. 2015c. *12.60.155. Low impact development (LID) requirements.* Accessed: 3 December 2015. Retrieved from: http://qcode.us/codes/sunnyvale/view.php?topic=12-12_60-12_60_155.

Dept. of Conservation. 2011. *SANTA CLARA COUNTY IMPORTANT FARMLAND Map*. Accessed: 3 December 2015. Retrieved from: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/scl10.pdf.

——. 2015. *Office of Mine Reclamation - Mines On Line (MOL)*. Accessed: 3 December 2015. Retrieved from: http://maps.conservation.ca.gov/mol/mol-app.html.

FEMA. 2015. *Flood Insurance Rate Maps*. Accessed: 3 December 2015. Retrieved from: http://map1.msc.fema.gov/idms/IntraView.cgi?ROT=0&O_X=9279&O_Y=3940&O_ZM=0.141980&O_SX=1454&O_SY=687&O_DPI=400&O_TH=50009611&O_EN=50117910&O_PG=1&O_MP=1&CT=0&DI=0&WD=14400&HT=10350&JX=1592&JY=747&MPT=0&MPS=0&ACT=0&KEY=50009356&ITEM=1&ZOOM_FIT.x=1.

NRCS. 2015. *Prime Farmlands Definitions | NRCS*. Accessed: 3 December 2015. Retrieved from: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/pr/soils/?cid=nrcs141p2_037285.

US Dept. of Agriculture-NRCS. 2015. *Web Soil Survey*. Accessed: 3 December 2015. Retrieved from: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

USFWS. 2015. *Critical Habitat Map*. Accessed: 3 December 2015. Retrieved from: http://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77.

USGS. 2015. *Liquefaction Hazard Maps*. Accessed: 3 December 2015. Retrieved from: http://earthquake.usgs.gov/regional/nca/liquefaction/.