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## **3.0 ENVIRONMENTAL ANALYSIS**

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## **3.7 HAZARDS AND HAZARDOUS MATERIALS**



## 3.7 HAZARDS AND HAZARDOUS MATERIALS

This section provides information on safety hazards in the project area, analyzes the potential for the proposed project to create hazards to public health or the environment related to hazardous materials, airport operations, emergency access, and wildland fire, and proposes feasible mitigation measures where appropriate.

A summary of the impact conclusions for hazards and human health is provided below.

Impact Number	Impact Topic	Impact Significance
3.7.1	Transportation, Use, and Disposal of Hazardous Materials	Less than significant
3.7.2	Release and Exposure to Hazardous Materials	Less than significant with mitigation
3.7.3	Release and Exposure to Hazardous Materials in the Vicinity of a School Site	Less than significant with mitigation
3.7.4	Located on a Site Pursuant to Government Code Section 65962.5	Less than significant with mitigation
3.7.5	Public and Private Airport Hazards	No impact
3.7.6	Emergency Response and Evacuation Plans	Less than significant
3.7.8	Wildland Fire Hazards	No impact
3.7.9	Cumulative Hazards Impacts	Less than cumulatively considerable

### 3.7.1 EXISTING SETTING

#### SITE HISTORY

The project site history is outlined in the Phase I assessment chronological site history and was established based on historical data found, aerial photographs, historic city directories, Sanborn fire insurance maps, and agency records. The recorded project site is as follows:

- 1939–1948: agricultural Land (orchards)
- 1956: two of the current buildings are developed; the remainder of the site is cleared/vacant land
- 1968–present: the current eight buildings occupy the site

#### PROJECT SITE PHASE I REPORT

A Phase I Environmental Site Assessment report was prepared for the project site in 2014 by AEI Consultants (**Appendix G**). The report describes the project site's history and makes findings regarding environmental concerns at the project site. The environmental concerns are potential issues that would be taken into consideration during project construction and operation, and would be mitigated as necessary.

The report made the following findings:

- There are no on-site Recognized Environmental Conditions, defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a

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release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

- There are no on-site Controlled Recognized Environmental Conditions, defined as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.
- There are no on-site Historical Recognized Environmental Conditions, defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.
- The subject property was historically used for agricultural purposes. There is a potential that agricultural chemicals, such as pesticides, herbicides, and fertilizers, were used on-site. This is considered an environmental issue that warrants discussion but does not qualify as a recognized environmental issue as defined by ASTM Standard Practice E1527-31.
- Due to the age of the subject property buildings, there is a potential that asbestos-containing materials are present.
- Due to the age of the subject property buildings, there is a potential that lead-based paint is present.
- During project site reconnaissance, hazardous materials consisting of diesel fuel were observed in connection with the emergency generator associated with the City of Sunnyvale municipal water supply well. Nonetheless, there were no environmental concerns associated with the storage and/or use of these materials noted during the site reconnaissance or during the review of regulatory records.
- The project site was identified in the regulatory database as an Emissions Inventory Data from 2003 to 2010. There is no other information on these listings, and the site is not currently listed on the EnviroStor or GeoTracker databases as a release site.
- The site was also listed twice as a Facility Index System/Facility Registry System (FINDS - twice) site. There is no other information on these listings, and the site is not currently listed on the EnviroStor or GeoTracker databases as a release site.

#### **Vapor Encroachment**

Due to the Instersil Incorporated Superfund site's proximity to the project site, as discussed below, a Tier 1 Vapor Encroachment Screen pursuant to ASTM E2600-10 was performed as part of the Phase I Assessment to determine whether a potential vapor encroachment condition (VEC) exists at the project site. The Vapor Encroachment Screen included the review of reasonably ascertainable information for the project site and nearby properties. During the course of the assessment, it was determined that there is no reasonable probability that a VEC exists at the project site.

HAZARDOUS AND CONTAMINATED SITES

**Areas of Known Hazardous Contamination**

A search of the EnviroStor database, maintained by the California Department of Toxic Substances Control, and the GeoTracker database, maintained by the State Water Resources Control Board, identified the following sites within 1 mile of the project site. The facility name, location, and current status for each site are provided in **Table 3.7-1**.

**TABLE 3.7-1  
KNOWN HAZARDOUS CONTAMINATION SITES WITHIN 1 MILE OF PROJECT SITE**

Facility/Site Name	Address	City	Project Type <sup>1</sup>	Status <sup>2</sup>
<i>EnviroStor</i>				
American Microsystems, Inc	3800 Homestead Rd	Santa Clara	State Response	Refer: RWQCB
Cupertino Village Cleaners	10989 North Wolfe Rd	Cupertino	Voluntary Cleanup	Active
<b>Intersil</b>	<b>10910 N Tantau Ave</b>	<b>Cupertino</b>	<b>Federal Superfund</b>	<b>Refer: RWQCB</b>
Siemens Components, Inc., Opto Electronics	19000 Homestead Rd	Cupertino	Tiered Permit	Inactive – Needs Evaluation
Vallco Building 80	10432 N. Tantau Ave	Cupertino	Evaluation	Inactive – Needs Evaluation
<i>GeoTracker</i>				
Al's Arco Service Station	3595 Benton Street	Santa Clara	Permitted - UST	
Allied Management Services	1295 El Camino Real	Santa Clara	LUST	Completed - Case Closed
American Microsystems Inc.	3800 Homestead Rd	Santa Clara	Cleanup Site	Open - Verification Monitoring - Land Use Restrictions
Ami	3800 Homestead Rd	Santa Clara	LUST	Completed - Case Closed
Apple - Former HP - Wolfe Rd	10900 North Wolfe Rd	Cupertino	Cleanup Site	Open - Remediation
Arco #6091	1697 Wolfe Rd	Sunnyvale	LUST	Completed - Case Closed
Beacon #552	3480 Homestead Rd	Santa Clara	LUST	Completed - Case Closed
BP/Tosco Station #11230	1698 S Wolfe Rd	Sunnyvale	LUST	Completed - Case Closed
Chevron #9-0243	3740 El Camino Real	Santa Clara	LUST	Completed - Case Closed
Chevron #9-1055	3500 Homestead Road	Santa Clara	LUST	Completed - Case Closed
Chevron USA #90243	3740 El Camino Real	Santa Clara	Permitted UST	Permitting Agency: City of Santa Clara

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Facility/Site Name	Address	City	Project Type <sup>1</sup>	Status <sup>2</sup>
Conoco-Phillips	3501 Homestead Rd	Santa Clara	Permitted UST	Permitting Agency: City of Santa Clara
Ditommaso Property	840 El Camino Real E	Sunnyvale	LUST	Completed - Case Closed
El Camino Real Valero	3725 El Camino Real	Santa Clara	Permitted UST	Permitting Agency: City of Santa Clara
Exxon #7-3850	3725 El Camino Real	Santa Clara	LUST	Open - Verification Monitoring
Falore AMC/Jeep	680 E El Camino Real	Sunnyvale	LUST	Completed - Case Closed
Gas and Shop	841 Lawrence Expy	Santa Clara	LUST	Completed - Case Closed
Hewlett Packard-Manzanita Cafe	19111 Pruneridge Ave	Cupertino	LUST	Completed - Case Closed
Hewlett Packard Company	10900 North Wolfe Rd	Cupertino	Cleanup Program Site	Completed - Case Closed
Hillsdale Quarry	500 Hillsdale Ave	San Jose	LUST	Completed - Case Closed
Homestead Beacon	3480 Homestead Rd	Santa Clara	Permitted UST	Permitting Agency: City of Santa Clara
Homestead Beacon Car Wash	3500 Homestead Rd	Santa Clara	Permitted UST	Permitting Agency: City of Santa Clara
Intersil (DTKM)	10900 N. Tantau Ave	Cupertino	Cleanup Program Site	Open - Remediation - Land Use Restrictions
Jiffy Lube No. 674	3478 Homestead Rd	Santa Clara	LUST	Completed - Case Closed
Kaiser Foundation Hospital	700 Lawrence Expressway	Santa Clara	Permitted UST	Permitting Agency: City of Santa Clara
Lucas Dealership Group	815 El Camino Real	Sunnyvale	LUST	Completed - Case Closed
Marchese Farms	3690 Homestead Rd	Santa Clara	LUST	Completed - Case Closed
Mobil	771 Lawrence Expy	Santa Clara	LUST	Completed - Case Closed
Mobil	1698 Wolfe Rd	Sunnyvale	LUST	Completed - Case Closed
PG&E	10900 North Blaney Ave	Cupertino	Permitted UST	Campbell, Cupertino, Los Gatos, Morgan Hill
PG&E	10900 North Blaney Ave	Cupertino	LUST	Completed - Case Closed
Royal Volvo	805 E El Camino Real	Sunnyvale	LUST	Completed - Case Closed
Shell	11111 Wolfe Rd	Cupertino	LUST	Completed - Case Closed

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Facility/Site Name	Address	City	Project Type <sup>1</sup>	Status <sup>2</sup>
Shell - 905 El Camino	905 El Camino Real	Sunnyvale	LUST	Open - Eligible For Closure
Siemens (SMI Holding LLC)	19000 Homestead Rd	Cupertino	Cleanup Program Site	Open - Remediation - Land Use Restrictions
Southland Corporation Property	895 E Fremont Ave	Sunnyvale	LUST	Completed - Case Closed
Sunnyvale Chrysler/Plymouth	776 E El Camino Real	Sunnyvale	LUST	Completed - Case Closed
Sunnyvale, City - Sunken Garden	1010 S Wolfe Rd	Sunnyvale	LUST	Completed - Case Closed
Texaco	3501 El Camino Real	Santa Clara	LUST	Completed - Case Closed
Thrifty #174	3501 Homestead Rd	Santa Clara	LUST	Open - Remediation
Unocal	898 E. Fremont Ave	Sunnyvale	LUST	Completed - Case Closed
Unocal	898 E Fremont Ave	Sunnyvale	LUST	Completed - Case Closed
Unocal #4425	3499 El Camino Real	Santa Clara	LUST	Completed - Case Closed
Unocal #4848	898 E. Fremont Ave	Sunnyvale	Permitted UST	Permitting Agency: City of Sunnyvale
Unocal Service Station #4776	3465 Homestead Rd	Santa Clara	LUST	Completed - Case Closed

Source: EnviroStor 2015; GeoTracker 2015

Notes:

1. Non-Operating: A Treatment, Storage, Disposal, or Transfer Facility (TSDTF) with no operating hazardous waste management unit(s).

Federal Superfund (NPL): Identifies sites where the EPA proposed, listed, or delisted a site on the National Priorities List (NPL). The list of sites is developed and maintained by the EPA, which typically has primary regulatory oversight for the sites listed on the NPL.

Evaluation: Identifies suspected, but unconfirmed, contaminated sites that need or have gone through a limited investigation and assessment process. If a site is found to have confirmed contamination, it will change from Evaluation to either a State Response or Voluntary Cleanup site type. Sites found to have no contamination at the completion of the limited investigation and/or assessment process result in a No Action Required (for Phase I assessments) or No Further Action (for PEAs or Phase II assessments) determination.

Tiered Permit: Facilities which are permitted for on-site hazardous waste treatment.

LUFT – Leaking Underground Fuel Tank

SLIC – Spills, Leaks, Investigation and Cleanups (now called Site Cleanup Program/SCP): Site investigations and corrective actions involving sites not overseen by the Underground Tank Program and the Well Investigation Program.

2. No Further Action: Identifies completed sites where the DTSC determined after investigation, generally a PEA (an initial assessment), that the property does not pose a problem to public health or the environment.

Inactive – Needs Evaluation: Identifies non-active sites where the DTSC has determined a PEA or other evaluation is required.

Referred: RWQCB: Identifies sites that, based on limited information available to the DTSC, appear to be more appropriately addressed by the California Regional Water Quality Control Boards (RWQCBs).

#### Intersil Incorporated

The former Intersil property is part of a two-property Superfund site along with the adjacent down-gradient former Siemens property and is located approximately one-half mile south of the project site (**Figure 3.7.1**). The groundwater underlying the Superfund site is impacted with volatile organic compounds (VOCs), which were used during previous semi-conductor manufacturing activities at the two facilities. Intersil site cleanup has been ongoing for approximately 20 years. Site investigations between 1982 and 1989 identified a release of VOCs,

**City of Sunnyvale  
September 2015**

**Stratford School at Partridge Avenue  
Draft Environmental Impact Report**

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mainly trichloroethene (TCE), had occurred from the two sites in which the chemical releases commingled and extended northward, causing a substantial plume. The impact was limited to the upper two aquifers located approximately 50 to 150 feet below ground surface (bgs).

Cleanup activities have been conducted at the site since 1986 and have included a groundwater extraction system and a soil vapor extraction system, both of which are currently operational. VOC concentrations in the plume have continued to decline and the groundwater plume has decreased. At the former Intersil property the current maximum TCE level in the lower A zone aquifer is 99 ug/l. At the former Siemens property, the current maximum TCE level in the upper re-saturated interval is 1,300 ug/l. At the off-property study area, the current maximum TCE level is 61 ug/l.

The two wells located in the project area adjacent to the school buildings in Raynor Park are S-3B and S-4C. These wells are installed in the B zone and C zone aquifer, respectively. Data from the latest groundwater monitoring, October 2012, monitoring well S-3B (located approximately 400 feet southeast of the project site's southern point) recorded non-detectable concentrations of TCE. Monitoring well PG-1B located approximately 290 feet south of the project area also recorded non-detectable concentrations of TCE. Monitoring well S-4C located approximately 400 feet southeast of the subject property's new parcel boundary recorded 0.00072 mg/l of TCE.



Figure 3.7.1  
Superfund Sites



### Household Hazardous Waste

Household hazardous waste, used in many household products (e.g., drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries), is often improperly disposed of as part of normal household trash. These hazardous materials could interact with other chemicals, which can create risks to people and can also result in soil and groundwater contamination. The California Department of Public Health (CCR Title 22) defines household hazardous waste as any substance that is characteristic of one of the following:

- Ignitability – flammable (e.g., lighter fluid, spot and paint removers)
- Corrosivity – eats away materials and can destroy human and animal tissue by chemical action (e.g., oven and toilet bowl cleaners)
- Reactivity – creates an explosion or produces deadly vapors (e.g., bleach mixed with ammonia-based cleaners)
- Toxicity – capable of producing injury, illness, or damage to humans, domestic livestock, or wildlife through ingestion, inhalation, or absorption through any body surface (e.g., rat poison, cleaning fluids, pesticides, bleach)

### AIRPORT OPERATIONS HAZARDS

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.

Sunnyvale lies in the landing pattern of Moffett Federal Airfield and during south winds, planes take off over heavily developed areas. However, according to the Moffett Federal Airfield Comprehensive Land Use Plan, the project area lays just outside the airport's influence area and safety zones (Santa Clara County Airport Land Use Commission 2012).

### 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 project area is developed and is surrounded by further urban development. Further, the City of Sunnyvale has a strong facilities inspection and fire education program; therefore, the incidence of fire is low. Each year, inspections are completed at all commercial facilities, apartments, hotels, and schools with an emphasis on prevention. Additionally, fire station-based education programs target schoolchildren, while the Crime Prevention Unit provides more advanced public education programs to businesses and neighborhoods (Sunnyvale 2014a).

### EMERGENCY RESPONSE

By serving as a Certified Unified Program Agency (CUPA), the City's Department of Public Safety is able to conduct inspections of hazardous materials facilities and to review and certify risk management plans to prevent accidental releases of hazardous materials. The City also maintains a hazardous materials response team, which is specially trained and equipped to mitigate emergencies that result in hazardous materials spills, releases, and discharges. This team

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is relied upon to maintain the safety of all citizens when confronted with an emergency involving hazardous materials. The City has also improved hazardous materials response by maintaining a Type II HazMat Response Unit.

Responsibility for preparing for emergencies lies with both the City and the members of the community. The City has established an emergency management program to coordinate emergency planning for neighborhoods, schools, and businesses. When City resources are exhausted and a local emergency has been declared, outside assistance can be requested through an established network of local, operational area, regional, state, and federal mutual aid.

### **3.7.2 REGULATORY FRAMEWORK**

#### FEDERAL

##### 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 US Environmental Protection Agency (EPA) implements pollution control programs such as setting wastewater standards for industry and setting water quality standards for all contaminants in surface waters (EPA 2015).

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.

##### Clean Air Act (42 USC Section 7401 et seq.)

The federal Clean Air Act regulates hazardous air pollutants from stationary and mobile sources via national ambient air quality standards (NAAQS). Clean Air Act Section 112 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 2015).

##### Resource Conservation and Recovery Act (42 USC Section 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) gives the EPA the authority to control hazardous waste from "cradle to grave," including the generation, transportation, treatment, storage, and disposal of hazardous waste. 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 2015).

#### 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 2015).

#### 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 US 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 2015).

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.

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- 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.

#### 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 (PHMSA 2015).

The Federal Motor Carrier Safety Administration 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.

#### **Federal Aviation Regulations**

Development near airports and heliports can pose a potential hazard to people and property on the ground, as well as create obstructions and other hazards to flight. The Federal Aviation Regulations (FAR) provide criteria for evaluating the potential effects of obstructions on the safe and efficient use of navigable airspace within approximately 1 mile of a heliport, approximately 2 to 3 miles of airport runways, and approximately 9.5 miles from the end of high traffic runways that have a precision instrument approach. According to the obstruction criteria provided in FAR Part 77, the Federal Aviation Administration (FAA) requires notification of any proposed construction or alteration projects of:

- More than 200 feet in height above ground level.
- Greater height than an imaginary surface extending outward 100 feet and upward one foot for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of a public-use or military airport with at least one runway more than 3,200 feet in actual length.

- Greater height than an imaginary surface extending outward 50 feet and upward one foot for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of a public-use or military airport with its longest runway no more than 3,200 feet in actual length.
- Greater height than an imaginary surface extending outward 25 feet and upward one foot for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of a public-use heliport.

Other airspace protection concerns identified by the FAA include avoiding land uses in the airport vicinity that would create hazards to flight such as electrical interference, lighting, glare, smoke, and bird strikes. Under the California State Aeronautics Act, local governments have the authority to protect airspace as defined by the criteria provided in FAR Part 77.

The FAA requires notification of proposed construction or alteration projects that exceed the FAR Part 77 criteria at least 30 days prior to beginning construction (FAA Form 7460-1). Following notification of proposed construction or alteration, the FAA may conduct an aeronautical study to determine if proposed structures and construction equipment would create an airspace hazard. The FAA commonly requires proposed structures and construction equipment affecting navigable airspace to be marked and/or lighted for increased visibility.

#### STATE

##### 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 program and Hazardous Waste Onsite Treatment activities
- The Aboveground Storage Tank program Spill Prevention Control and Countermeasure Plan requirements
- The Underground Storage Tank program
- The Hazardous Materials Release Response Plans and Inventory program
- California Accidental Release Prevention program
- The Hazardous Materials Management Plans and the Hazardous Materials Inventory Statement 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 (CUPA) is required to consolidate, coordinate,

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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 is the CUPA for the City.

### **Assembly Bill 2286**

Assembly Bill 2286 was signed by Governor Arnold Schwarzenegger, chaptered on September 29, 2008 and went into effect January 1, 2009. The law will require all regulated businesses and all regulated local government agencies, called Unified Program Agencies (UPA), to use the Internet to file required Unified Program information now filed by paper forms. This includes facility data regarding hazardous material regulatory activities, chemical inventories, underground and aboveground storage tanks, and hazardous waste generation. It also includes UPA data such as inspections and enforcement actions.

See more at: <http://www.calepa.ca.gov/CUPA/EReporting/#sthash.nYcisGas.dpuf>.

### LOCAL

#### **City of Sunnyvale Municipal Code**

Title 20 of the City's Municipal Code contains hazardous material regulations adopted to safeguard life and property arising from the storage, handling, and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or structures. The Municipal Code requires permits for certain hazardous activities and operations and inspections to determine whether such activities or operations can be conducted in a manner that complies with the hazardous materials regulation standards.

#### **City of Sunnyvale Local Hazard Mitigation Plan**

Sunnyvale'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 plan is currently being updated, with a public review draft available for comment (Sunnyvale 2014b).

### **3.7.3 IMPACTS AND MITIGATION MEASURES**

#### STANDARDS OF SIGNIFICANCE

This analysis evaluates the project's impacts from hazards and hazardous materials based on the standards identified in California Environmental Quality Act (CEQA) Guidelines Appendix G. The City has determined that a hazards and hazardous materials impact is considered significant if implementation of the project would:

- 1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 2) 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.

- 3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- 4) 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.
- 5) 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.
- 6) For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- 7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- 8) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

#### METHODOLOGY

The information in this section is based primarily on information collected from GeoTracker and EnviroStor, as well as the Phase I Environmental Site Assessment prepared for the structures in 2014 (**Appendix G**). A database search was performed in May 2015 to identify federal, state, and local records of hazardous materials activities within a half mile of the project site which may impact conditions on-site. The following impact analysis is based on hazardous release site data provided by the DTSC and SWRCB, consultation with applicable local, state, and federal agencies, including the City of Sunnyvale, and review of the City of Sunnyvale Emergency Plan. The impact analysis focuses on whether hazard impacts would have a significant effect on the physical environment and/or the health and safety of the public.

#### HAZARDOUS MATERIALS AND WASTE DEFINED

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.

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 above, cleanup requirements of hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over the project.

## 3.7 HAZARDS AND HAZARDOUS MATERIALS

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### Asbestos-Containing Materials

The EPA defines asbestos-containing materials as materials containing more than 1 percent asbestos as determined by a Polarized Light Microscopy test. The California Occupational Safety and Health Administration (Cal/OSHA) classifies any materials as having greater than 0.1 percent asbestos as asbestos-containing construction materials. Asbestos-containing materials can be considered friable or non-friable. Friability refers to the likelihood of the material to release airborne fibers when disturbed. Materials found to contain trace level of asbestos, below 1 percent, must either be assumed to be asbestos-containing materials or be further analyzed by a more precise method to confirm asbestos traces.

### Lead-Based Paints

Lead-based paints are of concern both as a source of direct exposure through ingestion of paint chips and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to the 1950s. Today for purposes of lead paint inspection, the EPA defines lead-based paints as paint containing greater than 0.5 percent lead by weight or greater than 1.0 milligrams/centimeter<sup>2</sup> by surface area.

As of April 22, 2010, the EPA enacted the Renovation, Repair, and Painting Rule, which states that unless testing has proven otherwise, paints must be considered lead-based paints in pre-1978 housing, childcare facilities, schools, or other locations frequented by children. For employee protection, the Occupational Safety and Health Administration (OSHA) does not define a lower "safe" lead content in a material; rather, it implies that any level of lead has the potential to negatively impact a worker's health depending on the task being performed and work duration.

### Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) are a group of chlorinated, aromatic hydrocarbons that are toxic to the liver and are linked to cancer. PCBs were manufactured in the United States from 1929 to 1979 for use in electrical products. Principal uses were oil-insulated transformers, capacitors, and fluorescent light ballasts. The use of PCBs in transformers and ballasts was banned after July 1, 1979, but it is not always clear as to the production date and/or content of the oil in those products that have been withdrawn from use.

## IMPACTS AND MITIGATION MEASURES

### Transportation, Use, and Disposal of Hazardous Materials (Standard of Significance 1)

**Impact 3.7.1** The project would involve the transport, use, and disposal of hazardous materials during construction. Such activities would continue to be regulated under existing law in order to protect public health. This impact would be **less than significant**.

Project construction activities that would include remodeling and demolition, landscaping, and paving activities could result in the transport, use, and disposal of hazardous materials such as gasoline, fuels, demolition materials, asphalt, lubricants, toxic solvents, pesticides, and herbicides. The transport, use, and disposal of these materials could pose a potential hazard to the public and the environment.

The project area is a residential neighborhood; as such, there is an increased exposure potential for the public to be exposed to hazardous materials being transported via trucks on surrounding highways and roadways. However, state law prohibits the transportation of more than 5 gallons or 50 pounds of hazardous waste without a hazardous materials transportation license. Therefore, it is anticipated that the transport of additional hazardous materials in the project area would be in relatively small amounts and would not result in significant hazards to the public or the environment.

The transport, use, and storage of hazardous materials would be required to comply with all applicable local, state, and federal regulations during construction and operation activities. Federally, the Resource Conservation and Recovery Act (RCRA) gives the EPA the authority to control the generation, transportation, treatment, storage, and disposal of hazardous waste. The US Department of Transportation governs the transportation of hazardous materials. The Federal Motor Carrier Safety Administration 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. The City's Department of Public Safety is the CUPA for Sunnyvale and is responsible for consolidating, coordinating, and making consistent the administrative requirements, permits, inspections, and enforcement activities of state standards regarding the transportation, use, and disposal of hazardous materials in the project area, as discussed in the Regulatory Framework subsection above.

Continued compliance with all federal, state, and local regulations related to the transport, use, and disposal of hazardous materials would reduce this impact to **less than significant**.

### Mitigation Measures

None required.

### **Accidental Release and Exposure to Hazardous Materials (Standard of Significance 2)**

**Impact 3.7.2** The project would entail the update of structures that were found to potentially contain asbestos and lead-based materials. The project site was used as a former agricultural site and is located in proximity to a Superfund site. As such, project implementation could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Such activities would continue to be regulated under existing laws to protect public health. This impact would be **less than significant with mitigation incorporated**.

### Asbestos

The 2014 Phase I Environmental Site Assessment found that asbestos-containing materials could be present in the buildings located on the project site. During site inspections, four damaged vinyl floor tiles were observed one of the building's three utility rooms. Although materials were not tested to determine asbestos levels, due to the structure's age, it is assumed that asbestos-containing materials are present. OSHA requires that training and precautions be implemented when working with asbestos (29 CFR 1926). Due to the structure's age and its proximity to residential uses, impacts from asbestos-containing materials would be **significant** and mitigation measure **MM 3.7.2a** is required.

### 3.7 HAZARDS AND HAZARDOUS MATERIALS

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#### Lead-Based Paint

The 2014 Phase I Environmental Site Assessment found that lead-based paints could be present in the buildings located on the project site. During site inspection, damaged painted wall surfaces were observed in the utility room in building 3. Although materials were not tested for lead levels, due to the structure's age, it is assumed that lead-based paints are present on-site. Construction activities that disturb materials or paints containing any amount of lead may be subject to certain OSHA requirements of the lead standard contained in 29 CFR 1910.1025 and 1926.62. Due to the structure's age and its proximity to residential uses, project impacts would be **significant** and mitigation measure **MM 3.7.2b** is required.

#### Agricultural Use

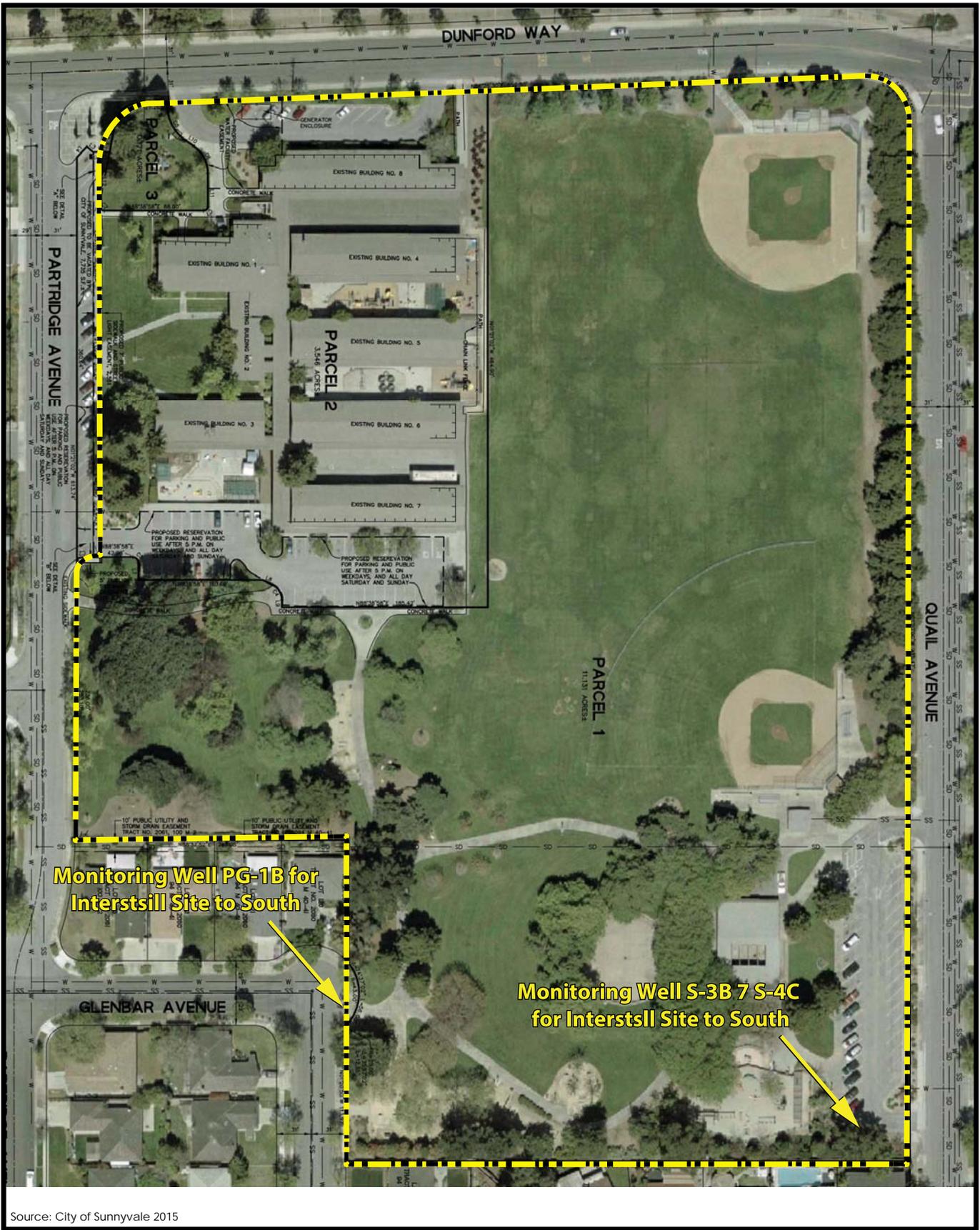
The project site was historically used for agricultural purposes. There is potential that agricultural chemicals, such as pesticides, herbicides, and fertilizers, were used on the site. With the exception of some landscaped areas, the project site is either paved over or covered by improvements that make direct contact with any potential remaining concentrations in the soil unlikely. Further, initial project site development likely involved grading activities that would have removed near-surface soils or would have potentially involved the addition of imported soils for the landscaped areas. Such activities would further minimize the project's potential to disturb contaminated soils.

The landscaped areas on the project site are relatively small and are covered with ground cover and/or trees that also can reduce direct contact with any potential remaining concentrations of agricultural chemicals in the soil. Project construction would involve grading activities to add the extra driveway, the basketball court, and landscaping. The project would not involve removal of any buildings, and grading would be minor in scope. The new driveway would replace and expand an existing paved area; as such, the possibility of disturbing agriculturally contaminated soils is low. Nonetheless, due to the project site's previous uses and its proximity to residential uses, this impact would be **significant** and mitigation measures **MM 3.7.2c** and **MM 3.7.2d** are required.

#### Vapor Intrusion

A Superfund site, Intersil/Siemens site, is located approximately one-half mile to the south, in an approximately upgradient direction with respect to groundwater flow (EKI 2011) from the project site. As previously discussed, two monitoring wells are located in Raynor Park, adjacent to the project site, numbered S-3B and S-4C (**Figure 3.7.2**). The wells are installed in the B zone and C zone aquifers. The B zone aquifer is approximately 130 to 150 feet bgs, and the C zone is approximately 180 to 210 feet bgs. Soil between approximately 80 and 50 feet bgs is considered the A zone aquifer. There are no A zone aquifer monitoring wells on the project site or in the project area.

Between 1993 and 1998, groundwater elevations beneath the property and adjacent properties rose approximately 50 feet from an initial depth of approximately 100 feet bgs, due to policies aimed at reducing groundwater withdrawals. In October 2011, depth to groundwater at the project site was measured from approximately 50 to 68 feet bgs.



Source: City of Sunnyvale 2015

Not to scale



Figure 3.7.2  
Location of Groundwater Wells



Based on the ongoing remedial/investigation activities at the Intersil site, the identification of a responsible party, and the project site's current and historical use, it is unlikely that the project site would be investigated as a source of this contamination should contamination migrate onto it. Further, based on the most recent sampling event, impacts from the Superfund site do not appear to have migrated onto the project site. Although low concentrations of TCE were observed in S-4C, this monitoring well is located approximately 400 feet southeast of the project site and installed in the C zone aquifer (180 to 210 feet bgs).

As previously discussed, a Tier 1 Vapor Encroachment Screen (VES) pursuant to ASTM E2600-10 was performed at the project site and it was determined that vapor encroachment conditions do not exist at the project site. As described in the Phase I assessment it is recommended that trichloroethene (TCE) levels at the two groundwater monitoring wells S-3B and S-4C be monitored. Such monitoring is currently being conducted by the well operators. Because monitoring and notification procedures are in place through the Superfund site clean up operations this impact would be **less than significant**.

#### Unknown Contamination

A City of Sunnyvale municipal water supply well is located on the northwest portion of the project site (State ID 7S1W06R02). The well is utilized as an emergency water supply well (EKI 2011). The well was built between February and March 1982 by Water Development Corporation and was drilled to 780 feet bgs (EKI 2011). The well was completed with a 16-inch steel casing to 780 feet bgs and with four louver-screened intervals between 328 and 738 feet bgs. The City maintains an emergency backup diesel generator to run the pump in the well in the event of power failure. The diesel generator is located on the northwest corner of the project site adjacent to the municipal well (**Figure 3.7.3**). The well and the generator are surrounded by bollards and a locked chain-link fence. The City's generator and well are not part of the project and they would remain as is. No ground-disturbing activities would take place within the municipal water supply well's fenced-off area, and this area is not part of the project site.

During project site reconnaissance in 2014, hazardous materials consisting of diesel fuel were observed in connection with the emergency generator associated with the City's municipal water supply well (**Appendix G**). There were no environmental concerns associated with the storage and/or use of these materials noted during the site reconnaissance or during the review of regulatory records, as no visible diesel stains were observed. Further, the well and the diesel generator area would not be disturbed during project construction. Maintenance activities would be undertaken on an ongoing basis by the City.

Although no visible hazardous material contamination was observed, because of the generator's location near residential uses and project activities that would require grading and landscaping, there is potential for undocumented contamination to be discovered. This impact would be **significant** and mitigation measure **MM 3.7.2d** would be required.

#### Transportation of Hazardous Materials

As discussed under Impact 3.7.1, the project would include transportation of hazardous materials. These activities could result in the accidental release of hazardous materials into the environment and exposure of the public to hazardous materials. In addition, construction activities could increase exposure to persistent residual chemicals, including pesticides, herbicides, and fertilizers, that have the potential to pose a health and safety risk via accidental release, misuse, or historic use. Project activities could also result in exposure to hazardous materials by disturbing and thus releasing asbestos and/or lead during demolition and

### 3.7 HAZARDS AND HAZARDOUS MATERIALS

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remodeling activities.

As discussed under Impact 3.7.1, the transport, storage, and use of hazardous materials by developers, contractors, and others are required to be in compliance with local, state, and federal regulations during project construction and operation.

Continued compliance with all federal, state, and local regulations regarding hazardous materials and discovered contamination would reduce this impact to **less than significant**.

#### Mitigation Measures

**MM 3.7.2a** Prior to construction, the applicant shall implement an Operations and Maintenance Plan. The plan shall include measures which would ensure that the assessment, repair, and maintenance of damaged materials within the buildings shall be done in a manner to protect the health and safety of workers and building occupants as described in applicable state and local regulations. If necessary, the applicant shall retain a Division of Occupational Safety and Health (Cal/OSHA) registered asbestos contractor to remove asbestos-containing materials to ensure safety to the surrounding neighborhoods.

**MM 3.7.2b** Prior to construction, the applicant shall consult with a certified lead risk assessor to determine options for control and correction of lead-based paint hazards. If lead-based paints are found to be present, to prevent accidental release of lead-based paint, the applicant and/or its contractor shall use the following techniques during construction:

- Stabilize loose and flaky paint prior to construction activities.
- Require all workers to wear OSHA-level protective material for handling lead-based paint per OSHA requirements for lead in construction.
- Remove all lead-based paint materials to a scrap yard or landfill that can accept such materials.

**MM 3.7.2c** If project construction includes removing existing site improvements that would expose unimproved areas, the applicant shall contact the local planning or other applicable oversight agency department to determine whether sampling relating to the former agricultural use of the subject property is required prior to construction activities. Sampling activities shall take place as directed by the applicable oversight agency.

**MM 3.7.2d** If hazardous materials are encountered during construction or accidentally released as a result of construction activities, the applicant and/or its contractor shall implement the following procedures:

- Stop all work in the vicinity of any discovered contamination or release.
- Identify the scope and immediacy of the problem.
- Coordinate with responsible agencies (Department of Toxic Substances Control, San Francisco Bay Regional Water Quality Control Board, or EPA).

- Conduct the necessary investigation and remediation activities to resolve the situation before continuing construction work.

Implementation of mitigation measures **MM 3.7.2a** through **MM 3.7.2d** would prevent accidental release of hazardous materials within the project area, so as to not pose a safety hazard. With these measures and compliance with other applicable hazardous material regulations, this impact would be reduced to **less than significant**.

#### **Release and Exposure to Hazardous Materials in the Vicinity of a School Site (Standard of Significance 3)**

**Impact 3.7.3** The project would involve the use, transport, disposal, and/or release of hazardous materials in the vicinity of an existing school site. This impact would be **less than significant with mitigation incorporated**.

There are no public schools located within a quarter mile of the project site. AppleSeed Montessori School, a private day care and pre-kindergarten school, is located approximately a quarter mile northeast of the project site. The project site itself would serve as a school site.

As discussed under Impacts 3.7.1 and 3.7.2, the project could involve transport of hazardous materials in the project area during construction activities. However, as previously determined, continued compliance with all federal, state, and local regulations related to the transport, use, and disposal of hazardous materials would minimize the potential for public exposure to hazardous materials. In addition, implementation of mitigation measures **MM 3.7.2a** through **MM 3.7.2d** would ensure that construction activities pose no risk to surrounding properties as a result of site disturbance. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

**MM 3.7.2a through MM 3.7.2d.**

#### **Located on a List of Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5 (Standard of Significance 4)**

**Impact 3.7.4** The proposed project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, it would not create a significant hazard to the public or the environment and would have a **less than significant with mitigation incorporated** impact.

The project site is not included on the Cortese List. However, the Phase I Environmental Site Assessment showed that the structures potentially contain known hazardous materials (asbestos and lead-based paint), which could present a hazard to the public or the environment during project construction (**Appendix G**). Further, the Intersil Superfund site is located approximately 0.5 mile south of the project site. Implementation of mitigation measures **MM 3.7.2a** through **MM 3.7.2d** would ensure worker protection, reducing this impact to **less than significant**.

#### Mitigation Measures

**MM 3.7.2a through MM 3.7.2d.**

## 3.7 HAZARDS AND HAZARDOUS MATERIALS

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### Public and Private Airport Hazards (Standards of Significance 5 and 6)

**Impact 3.7.5** The project would not result in a safety hazard for people residing or working in the project area. There would be **no impact** on airports and private airstrips from the project.

The Santa Clara County Airport Land Use Commission (ALUC) has adopted a Comprehensive Land Use Plan (CLUP) for areas surrounding Santa Clara County public-use airports; the plan incorporates the airspace protection criteria provided in FAR Part 77, discussed previously. The project area is not located within any protected airspace zones defined by the ALUC and has no heliports listed by the FAA (Santa Clara County Airport Land Use Commission 2012).

The project area lies outside of the airport influence area of Moffett Federal Airfield. Although the airfield is not under ALUC jurisdiction, a CLUP was prepared to provide the Airport Land Use Commission with a foundation to develop compatible land use policies around the airfield. Based on its location and its compliance with current regulations, future students and employees in the project area would not be at risk from any airport hazards. Therefore, the project would have **no impact** on airports or private airstrips.

#### Mitigation Measures

None required.

### Emergency Response and Evacuation Plans (Standard of Significance 7)

**Impact 3.7.6** The project would not interfere with adopted emergency response and evacuation plans that apply to the project area. This impact would be **less than significant**.

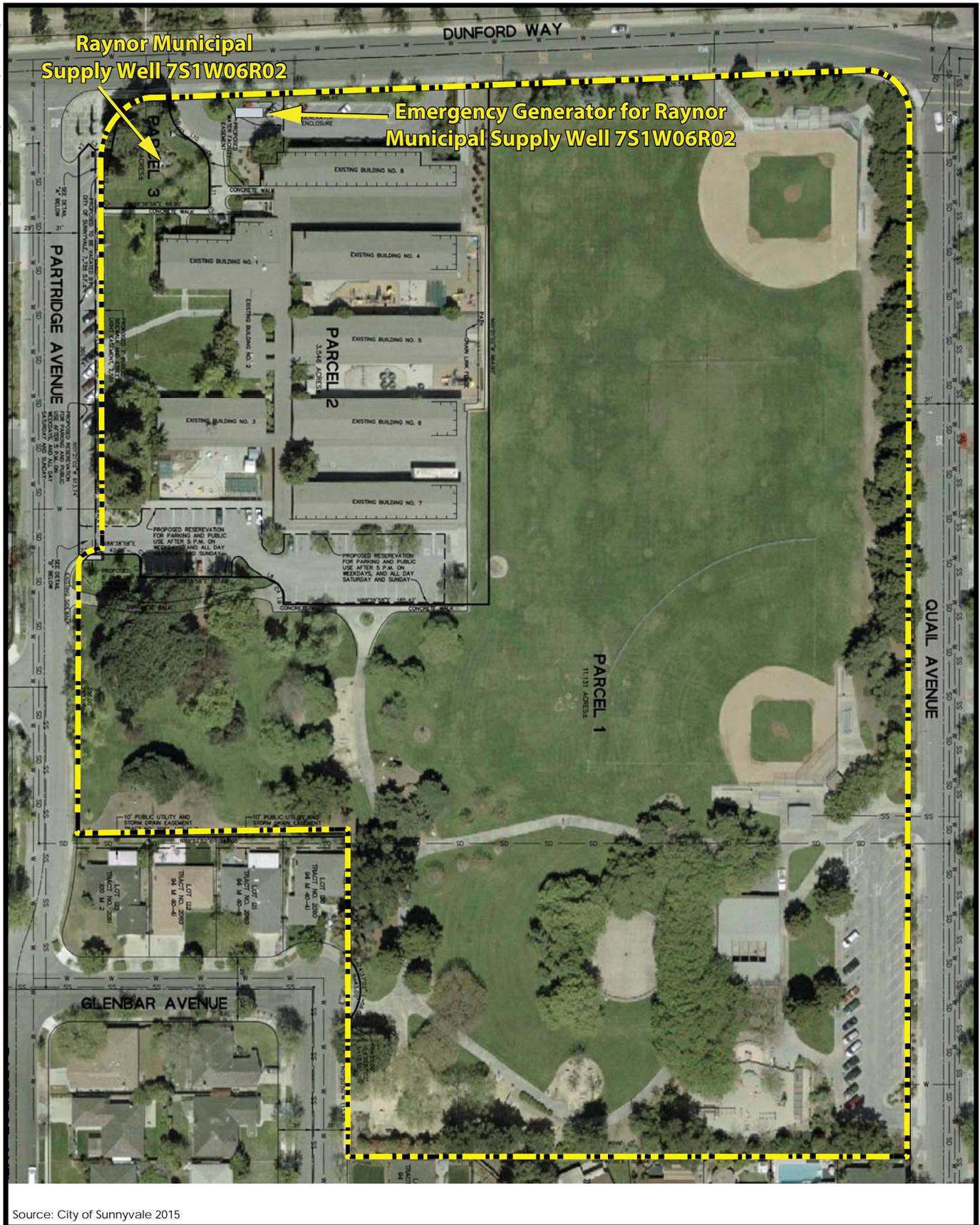
The City of Sunnyvale Emergency Plan specifies actions for the coordination of operations, management, and resources during emergencies. The project would not alter the project area's land use patterns or land use designations to such an extent that they would conflict with this plan.

However, an efficient circulation system is vital for the evacuation of residents and the mobility of fire suppression, emergency response, and law enforcement vehicles during an emergency. The project would increase the number of people who would require evacuation in case of an emergency, if such an emergency takes place during normal school hours or after-school activities. On-site traffic circulation would provide additional roadway connections that offer more escape route and emergency access options.

The project would improve project site conditions from existing conditions, allowing better emergency vehicle access to the park and school. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

None required.



Source: City of Sunnyvale 2015

Not to scale



Figure 3.7.3  
City Water Well and Diesel Generator



### Wildland Fire Hazards (Standard of Significance 8)

**Impact 3.7.7** There are no Fire Hazard Severity Zones in Sunnyvale. Therefore, the project would have **no impact**.

According to the California Department of Forestry and Fire Protection (Cal Fire), there are no Fire Hazard Severity Zones, state responsibility areas, or Very High Fire Hazard Severity Zones within or adjacent to Sunnyvale (Cal Fire 2015). Based on this mapping, there would be **no impact** due to wildland fire hazards in the project area.

#### Mitigation Measures

None required.

### 3.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

#### CUMULATIVE SETTING

The cumulative setting for hazards and human health risks associated with the project includes the project area, the cities of Sunnyvale and Santa Clara, and the surrounding areas in Santa Clara County. Most hazardous materials, human health, and safety impacts as described in CEQA Appendix G are generally site-specific and not cumulative by nature, as impacts generally vary by land use, site characteristics, and site history.

#### CUMULATIVE IMPACTS AND MITIGATION MEASURES

##### Cumulative Hazards Impacts

**Impact 3.7.8** The project, along with increased urban development in Santa Clara County, would not result in cumulative hazards impacts. This impact would be **less than cumulatively considerable**.

Potential exposure to or generation of hazardous conditions in the project area is site-specific rather than associated with the combination of other hazards in the region resulting in a significant effect. Adherence to existing federal, state, and local regulations regarding the handling, transport, and disposal of hazardous materials, as well as implementation of mitigation measures **MM 3.7.2a** through **MM 3.7.2e**, would minimize potential risks associated with accidental release and exposure to hazardous materials. In addition, adherence to the safety restrictions contained in the Moffett Airfield Airport Comprehensive Land Use Plan and existing FAA and ALUC regulations would minimize airport hazards. Therefore, this impact would be **less than cumulatively considerable**.

#### Mitigation Measures

None required.



## **3.8 HYDROLOGY AND WATER QUALITY**



## 3.8 HYDROLOGY AND WATER QUALITY

This section identifies the hydrological resources, the existing drainage conditions, and the surface water and groundwater quality in the project area. The project area encompasses the project site, Raynor Park, and Sunnyvale. This section also evaluates the potential project impacts with respect to flooding, drainage, erosion, and water quality, and identifies feasible mitigation measures to lessen significant impacts, where necessary. Please see Section 3.12, Utilities, for further analysis of the project's water supply impacts.

A summary of the impact conclusions related to hydrology and water quality is provided below.

Impact Number	Impact Topic	Impact Significance
3.8.1	Construction and Operational Water Quality Impacts	Less than significant
3.8.2	Groundwater Recharge	Less than significant
3.8.3	Alteration of Site Drainage	Less than significant
3.8.4	Flood Hazards	Less than significant
3.8.5	Seiche, Tsunami, or Mudflow Hazards	Less than significant
3.8.6	Cumulative Water Quality Impacts	Less than cumulatively considerable
3.8.7	Cumulative Flood Hazards	Less than cumulatively considerable

### 3.8.1 EXISTING SETTING

#### HYDROLOGY AND DRAINAGE

The southern shoreline of the San Francisco Bay is located approximately 6 miles north of the project area. The entire Bay comprises a group of interconnecting bays and rivers including the Sacramento River, San Joaquin River, and Napa River; Suisun Bay, San Pablo Bay, and the main San Francisco Bay; and the Carquinez Strait. The main part of the San Francisco Bay measures between 3 and 12 miles wide from east to west and between 48 and 60 miles long north to south. However, the San Francisco Bay has been deliberately filled in since the mid-1800s by as much as a third, making the actual size difficult to accurately measure. The areas that were filled were primarily wetlands, which once consisted of many thousands of acres that formed the edges of the Bay.

The project site is located on the Santa Clara Valley alluvial plain, in the Coast Ranges. The land surface slopes very gently to the northeast toward the San Francisco Bay. The project site lies at surface elevation of approximately 130 feet above mean sea level (EKI 2011). The project site drains into the Sunnyvale East Channel, which is part of the Guadalupe Slough watershed.

The Sunnyvale East Channel is approximately 6.5 miles long channel and conveys rainfall from the project site to the Guadalupe Slough watershed, which conveys it to San Francisco Bay. The Sunnyvale East Channel receives tidal backwater from the Guadalupe Slough and can also receive flows from nearby Calabazas and San Tomas Aquino creeks. It drains a watershed of approximately 7.25 square miles.

#### Stormwater Drainage System

Local storm drainage facilities in Sunnyvale are owned by the City and maintained by the City's Environmental Services Department. The local system discharges into a regional system, under

### 3.8 HYDROLOGY AND WATER QUALITY

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the jurisdiction of the Santa Clara Valley Water District (SCVWD), which conveys storm runoff to the San Francisco Bay.

Surface water runoff on the project site flows via the paved surfaces, parking lots, and play areas near the school to nearby surface storm drain inlets or infiltrates through the unpaved grass or landscaped areas. The parking lot located on the southeast portion of the project site drains to the street and municipal storm drains.

#### **Groundwater**

Santa Clara County includes portions of two groundwater basins as defined by the California Department of Water Resources (DWR): the Santa Clara Valley Basin (Basin 2-9) and the Gilroy-Hollister Valley Basin (Basin 3-3) (SCVWD 2015). The Santa Clara Valley Water District manages two groundwater subbasins: the Santa Clara Subbasin and the Llagas Subbasin. These subbasins cover approximately 325 square miles and are bordered by the Santa Cruz Mountains to the west and the Diablo Range to the east. The aquifers that comprise the subbasins are made up of gravel, sand, and silty sand deposits. In the Santa Clara and Llagas subbasins, aquifers extend to depths of over 1,000 feet in places. The Coyote Valley region of the Santa Clara Subbasin is fairly shallow, extending to a maximum depth of approximately 500 feet. Groundwater in the Santa Clara Subbasin generally flows to the northwest toward the San Francisco Bay while groundwater in the Llagas Subbasin generally flows to the southeast toward San Benito County (SCVWD 2015).

The project area is located in the Santa Clara Subbasin area. The direction of groundwater flow beneath the project site is considered to be to the north-northeast. Groundwater levels are presumed to be at depth ranging from 48 to 54 feet below ground surface (AEI 2014).

#### **WATER QUALITY**

The water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by pollution carried in contaminated surface water runoff. Pollutants from unidentified sources, known as non-point source pollutants, are washed from streets, construction sites, parking lots, and other exposed impervious surfaces into storm drains. Stormwater runoff from these surfaces is collected by storm drains and discharged into the Sunnyvale East Channel, which ultimately discharges into the San Francisco Bay. The runoff often contains contaminants such as oil and grease, plant and animal debris (leaves, dust, animal feces, etc.), pesticides, litter, and heavy metals. In sufficient concentration, these pollutants have been found to adversely affect the aquatic habitats to which they drain.

#### **Impaired Water Bodies**

Calabazas Creek, which is located east of the project site, and the lower San Francisco Bay are listed under the Clean Water Act Section 303(d) List of Limited Water Quality Segments (see the Regulatory Framework subsection below for a discussion of the Clean Water Act). The creek is listed for the pollutant diazinon from urban runoff/storm sewers. This issue is being addressed by a total maximum daily load (TMDL), approved by the US Environmental Protection Agency (EPA) in 2007. TMDLs identify the total pollutant loading that a water body can receive and still meet water quality standards, and specify a pollutant allocation to specific point and non-point sources (see the TMDL discussion in the Regulatory Framework subsection below).

The lower San Francisco Bay is listed for multiple pollutants. Chlordane, DDT, and dieldrin, all from non-point sources, require TMDLs. Dioxin and furan compounds due to atmospheric deposition

require TMDLs with completion dates of 2019, as do exotic species pollutants from ballast water and PCBs (dioxin-like) from unknown point sources. Polychlorinated biphenyls (PCBs) from unknown point sources and mercury from atmospheric deposition, industrial and municipal point sources, natural sources, non-point sources, and resource extraction required TMDLs, which were addressed through implementation of the National Pollutant Discharge Elimination System (NPDES) permits for stormwater and wastewater (SWRCB 2015).

### FLOOD HAZARDS AND FLOOD CONTROL

#### Excessive Precipitation and Surface Runoff

Flooding has plagued Santa Clara County since the earliest settlement of the valley floor. Much of the valley is susceptible to flooding (approximately 60 out of 300 square miles), and despite efforts to provide adequate flood control, many of the streams, rivers, and creeks that flow through the area are still incapable of carrying flows from a 100-year storm event, with flooding issues involving the Sunnyvale East Channel and Calabazas Creek. Further, the increased amount of impervious area as a result of urban development has amplified the volume of stormwater runoff, thereby increasing the flooding potential in the valley.

The Santa Clara Valley is essentially an active floodplain that has been severely altered by human activity and is subject to periodic flooding from storm events. As shown in **Figure 3.8.1**, the entire project area is located in the Federal Emergency Management Agency (FEMA) 500-year flood zone; none of the area is in the 100-year flood zone.

The regional flood control agency is the Santa Clara Valley Water District (SCVWD). The SCVWD provides flood control protection throughout Santa Clara County, including the project area. To provide flood protection of urbanized areas, the SCVWD constructed three open channels (Sunnyvale West Channel, Sunnyvale East Channel, and El Camino Channel) to increase drainage capacity to the San Francisco Bay. Currently, the SCVWD is updating flood control abilities to the Sunnyvale East and West channels.

A system of levees protects Sunnyvale and Santa Clara at their northern borders from encroachment of San Francisco Bay waters. Some of these levees were constructed by and remain in the ownership and operation of the Cargill Salt Company. Stormwater runoff in low-lying areas is pumped out over the levees for discharge into San Francisco Bay by pump stations.

#### Seismically Induced Flooding

Earthquakes may generate flooding from a tsunami (sea wave or "tidal wave" caused by an earthquake), seiche (wave generated in an enclosed body of water such as a lake or swimming pool), or dam failure. The reader is referred to Section 3.5, Geology and Soils, for further discussion of seismic hazards.

#### Tsunami

Tsunamis are long period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Tsunamis affecting the San Francisco Bay Area would originate west of the Bay in the Pacific Ocean. Areas that are highly susceptible to tsunami inundation tend to be low-lying coastal areas, such as tidal flats, marshlands, and former Bay margins that have been artificially filled.

### 3.8 HYDROLOGY AND WATER QUALITY

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A tsunami entering the Bay through the relatively narrow Golden Gate would tend to dissipate as the wave energy spreads out as the Bay becomes wider and shallower. A tsunami inundation map prepared as part of a statewide multi-agency effort shows that the Bay shoreline and areas along sloughs up to approximately 1 mile inland could be affected in the region during an extreme but realistic tsunami. Mapped potential inundation areas are limited to marshy, undeveloped areas along the Bay shore and portions of salt evaporation ponds adjacent to sloughs and do not include currently developed portions of Sunnyvale or Santa Clara (Cal EMA, CGS, and USC 2009).

#### Seiche

A seiche is a rhythmic motion of water in a partially or completely landlocked water body caused by landslides, earthquake-induced ground accelerations, or ground offset. Seiches occur most frequently in enclosed or semi-enclosed basins such as lakes, bays, or harbors and may be triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunamis, or tides. Triggering forces that set off a seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin.

Coastal measurements of sea level often show seiches with amplitudes of about an inch and periods of a few minutes due to oscillations of the local harbor, estuary, or bay, superimposed on the normal tidal changes. Tidal records for San Francisco Bay have been maintained for over 100 years and during that time, a damaging seiche has not occurred. A seiche of about 4 inches occurred during the 1906 earthquake, an earthquake of magnitude 8.3 on the Richter scale. It is probable that an earthquake similar to the 1906 earthquake would be the largest to occur in the Bay Area; consequently, seiches with an increase in water elevation of more than 4 inches would be considered unlikely. There are no published maps or hazard information on seiche hazards in the Bay Area (Mountain View 2011).

#### Dam Failure

Failure of the Stevens Creek Reservoir dam caused by an earthquake could affect Sunnyvale. However, the most significantly affected area would be the southwest part of the city south of Remington and west of Sunnyvale-Saratoga Road, approximately 1 mile west of the project area. This estimated flood inundation area is based on the maximum storage capacity of the reservoir at 3,700 acre-feet (Sunnyvale 2011b).

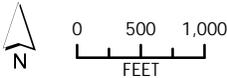
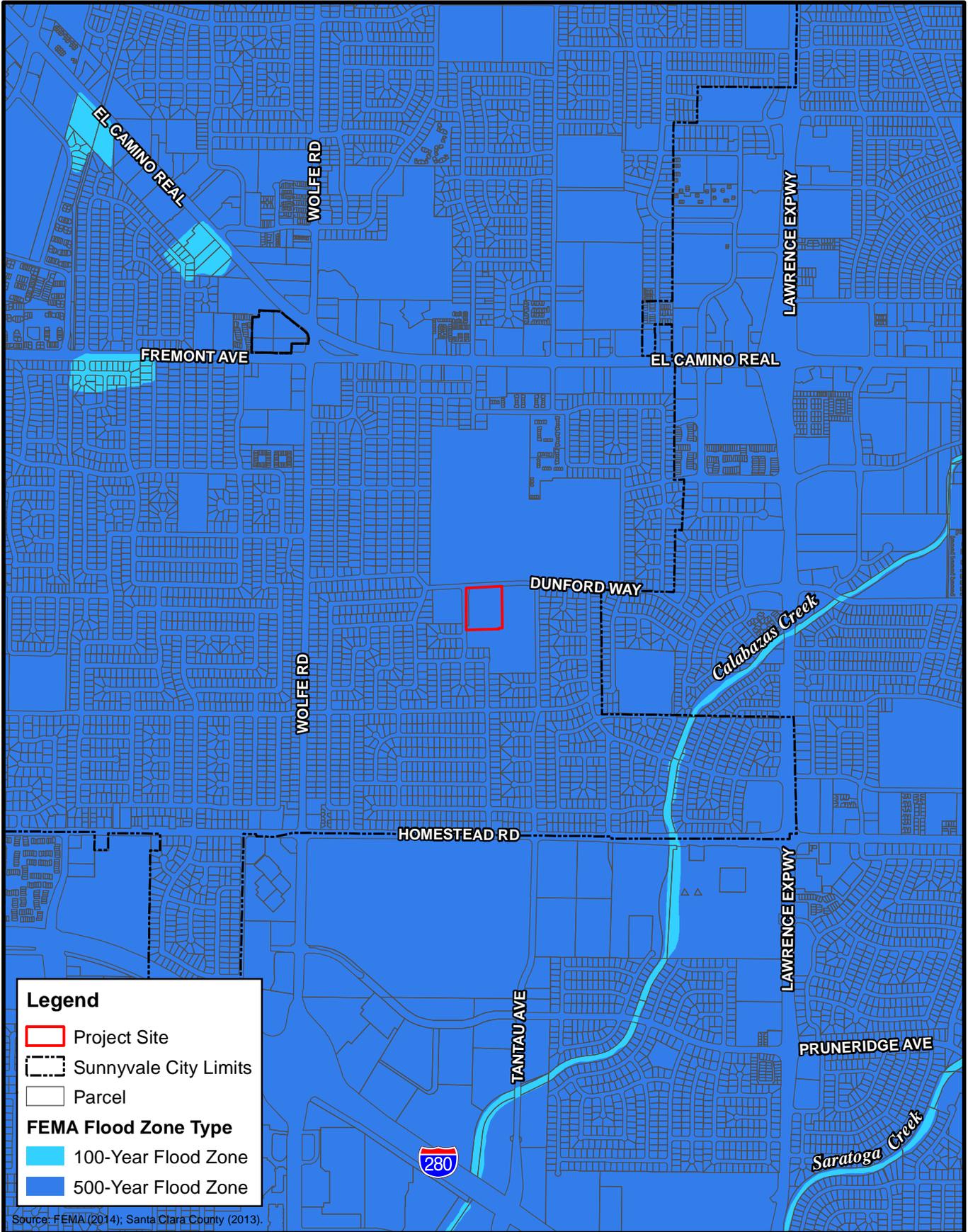


Figure 3.8.1  
FEMA Flood Zones



### 3.8.2 REGULATORY FRAMEWORK

#### FEDERAL

##### **Clean Water Act**

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States, including wetlands and perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for “any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters.” CWA Section 404, Title 33, Section 1344 in part authorizes the US Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites”: subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if “the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas”: subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual state or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such state or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain federal or state projects from regulation under this Section: subparagraph (r); and
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

Section 401 certification is required prior to final issuance of Section 404 permits from the US Army Corps of Engineers.

Section 303(d) requires that all states identify water bodies that do not meet specified water quality standards and that do not support intended beneficial uses. Identified waters are placed on the Section 303(d) List of Impaired Water Bodies. Once waters are placed on this list, states are required to develop a water quality control plan—called a total maximum daily load—for each water body and each associated pollutant/stressor. TMDLs are discussed in more detail below.

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#### San Francisco Estuary Partnership

The San Francisco Estuary Partnership (formerly the San Francisco Estuary Project), established pursuant to CWA Section 320, culminated in June 1993 with completion of its Comprehensive Conservation and Management Plan for the preservation, restoration, and enhancement of the San Francisco Bay-Delta Estuary. The plan's 2007 update includes the following actions regarding general plans:

- Local land use jurisdictions' general plans should incorporate watershed protection goals for wetlands and stream environments and to reduce pollutants in runoff.
- Revise, as necessary, general plans to integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies (e.g., referencing the Bay-Friendly Landscape Guidelines).

#### National Pollutant Discharge Elimination System

The State Water Resources Control Board has implemented a National Pollutant Discharge Elimination System (NPDES) general construction permit for the Santa Clara Valley. For projects disturbing 1 or more acres, a Notice of Intent and stormwater pollution prevention plan (SWPPP) must be prepared prior to commencement of construction. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation.

The San Francisco Bay Regional Water Quality Control Board (RWQCB) issues NPDES permits for municipal stormwater system discharges. In 2009, the RWQCB consolidated county-wide permits and issued Order No. R2-2009-0074, a Municipal Regional Stormwater NPDES Permit (MRP) to 76 co-permittees that discharge to the San Francisco Bay, including the municipalities in the Santa Clara Valley, the County of Santa Clara, and the Santa Clara Valley Water District. The Santa Clara Valley Urban Runoff Pollution Prevention Program assists the co-permittees in implementing the provisions of this permit.

Since 2001, stormwater permits have included provisions for new and redevelopment. Provision C.3 requires that projects which create, add, or replace 10,000 square feet or more of impervious surface area on a project site must incorporate post-construction treatment features to minimize pollutants conveyed by stormwater runoff. As the permit has been renewed, the requirements have become more prescriptive. The 2009 MRP required that low impact development features be used as much as possible for new and redevelopment projects. Sunnyvale also implements a Hydrograph Modification Management Plan Program to ensure that post-project runoff does not exceed estimated pre-project rates, durations, and volumes from the project site (Provision C.3f.i). Major requirements for new development and redevelopment projects since the MRP went into effect are detailed in the City's Stormwater Quality BMP Guidance Manual for New and Redevelopment Projects.

In 2014, Order No. R2-20149-0035 reissued NPDES Permit No. CA0037621 for the City of Sunnyvale and the Sunnyvale Water Pollution Control Plant and Collection System. The permit expires on October 31, 2019.

### Total Maximum Daily Loads

Under CWA Section 303(d) and California's Porter-Cologne Water Quality Control Act (discussed below), the State of California is required to establish beneficial uses of state waters and to adopt water quality standards to protect those beneficial uses. Section 303(d) establishes the total maximum daily load (TMDL) process to assist in guiding the application of state water quality standards, requiring the states to identify waters whose water quality is impaired (affected by the presence of pollutants or contaminants) and to establish a TMDL or the maximum quantity of a particular contaminant that a water body can assimilate without experiencing adverse effects on the beneficial use identified.

TMDLs serve as a regulatory mechanism to identify and implement additional controls on both point and non-point source discharges in water bodies that are impaired from one or more pollutants and are not expected to be restored through normal point source controls. In California, each Regional Water Quality Control Board generally prepares TMDLs for the impaired water bodies under its jurisdiction. Implementation of the TMDL is accomplished through amendments to the RWQCB Basin Plans, which are reviewed and, if necessary, modified or amended triennially.

### **Federal Emergency Management Agency**

FEMA administers a National Flood Insurance Program (NFIP), in which participating agencies must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 adopted a desired level of protection with an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood, which is defined as a flood that has an average frequency of occurrence on the order of once every 100 years, although such a flood may occur in any given year. The act made federally subsidized flood insurance available to property owners if their communities participate in the NFIP. A community establishes its eligibility to participate by:

- Adopting and enforcing floodplain management measures to regulate new construction; and
- Ensuring that substantial improvements within Special Flood Hazard Areas (SFHA) are designed to eliminate or minimize future flood damage.

An SFHA is an area within a floodplain having a 1 percent or greater chance of flood occurrence in any given year. SFHAs are delineated on flood hazard boundary maps issued by FEMA. The Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 make flood insurance mandatory for most properties in SFHAs. FEMA Flood Insurance maps show an SFHA covering portions of Sunnyvale (FEMA2012).

STATE

### **Porter-Cologne Water Quality Act**

The Porter-Cologne Water Quality Act of 1969 governs the coordination and control of water quality in the state and includes provisions relating to non-point source pollution. The California Coastal Commission, pursuant to the Coastal Act, specifies duties regarding the federally approved California Coastal Management Program. This law required that the State Water Resources Control Board (SWRCB), along with the California Coastal Commission, regional boards, and other appropriate state agencies and advisory groups, prepare a detailed program to

### **3.8 HYDROLOGY AND WATER QUALITY**

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implement the state's non-point source management plan on or before February 1, 2001. The law also required that the SWRCB, in consultation with the California Coastal Commission and other agencies, submit copies of prescribed state and regional board reports containing information related to non-point source pollution, on or before August 1 of each year.

#### **State Implementation Program**

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California of 2005 addresses a gap in water quality standards covering priority toxic pollutants. The State Implementation Program (SIP) established the policy for development of new standards for a variety of toxic pollutants, as required by the CWA. It applies to discharges of toxic pollutants into California's inland surface waters, enclosed bays, and estuaries subject to regulation under the Porter-Cologne Water Quality Control Act and the Clean Water Act. Such regulation may occur through the issuance of NPDES permits, the issuance or waiver of waste discharge requirements, or other regulatory approaches.

#### **State Water Resources Control Board**

Responsibility for the protection of water quality in California rests with the State Water Resources Control Board and the nine Regional Water Quality Control Boards. In 1992, the SWRCB adopted the General Construction Activity Storm Water Permit, which is "required for all stormwater discharges associated with construction activity where clearing, grading, and excavation results in a land disturbance of 5 or more acres."

#### **Regional Water Quality Control Board, San Francisco Bay Region**

The San Francisco Bay RWQCB regulates surface water and groundwater quality in the San Francisco Bay region. The area under the RWQCB's jurisdiction comprises all of the San Francisco Bay segments extending to the mouth of the Sacramento-San Joaquin Delta (Winter Island near Pittsburg). In its efforts to protect the surface waters and groundwater of the San Francisco region, the RWQCB addresses region-wide water quality concerns through the creation and triennial update of a Water Quality Control Plan (Basin Plan) and adopts, monitors compliance with, and enforces waste discharge requirements and NPDES permits.

#### **San Francisco Bay Regional Water Quality Control Plan (Basin Plan)**

The Basin Plan is a master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay region. The plan describes the beneficial uses to be protected in these waterways, water quality objectives to protect those uses, and implementation measures to make sure those objectives are achieved.

In 2007, the SWRCB approved the Basin Plan amendment that established new water quality objectives for mercury in the tissues of Bay fish and a total maximum daily load for mercury in the San Francisco Bay. Also in 2007, San Francisco Bay RWQCB staff released a proposed Basin Plan amendment for the incorporation of a TMDL for polychlorinated biphenyls (PCBs) in all segments of the San Francisco Bay. In March 2010, the EPA approved a Basin Plan amendment incorporating a total maximum daily load for PCBs in San Francisco Bay and an implementation plan to achieve the TMDL. The RWQCB is now implementing the TMDL on the variety of fronts.

### **San Francisco Bay Conservation and Development Commission**

The San Francisco Bay Conservation and Development Commission (BCDC) is the federally designated state coastal management agency for the San Francisco Bay segment of the California coastal zone. This designation empowers the BCDC to use the authority of the federal Coastal Zone Management Act to ensure that federal projects and activities are consistent with the policies of the San Francisco Bay Plan and state law.

#### LOCAL

### **Santa Clara Valley Water District Comprehensive Water Resources Management Plan**

The SCVWD's Comprehensive Water Resources Management Plan is organized in the following elements: Water Supply, Natural Flood Protection, and Water Resources Stewardship. Each element includes an informational overview that describes overarching goals and related objectives on a broad level and places them in a countywide context.

At the heart of the plan are the ends, goals, objectives, and strategies that serve as the SCVWD's framework and provide information for partner agencies. The Santa Clara Valley Water District is involved in water management at varying levels of involvement. In some instances, it plays a primary role; in others, it collaborates with other agencies and/or partners; in still other cases, the SCVWD serves as an informational resource and public advocate. The Comprehensive Water Resources Management Plan clarifies these degrees of involvement.

### **City of Sunnyvale General Plan**

The City of Sunnyvale General Plan, Chapter 6 Safety and Noise, contains policies that are meant to support planning for global warming and other city specific hazards, like sea level rise and increased flooding. Among policies to encourage SCVWD to reevaluate the capacity of its flood channels, the City also included policies as they relate to maintenance of storm drainages, and minimizing damages from flooding. For example, Policy SN-1.3 states that the City will Operate and maintain the storm drainage system at a level to minimize damages and ensure public safety.

Policy SN- 1.4a states that the City will "monitor and plan for hydraulic changes due to global warming, earth quakes and/or subsidence." General Plan Policy SN-1.4a directs the City to "Budget for and construct additional storm drainage detention and pumping facilities as needed, to assure the continued ability to discharge urban runoff and stormwater into channels, creeks and San Francisco Bay."

### **City of Sunnyvale Municipal Code**

#### Chapter 12.60, Stormwater Management

In response to the 2001 NPDES permit amendment, the City adopted an ordinance in 2003 entitled Stormwater Management, which can be found in Chapter 12.60 of the Municipal Code. As stated in Section 12.60.010, Purpose and Intent, the purpose of the Stormwater Management chapter of the Municipal Code is to provide regulations and give legal effect to certain requirements of the NPDES permit issued to the City. The chapter includes:

- Discharge prohibitions to the stormwater conveyance system.

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- Requirements for stormwater pollution prevention and the development of stormwater management plans.
- Numeric sizing criteria for pollutant removal treatment systems.
- Applicability of Hydromodification Management requirements to certain areas of the city based on drainage area to creeks and watersheds.
- Requirements for agreements to maintain storm water treatment best management practices once constructed.
- Guidance on the selection of BMPs as well as minimum best management practices for all dischargers.
- Authority for City staff to inspect and require the proper operation and maintenance of treatment devices.
- The process by which waivers and alternative compliance with permit requirements may be demonstrated.
- Penalties for failure to comply with provisions of the chapter.

#### Chapter 16.62, Prevention of Flood Damage

Chapter 16.62 of Municipal Code Title 16, Buildings and Construction, provides regulations to prevent flood damage in Sunnyvale. This chapter lays out provisions for reducing flood hazards, including standards for construction, utilities, subdivisions, manufactured homes, floodways, and coastal high hazard areas.

#### **City of Sunnyvale Stormwater Quality BMP Guidance Manual for New and Redevelopment Projects**

The City Of Sunnyvale Storm Water Quality Best Management Practices (BMP) Guidance Manual 2011 Revision for New and Redevelopment Projects, was provided by the City of Sunnyvale 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 City's NPDES Storm Water Discharge permit. The focus of the BMP Guidance Manual is on Post-Construction BMPs, although BMPs to be implemented during construction are also addressed..

### **3.8.3 IMPACTS AND MITIGATION MEASURES**

#### STANDARDS OF SIGNIFICANCE

Pursuant to California Environmental Quality Act (CEQA) Guidelines Appendix G, a hydrologic or water quality impact would be considered significant if the project would result in any of the following actions:

- 1) Violate any water quality standards or waste discharge requirements.
- 2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells

would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

- 3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- 4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial or increase the rate or amount of surface runoff in a manner which would in substantial flooding on- or off-site.
- 5) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- 6) Otherwise substantially degrade water quality.
- 7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- 8) Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- 9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam.
- 10) Expose people or structures to inundation by seiche, tsunami, or mudflow.

As discussed under the Existing Setting subsection above, the project area is located outside of the inundation area for the Stevens Creek Reservoir and is not considered to be at risk of inundation in the event of a dam failure. Therefore, Standard of Significance 9 as it relates to dam failure is not discussed further in this section.

### METHODOLOGY

The following impact analysis is based on a review of published information, reports, maps, and plans regarding regional hydrology, climate, geology, water quality, and regulations. Numerous technical studies and reports were reviewed to aid in the analysis of the hydrology and water quality setting and impacts as a result of the project.

### PROJECT IMPACTS AND MITIGATION MEASURES

#### **Construction and Operational Water Quality Impacts (Standards of Significance 1, 5, and 6)**

**Impact 3.8.1** The project would include construction-related activities that could expose soil to erosion during storm events, causing degradation of water quality. The project would also increase impervious surfaces and, as a result, alter drainage patterns and increase runoff rates and runoff over existing conditions. Runoff from urban uses may contribute to the degradation of downstream water quality. Compliance with existing regulations would reduce this impact to **less than significant**.

## 3.8 HYDROLOGY AND WATER QUALITY

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### Construction Water Quality Impacts

Project construction would include grading, demolition, and vegetation removal that would disturb and expose soils to water erosion, increasing the amount of silt and debris entering downstream waterways. In addition, refueling and parking of construction equipment and other vehicles on-site during construction could result in oil, grease, or related pollutant leaks and spills that may discharge into storm drains. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery close to on-site drainages could cause water quality degradation.

The project would be required to comply with Chapter 12.60, Stormwater Management, of the Sunnyvale Municipal Code, as well as to employ best management practices for the prevention of erosion and the control of loose soil and sediment, to ensure that construction does not result in the movement of unwanted material into waters within or outside the project area. As noted in the Regulatory Framework subsection above, the Stormwater Management chapter provides regulations and gives legal effect to certain requirements of the NPDES permit issued to the City of Sunnyvale regarding municipal stormwater and urban runoff requirements.

### Operational Water Quality Impacts

Project operation could result in direct surface water quality impacts from landscaping activities associated with the use of fertilizers, herbicides, and pesticides, and motor vehicle operation and maintenance.

Runoff typically contains oils, grease, fuel, antifreeze, and byproducts of combustion (such as lead, cadmium, nickel, and other metals), as well as nutrients, sediments, and other pollutants. Precipitation during the early portion of the wet season (December to April) displaces these pollutants into stormwater runoff, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff, containing peak pollutant levels, is referred to as the "first flush" of storm events. It is estimated that during the rainy season, the first flush of heavy metals and hydrocarbons would occur during the first 5 inches of seasonal rainfall.

The project area is largely built out, and the project would not significantly increase impervious surface area. Thus, peak runoff flow rates would not increase significantly. However, additional drainage could result in an increase of urban runoff pollutants and first flush roadway contaminants such as heavy metals, oil, and grease, as well as an increase in nutrients (e.g., fertilizers) and other chemicals from landscaped areas. These constituents could result in water quality impacts to on- and off-site drainage flows to area waterways.

Potential impacts on water quality from construction and operation activities are currently addressed through the existing requirements of Municipal Code Chapter 12.60 and individual NPDES permits. Compliance with the State General Construction Activity Storm Water Permit requirements (where applicable), the City's Municipal Code Chapter 12.60, and the City's Urban Runoff Management Plan would reduce surface water quality impacts associated with the project to a less than significant level. This impact would be avoided through the use of effective construction-phase, source control, and treatment control BMPs that include site preparation, runoff control, sediment retention, and other similar features. The effectiveness of BMPs has been recognized in the California Stormwater Quality Association, Stormwater Best Management Practice Handbooks. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required.

**Groundwater Recharge (Standard of Significance 2)**

**Impact 3.8.2** The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge impact. This impact would be **less than significant**.

Groundwater recharge opportunities at the project site would potentially be reduced as a result of the impermeable surfaces associated with the project's new circulation driveway. The increase in impermeable surface would be negligible, and the project would not interfere with groundwater recharge.

Further, the project would not require any direct groundwater withdrawals. Therefore, the project would not substantially deplete groundwater supplies or interfere with groundwater recharge. The project does not include groundwater wells and would not be expected to affect local aquifers. Impacts would be **less than significant**.

Mitigation Measures

None required.

**Alteration of Site Drainage (Standard of Significance 3 and 4)**

**Impact 3.8.3** The project would result in an increase in impermeable surfaces and would modify drainage patterns in the project area. With implementation of applicable city and state regulations, this impact would be **less than significant**.

The project site currently drains away from the existing buildings. The parking lots and the courtyards drain to catch basins, which then connect to storm lines along Quail Avenue. The project would add an additional driveway and would entail landscaping. Water from the additional driveway would also collect in the existing storm drain. At the same time, the replacement of selected asphalt paved courtyards with landscaped play yards will increase permeable area on the project site and would slightly modify drainage patterns on the site. The site's impervious area would increase by 3.7 percent, as shown in **Table 3.8-1**.

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**TABLE 3.8.1  
INCREASE IN IMPERVIOUS AREA**

Description	Existing Square Feet (sq ft)	Proposed Square Feet
Total Project Area	158,429 sq ft	158,429
Building Area	32,004 sq ft	32,004 sq ft
Pervious Area (includes landscaping, pervious pavements, and natural buffer area)	30,900 sq ft	32,460 sq ft
Impervious Surface Area (includes land covered by buildings, sheds, patios/covers/parking lots, streets, paved walkways and driveways)	123,600 sq ft	126, 425q ft
Percentage Impervious	80%	80%
Percentage Pervious	20%	20%
Impervious area created or added		<b>2,825 sq ft</b>
Impervious area replaced		<b>250 sq ft</b>
Percentage replacement of existing impervious surface areas		<b>0.2%</b>
Estimated area of land disturbed during construction		<b>6,050 sq ft</b>

Source: Sunnyvale 2015

As shown above, the increase in impervious area would be negligible; as such, peak runoff flow rates in the project area would not increase significantly. Stormwater runoff would flow into approved City stormwater capture systems. Further, per Section 12.60.160 of the City's Municipal Code, the project would need to demonstrate that proposed improvements would not increase runoff over pre-project rates and durations, and thereby cause increased potential for erosion or siltation. Further, the project would improve site drainage conditions by formalizing drainage paths and updating parking lot pavements and site landscaping. Improvement to site drainages would prevent localized flooding, which occurs occasionally in the south parking lot under current conditions.

The project would comply with the existing regulations contained in the City's Municipal Code, any applicable C.3 and state requirements, which include site specific design measures for projects that create and/or replace 2,500 sq ft to 10,000 sq ft of pervious surface(Sunnyvale 2011c). This would reduce potential impacts associated with drainage patterns to **less than significant**.

#### Mitigation Measures

None required.

#### **Flood Hazards (Standards of Significance 7, 8, and 9)**

**Impact 3.8.4** The project would not result in the exposure of additional people and/or structures to potential risks from flooding hazards and sea level rise. This impact would be **less than significant**.

### Flooding

As shown in **Figure 3.8.1**, the entire project area is located within the FEMA 500-year flood zone and is located outside of the 100-year floodplain. The buildings would remain at their existing elevations, and all utilities would remain "as is." Because the project area is not located in a 100-year flood zone, the project would not expose occupants to flooding hazards. Therefore, the project would have a **less than significant** impact due to flooding.

### Levee Failure

As described in the Existing Setting subsection, a system of levees lies at the city's northern border and protects the area from encroachment of San Francisco Bay waters. The project area lies nearly 6 miles south of these levees and would not likely be affected by a failure. A Capital Improvement Project was completed by the City's Department of Public Works in 2006 to repair and strengthen the levees, reducing the chance that the levees would fail in the event of a major earthquake. The SCVWD is in the process of approving improvements to the Sunnyvale East and West channels to further reduce potential damage from flooding. The project would have a **less than significant** impact due to levee failure.

### Sea Level Rise

The project area is not located in the FEMA 100-year floodplain. Based on National Oceanic and Atmospheric Administration (2015) Coastal Services Center climate change and sea level rise predictions, the project area is not located in an area of vulnerability for sea level rise. The project would have a **less than significant** impact due to sea level rise.

Additionally, improvements set forth in the Prevention of Flood Damage chapter of the Sunnyvale Municipal Code, as well as compliance with General Plan Policy SN-1.4 and associated actions, which address hydraulic changes due to global warming, would improve tidal inundation problems and flooding hazards associated with future sea level rise. Sunnyvale's current levees are adequate to meet some increase in sea level rise; however, further monitoring and additional studies would be necessary to determine the city's future risks and areas of deficient protection from sea level rise.

Local earthquakes could cause failure in parts of the levee system, which would create problems if a tsunami were to happen. The Santa Clara Valley Water District's system is put in place to help reduce damage caused by all hazards discussed above, whether they happen individually or simultaneously.

### Mitigation Measures

None required.

### **Seiche, Tsunami, or Mudflow Hazards (Standard of Significance 10)**

**Impact 3.8.5** The project would not result in the exposure of additional people and/or structures to potential risks from inundation by seiche, tsunami, or mudflow. This impact would be **less than significant**.

As described in the Existing Setting subsection, seiches and tsunamis would not be expected to affect the project area, so impacts related to these phenomena would be **less than significant**. It is probable that an earthquake similar to the 1906 earthquake would be the largest to occur in

## 3.8 HYDROLOGY AND WATER QUALITY

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the Bay Area; consequently, seiches with an increase in water elevation of more than 4 inches would be considered unlikely.

There are no published maps or hazard information on seiche hazards in the Bay Area. Tsunamis would only be expected to affect low-lying marsh areas and Bayward portions of sloughs located over 6 miles north of the project area. The reader is referred to Section 3.7, Geology and Soils, for a discussion of potential impacts associated with mudflows, which are a type of landslide. This impact would be **less than significant**.

### Mitigation Measures

None required.

## 3.8.2 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

### CUMULATIVE SETTING

The cumulative setting consists of 2035 buildout in the four Santa Clara Basin watersheds of which Sunnyvale is a part—the Sunnyvale West Channel, Sunnyvale East Channel, Calabazas Creek, and Stevens Creek watersheds. These watersheds include parts of the cities of Cupertino, Mountain View, Palo Alto, Los Altos, San Jose, Santa Clara, and Saratoga.

### CUMULATIVE IMPACTS AND MITIGATION MEASURES

#### Cumulative Water Quality Impacts

**Impact 3.8.6** The project, in combination with current land uses in the local watersheds and land use activities and development of the cities and other agencies in Santa Clara County, could introduce additional non-point source pollutants to surface waters. This impact would be **less than cumulatively considerable**.

As described under Impact 3.8.1, project construction and operation activities could contribute to water quality degradation from construction, operation, and alteration of drainage patterns. The project, in combination with cumulative development in the local watersheds, could result in cumulative water quality impacts, due to the project area's proximity to the San Francisco Bay and the Sunnyvale East Channel.

All future development in the project area would be required to comply with the Sunnyvale Municipal Code Chapters 12.60 and 16.62 as referenced in the impacts above, as well as to employ best management practices for the prevention of erosion and the control of loose soil and sediment. BMPs would also be used for the treatment of post-construction stormwater. During construction of projects in the project area, the dischargers, through individual coverage under the State's General Construction NPDES permit, must eliminate non-stormwater discharges to stormwater systems, develop and implement a SWPPP (for project over 1 acre), and perform monitoring of discharges to stormwater systems.

Compliance with Municipal Code Chapters 12.60 and 16.62 would reduce Sunnyvale's contribution to cumulative water quality impacts to **less than cumulatively considerable**. This impact would be reduced through the use of effective BMPs that include site preparation, runoff control, sediment retention, and other similar features. The effectiveness of BMPs has been recognized in the California Stormwater Quality Association, California Stormwater Best Management Practice Handbooks.

Mitigation Measures

None required.

**Cumulative Flood Hazards**

**Impact 3.8.7** The project would not be expected to significantly increase impervious surfaces or alter drainage conditions or rates in the project area. This impact would be **less than cumulatively considerable**.

As described under Impact 3.8.1, the project area is largely built-out, and the project would not be expected to significantly increase impervious surface area. Thus, peak runoff flow rates in the project area would not be expected to increase significantly. However, additional development in the project area, along with past, present, and other future development along San Francisco Bay in Sunnyvale and other cities and unincorporated areas of Santa Clara County, could result in cumulative flooding impacts due to potential increase in peak runoff flow.

Continued compliance with Sunnyvale's Municipal Code would reduce this impact to **less than cumulatively considerable**.

Mitigation Measures

None required.



## **3.9 LAND USE**



This section describes existing land uses on the project site and in the vicinity, as well as relevant land use plans and policies.

<b>Impact Number</b>	<b>Impact Topic</b>	<b>Impact Significance</b>
3.9.1	Conflict with Adopted Land Use Plans, Policies, or Regulations	No impact
3.9.2	Cumulative Land Use Impacts	Less than cumulatively considerable

**3.9.1 EXISTING SETTING**

The project site is governed by the City of Sunnyvale General Plan and the City’s Zoning Code (Municipal Code Title 19). As shown on **Figure 3.9.1**, the General Plan designates the project site as Schools (SCH), while the project area, which encompasses Raynor Park is designated as Schools (SCH) and Parks (PARK). As shown in **Figure 3.9.2**, the project site is zoned Public Facilities (P-F). The P-F zoning district allows governmental, public utility and educational buildings and facilities, and other uses compatible with the public character of the district. As described previously in this Draft EIR, the project site has been developed as a public school facility but the buildings are currently vacant.

Immediately north of the project site is Dunford Way and Full Circle Farms, a small sustainable farming operation. Farther north and northeast of the project site are Peterson Middle School and AppleSeed Montessori School, respectively. The area north of the project site is designated Schools (SCH) and zoned P-F (Public Facilities).

The areas west, south, and east of the project site are developed with low-density residential uses (0–7 dwelling units per acre), with the exception of Raynor Park immediately east and south of the project site and the Filipino United Church of Christ to the west across Partridge Avenue. Approximately one-quarter mile east of the project site is Laurelwood Elementary School in the City of Santa Clara.

**3.9.2 REGULATORY FRAMEWORK**

REGIONAL

**Plan Bay Area**

Plan Bay Area is a long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area. The plan includes the region’s Sustainable Communities Strategy and the 2040 Regional Transportation Plan.

Plan Bay Area marks the nine-county region’s first long-range plan to meet the requirements of California’s landmark 2008 Senate Bill 375, which calls on each of the state’s 18 metropolitan areas to develop a Sustainable Communities Strategy to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. Working in collaboration with cities and counties, the plan advances initiatives to expand housing and transportation choices, create healthier communities, and build a stronger regional economy. The plan includes housing and population forecasts and proposes area of future development (ABAG and MTC 2013).

## 3.9 LAND USE

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### LOCAL

#### **City of Sunnyvale General Plan**

The Sunnyvale General Plan was first adopted in 1957. The Land Use and Transportation Element was most recently amended in 1997. The General Plan is the comprehensive planning document governing development in Sunnyvale and articulates the community's vision for the future through a description of goals, policies, and actions. In 2011, the General Plan was consolidated from 22 separate General Plan chapters and sub-chapters that were adopted at different times. This consolidated and streamlined General Plan contains all necessary goal and policy language to address the required chapters in a concise and easy-to-use fashion.

#### **City of Sunnyvale Zoning Code**

The Zoning Map and the Zoning Code (Municipal Code Title 19) are tools that allow the City of Sunnyvale to regulate the location and development of land uses in a more precise manner than through the General Plan. Although not new, the map and code are constantly evolving to reflect the current thinking of the Sunnyvale City Council in 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. The City recently (2013) updated its Zoning Code.

#### **City of Sunnyvale Design Guidelines**

In an effort to protect the attractiveness 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. These include the Industrial Guidelines, the Citywide Design Guidelines (updated in 2013), the Sunnyvale Single-Family Home Design Techniques, the Eichler Design Guidelines, and an update to the Taaffe-Frances Heritage Neighborhood Design Guidelines. The City also adopted a telecommunications ordinance as part of the Zoning Code to aesthetically guide the location of telecommunications facilities throughout the community.

#### **City of Sunnyvale 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. Although several individual local landmark houses have been adopted since 1997, the City of Sunnyvale has not adopted any new heritage housing districts since 1979. One new neighborhood was studied in 2009 for heritage housing district status but was considered ineligible. Another, an Eichler neighborhood, was potentially eligible but not designated. It was determined that stronger design guidelines would suffice in preserving some unique neighborhoods regardless of historic status; however, Sunnyvale remains committed to its Heritage Preservation Program. The Heritage Preservation Program is guided by policies in the Heritage Preservation Sub-Chapter of the General Plan. There are no heritage resources in the vicinity of the project site (Sunnyvale 2007).

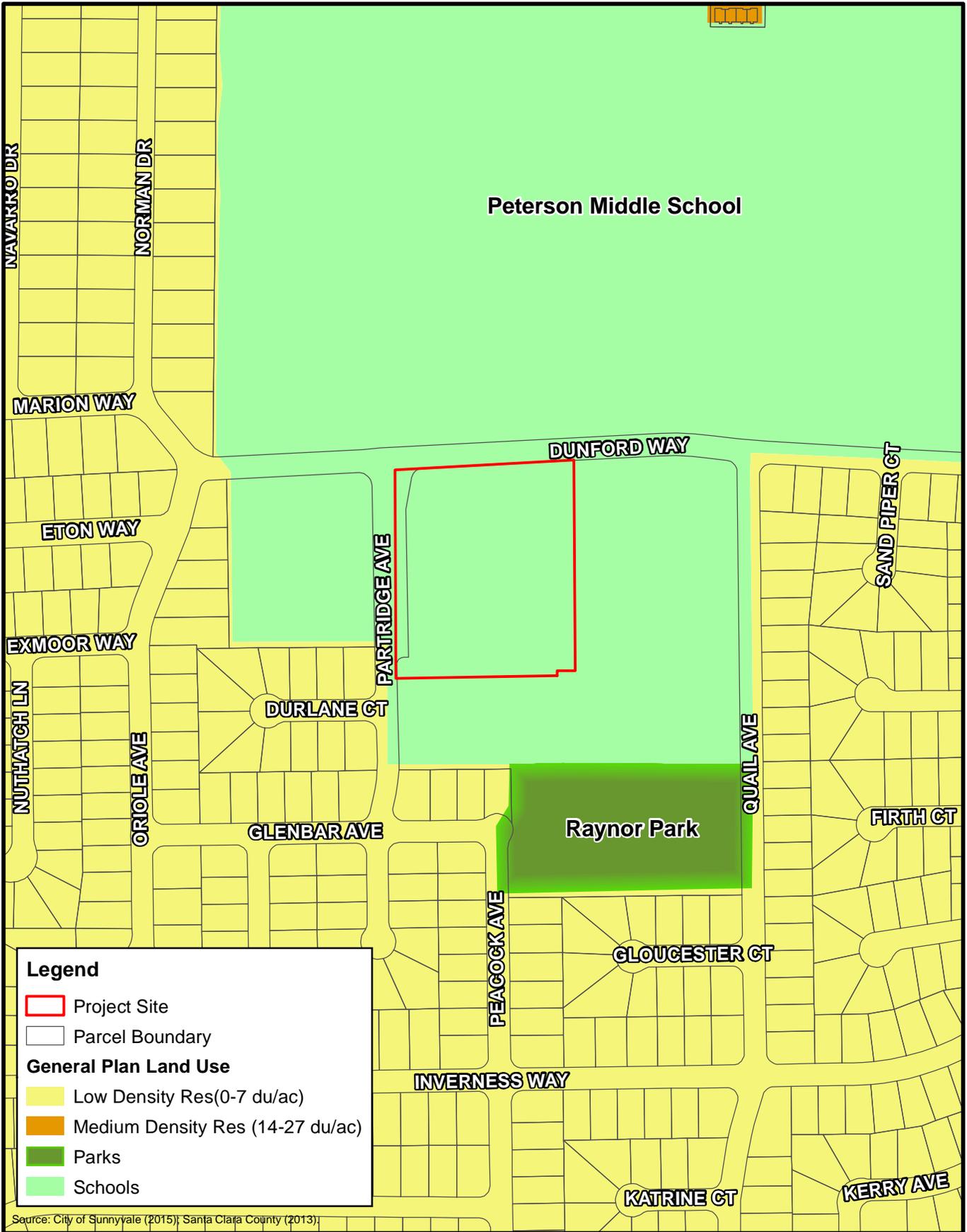


Figure 3.9.1  
General Plan Designations





Figure 3.9.2  
Zoning Districts



### 3.9.3 IMPACTS AND MITIGATION MEASURES

#### STANDARDS OF SIGNIFICANCE

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, land use impacts are considered to be significant if the following could result from the project:

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

The project would renovate existing buildings, which were originally built to function as a school, and would not have the potential to physically divide the surrounding community of Sunnyvale. As such, Standard of Significance 1 is not addressed further, since the project would have **no impact**.

The project site is not subject to any approved habitat conservation plans or natural community conservation plans. Therefore, the project would have no potential to conflict with such a plan and Standard of Significance 3 is not addressed further, because the project would have **no impact**.

#### METHODOLOGY

The analysis in this section focuses on the compatibility of proposed use of the project site with existing and planned land uses adjacent to the site, as well as consistency with any applicable land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect.

The focus of this impact analysis is whether the project would result in significant physical environmental impacts associated with land use. Specific impacts and issues associated with aesthetics, air quality, biological resources, cultural and paleontological resources, geology and soils, greenhouse gas emissions, hazards, hydrology and water quality, noise, public services and utilities, recreation, and transportation are addressed in each technical section, and the reader is referred to the appropriate subsection (Sections 3.1 through 3.14) of this Draft EIR for detailed analyses of other relevant environmental effects.

#### PROJECT IMPACTS AND MITIGATION MEASURES

##### **Conflict with Adopted Land Use Plans, Policies, or Regulations (Standard of Significance 2)**

**Impact 3.9.1** The project would be consistent with all applicable land use plans, policies, and regulations. There would be **no impact**.

A conflict between a proposed project and an applicable land use plan, policy, or regulation is considered to be a significant adverse environmental impact only when it conflicts with a policy adopted for the purpose of avoiding or mitigating an environmental effect and it is anticipated

### 3.9 LAND USE

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that the conflict would result in a significant adverse physical impact (based on the established significance criteria).

#### City of Sunnyvale General Plan

As described previously, the project area is designated by the City's General Plan as Schools (SCH) and Parks (PARK), while the project site is designated as Schools (SCH). Consistent with these land use designations, the project area has been developed as a school facility and public park, while the project site was developed as a school in the late 1950s. The project proposes to renovate the existing facility and operate it as a private school. Designation of the site as SCH indicates the City's intent to maintain the project site as a school facility, and the project area's PARK designation as a public park. Therefore, the project would be consistent with the General Plan and would not result in any conflicts that could result in a physical impact on the environment.

#### City of Sunnyvale Zoning Code

As described previously, the project site is zoned P-F (Public Facilities), which allows governmental, public utility and educational buildings and facilities, and other uses compatible with the public character of the district. Consistent with this zoning district, the project site has been developed as a school facility in the late 1950s and public park. The project proposes to renovate the existing facility and operate it as a private school. The P-F zoning allows private school operations under a conditional use permit. The project would obtain a conditional use permit as part of project approval. The site's zoning would be maintained, which indicates the City's intent to maintain the project site as a school facility and the surrounding project areas as a public park. Therefore, the proposed project would be consistent with the Zoning Code and would not result in any conflicts that could result in a physical impact on the environment.

#### City of Sunnyvale Design Guidelines

In accordance with Municipal Code Chapter 19.80, Design Review, the project would be subject to the City's design review process, which would ensure that the proposed improvements are consistent with the City's Citywide Design Guidelines. The guidelines provide specific standards that would address the proposed landscaping, fencing, building color palette, bicycle parking, and circulation and parking lot design. Therefore, with the City's design approval, the project would be consistent with the City's applicable design guidelines and would not result in any conflicts that could result in a physical impact on the environment.

As determined in the preceding discussion, the project would not result in any conflicts with applicable land use plans, policies, or regulations that could result in a significant adverse physical impact. There would be **no impact**.

#### Mitigation Measures

None required.

### 3.9.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

#### CUMULATIVE SETTING

Land use impacts are typically isolated to a jurisdiction, except where land uses may interact or conflict with adjacent jurisdictions. Because the project site is located entirely within the Sunnyvale city limits, the cumulative setting would be limited to Sunnyvale.

#### CUMULATIVE IMPACTS AND MITIGATION MEASURES

##### Cumulative Land Use Impacts

**Impact 3.9.2** The project would not contribute to cumulative land use impacts associated with the division of an established community, nor would it conflict with land use plans and regulations that provide environmental protection. This would be a **less than cumulatively considerable** impact.

Expected population and employment growth in the city would result in land use changes as provided in the City's General Plan. However, the project itself would not result in any land use changes or new growth. The site was developed for school use and has been used by the city for purposes such as daycare facilities, artists studios and a philatelic library. The project proposes to renovate the buildings and operate them as a school, which is the buildings intended use. As identified in Impact 3.9.1, the project would not conflict with any applicable land use plans, policies, or regulations and would have no effect on the land use plans of surrounding jurisdictions. Thus, the project would have a **less than cumulatively considerable** contribution to citywide land use impacts.

##### Mitigation Measures

None required.



## **3.10 NOISE**



This section describes the existing noise environment in the project area and the potential for the project to result in noise impacts exceeding the City of Sunnyvale's applicable noise level criteria. Data used to prepare this section was taken from the traffic impact study (**Appendix I**) and information obtained by measuring and modeling existing and future traffic noise levels at the project site and in the surrounding area (**Appendix H**).

A summary of the impact conclusions related to noise is provided below.

Impact Number	Impact Topic	Impact Significance
3.10.1	Traffic Noise Impacts	Less than significant
3.10.2	On-Site Operational Noise Source Impacts	Less than significant
3.10.3	Exposure to Groundborne Vibration	Less than significant
3.10.4	Exposure to Short-Term Construction Noise	Less than significant
3.10.5	Cumulative Traffic Noise Impacts	Less than cumulatively considerable

### 3.10.1 FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations which make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

#### AMPLITUDE

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels on a logarithmic scale. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

#### FREQUENCY

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz. One Hertz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels. On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and associated noise levels, in dBA, are depicted in **Figure 3.10-1**.

### 3.10 NOISE

FIGURE 3.10-1  
TYPICAL COMMUNITY NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
Quiet Rural Nighttime	30	Bedroom at Night, Concert Hall (Background)
	20	Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2012

### ADDITION OF DECIBELS

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

### SOUND PROPAGATION AND ATTENUATION

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

### NOISE DESCRIPTORS

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The  $L_{eq}$  is a measure of ambient noise, while the  $L_{dn}$  and CNEL are measures of community noise. Each is applicable to this analysis and defined below.

- $L_{eq}$ , the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- $L_{dn}$ , the Day-Night Average Level, is a 24-hour average  $L_{eq}$  with a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour  $L_{eq}$  would result in a measurement of 66.4 dBA  $L_{dn}$ .

### 3.10 NOISE

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- CNEL, the Community Noise Equivalent Level, is a 24-hour average  $L_{eq}$  with a 5 dBA “weighting” during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour  $L_{eq}$  would result in a measurement of 66.7 dBA CNEL.
- $L_{min}$  is the minimum instantaneous noise level experienced during a given period of time.
- $L_{max}$  is the maximum instantaneous noise level experienced during a given period of time.
- Percentile Noise Level ( $L_n$ ) is the noise level exceeded for a given percentage of the measurement time. For example,  $L_{10}$  is the noise level exceeded for 10 percent of the measurement duration, and  $L_{50}$  is the noise level exceeded for 50 percent of the measurement duration.

#### HUMAN RESPONSE TO NOISE

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted for understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial.
- A 10 dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

### **3.10.2 EXISTING SETTING**

#### **NOISE-SENSITIVE RECEPTORS**

Noise-sensitive land uses are those that may be subject to stress and/or interference from excessive noise. Noise-sensitive land uses include public schools, hospitals, and institutional uses such as churches, museums, and private schools. Typically, residential uses are also considered noise-sensitive receptors. Industrial and commercial land uses are generally not considered sensitive to noise. Noise-sensitive receptors in the project area include the residential neighborhoods surrounding the project site to the west, east, and south. The school to the northeast is also a noise-sensitive receptor during school hours.

#### **EXISTING AMBIENT NOISE LEVELS**

According to the City's General Plan Noise Element (2011), noise is a significant and inherent part of Sunnyvale's environment. The noise environment is a result of historical land use decisions, competing regional and community goals, geographic factors, and limited local controls. Major noise sources in Sunnyvale consist of transportation sources and community sources. Major roadways cause most of the ambient noise in Sunnyvale. Highways include US 101, Interstate 280, State Route (SR) 85, and SR 237. Major local roadways include Mathilda Avenue, Wolfe Road, Lawrence Expressway, El Camino Real (SR 82), and Homestead Road. Mary Avenue, Hollenbeck Road, Fremont Avenue, and Remington Drive are relatively quiet roads, but they are adjoined by a large number of residences and therefore contribute to residential noise exposure in Sunnyvale.

Aircraft operations at Moffett Federal Airfield contribute to the noise environment in northwest Sunnyvale. Northeast Sunnyvale is affected by San Jose International Airport flight patterns. Commuter and freight train operations affect noise levels in central Sunnyvale. Light rail trains now operate in the city along the Tasman roadway corridor. Stationary noise sources in the city include light industrial and manufacturing facilities generally located in an area between the East Evelyn Avenue/Caltrain rail corridor and Central Expressway.

The project site is located more than 1,800 feet from the nearest major transportation facility and buffered by residential development. A review of the General Plan Noise Element shows the project site outside of the Moffett Federal Airfield noise contours. According to Figure 6-4 of the Noise Element (2011), the project site currently experiences noise levels of less than 60 L<sub>dn</sub>.

#### **EXISTING ROADWAY NOISE LEVELS**

Existing roadway noise levels were calculated for the roadway segments in the project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis (see **Appendix H**). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these roadway segments are presented in **Table 3.10-1**.

### 3.10 NOISE

**TABLE 3.10-1  
EXISTING TRAFFIC NOISE LEVELS**

Roadway Segment	Surrounding Uses	Leq at 75 Feet from Near-Travel-Lane Centerline
<b>El Camino Real</b>		
West of S. Wolfe Road	Commercial	69.1
S. Wolfe Road to Norman Drive	Commercial	70.2
Norman Drive to Halford Avenue	Commercial	70.3
Halford Avenue to Lawrence Expressway	Commercial	71.6
East of Lawrence Expressway	Commercial	71.2
<b>S. Wolfe Road</b>		
North of El Camino Real	Commercial	67.8
El Camino Real to Fremont Avenue	Commercial	68.6
Fremont Avenue to Elizabeth Way	Commercial & Residential	68.0
Elizabeth Way to Marion Way	Residential	68.2
Marion Way to Inverness Way	Residential	67.9
Inverness Way to Homestead Road	Residential	67.5
South of Homestead Road	Commercial & Medical	68.3
<b>Homestead Drive</b>		
West of S. Wolfe Road	Commercial, Residential & Medical	66.5
S. Wolfe Road to Nightingale Avenue	Commercial & Residential	67.2
Nightingale Avenue to Peacock Avenue	Residential & Medical	67.1
Peacock Avenue to Quail Avenue	Residential & Medical	67.1
Quail Avenue to Swallow Drive	Residential & Medical	67.3
Swallow Drive to Lawrence Expressway	Residential & Medical	67.2
East of Lawrence Expressway	Commercial	67.1
<b>Lawrence Expressway</b>		
North of El Camino Real	Commercial & Residential	68.6
El Camino Real to Benton Street	Residential, Commercial & Medical	76.8
Benton Street to Lochinvar Avenue	Residential	76.8
Lochinvar Avenue to Homestead Road	Commercial	76.5
South of Homestead Road	Commercial & Medical	76.5

Note: Traffic noise levels were calculated using the FHWA roadway noise prediction model. Refer to **Appendix H** for noise modeling assumptions and results.

#### FUNDAMENTALS OF ENVIRONMENTAL GROUND BORNE VIBRATION

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured

as particle velocity in inches per second and in the United States is referenced as vibration decibels (VdB).

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. Groundborne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction. In addition, the rumble noise that usually accompanies building vibration is perceptible only inside buildings (FTA 2006). As such, the range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in **Table 3.10-2**.

**TABLE 3.10-2**  
**HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUNDBORNE VIBRATION**

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: FTA 2006

### 3.10.3 REGULATORY FRAMEWORK

#### STATE

##### **Governor's Office of Planning and Research**

The Governor's Office of Planning and Research (OPR) (2003), published the State of California General Plan Guidelines, which provide guidance for the acceptability of projects within specific noise environments based on average-daily noise conditions (CNEL/L<sub>dn</sub>). However, it is important to note that the OPR guidance does not take into account local conditions, including a particular community's sensitivity to noise, noise reduction goals, or assessment of the relative importance of noise pollution. As a result, noise standards developed by local jurisdictions typically differ somewhat from the OPR guidance. In the case of the project, the City has adopted local noise standards, which are most relevant to the noise conditions in Sunnyvale. Therefore, this analysis is based on local standards, and the OPR guidance is not considered.

### 3.10 NOISE

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#### LOCAL

#### City of Sunnyvale General Plan

The City has established noise standards in its adopted General Plan Noise Element intended to protect community residents from harmful and annoying noise levels. These policies identify permissible maximum average-daily noise standards for determination of land use compatibility. The City's General Plan noise standards are summarized in **Table 3.10-3**. As shown in the table, the land use compatibility noise standard for school and residential land uses is 60 dBA  $L_{dn}$  (Sunnyvale 2011). It is important to note that these noise criteria apply to newly proposed land uses and are based on average-daily noise levels. The land use compatibility standards mean that the proposed new land use cannot be sited in a location where it would receive exterior and interior noise above the maximum levels specified, unless adequate noise reduction measures have been incorporated to reduce noise levels to within acceptable levels.

**TABLE 3.10-3**  
**CITY OF SUNNYVALE MAXIMUM PERMISSIBLE NOISE CRITERIA**  
**FOR DETERMINATION OF LAND USE COMPATIBILITY**

Proposed Land Use	Maximum $L_{dn}$ (dBA)	
	Exterior	Interior
Residential	60	45
School	60	60

Source: Sunnyvale 2011

#### Sunnyvale Municipal Code

Municipal Code Title 19, Chapter 19.42, presents operational noise standards that would be enforced on residentially zoned property. Operational noise cannot exceed 75 dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level is not to exceed 50 dBA during nighttime or 60 dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech, or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level cannot exceed 45 dBA.

Title 16, Chapter 16.08, presents construction noise regulations. Construction activity is permitted between the hours of 7:00 a.m. and 6:00 p.m. daily Monday through Friday. Saturday hours of operation are between 8:00 a.m. and 5:00 p.m. No construction activity is allowed on Sundays or national holidays when City offices are closed.

### 3.10.4 IMPACTS AND MITIGATION MEASURES

#### STANDARDS OF SIGNIFICANCE

According to California Environmental Quality Act (CEQA) Guidelines Appendix G, impacts related to noise are considered significant if the project would result in any of the following conditions:

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

The project site is not located in an airport land use plan, within 2 miles of a public airport or public use airport, or in the vicinity of a private airstrip. Therefore, this analysis does not further evaluate Standards of Significance 5 and 6.

Criteria for determining the significance of noise impacts were developed based on information contained in CEQA Guidelines Appendix G and the City's noise standards and guidelines. Sunnyvale's Noise Element standard of 60 dBA  $L_{dn}$  for residential uses is used as the threshold for project impacts to the residences in the project vicinity. The analysis takes into account the increases in noise levels over the pre-project noise conditions. With this in mind, the City's General Plan Noise Element states that an increase of more than 3 dBA when the total  $L_{dn}$  exceeds the "normally acceptable" category would be a significant impact. As previously stated, the land use compatibility noise standard for schools and residential land uses is 60 dBA  $L_{dn}$  and according to Figure 6-4 of the Noise Element, the project site and surrounding vicinity currently experiences noise levels of approximately 60  $L_{dn}$ . Therefore, for the purposes of this analysis, an increase of 3 dBA over existing noise conditions in the project vicinity (60  $L_{dn}$ ) would be considered a significant impact.

#### METHODOLOGY

This analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. The residential uses in the project vicinity are considered noise-sensitive receptors.

## 3.10 NOISE

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### Long-Term Operational Stationary-Source Noise

Predicted noise levels associated with on-site stationary noise sources were calculated based on representative data obtained from existing literature and noise assessments prepared for similar projects. Operational noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source. Operational noise levels were calculated at the property lines and nearby land uses for comparison to the City's noise standards.

### Long-Term Traffic Noise

The project's potential to permanently increase traffic noise is addressed under the following scenarios: the existing plus project and the cumulative plus project. Traffic noise levels were calculated using the FHWA roadway noise prediction model (FHWA-RD-77-108) based on California vehicle reference noise emission factors and traffic data obtained from the traffic analysis prepared for the project. Additional input data included vehicle speeds, ground attenuation factors, and roadway widths. Predicted noise levels were calculated at a distance of 50 feet from the near-travel-lane centerline. Vehicle distribution was adjusted based on volume data obtained from the traffic analysis (**Appendix I**).

### Groundborne Vibration

Groundborne vibration levels associated with construction-related activities as well as operations were evaluated using typical groundborne vibration levels associated with construction equipment and heavy-duty trucks, obtained from the Federal Transit Administration (FTA) guidelines set forth above. Potential groundborne vibration impacts were evaluated taking into account the distance from construction activities to nearby land uses and typically applied criteria for structural damage.

### Short-Term Construction Noise

Predicted noise levels at nearby noise-sensitive land uses were calculated using typical noise levels and usage rates associated with construction equipment, derived from representative data obtained from similar construction projects. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source.

## PROJECT IMPACTS AND MITIGATION MEASURES

### Traffic Noise Impacts (Standards of Significance 1 and 3)

**Impact 3.10.1** Project operation would generate increased local traffic volumes that could cause a substantial permanent increase in ambient noise levels in the project vicinity. This would be a **less than significant** impact.

Project operation would generate local traffic as a result of students and teachers entering and exiting the site. The increase in traffic resulting from the project could increase the ambient noise levels at off-site locations (such as residential uses) in the project vicinity.

**Table 3.10-4** shows the calculated roadway noise levels under existing (2015) traffic levels compared to the condition with the project. In comparison to existing traffic noise levels, the project would result in a predicted increase in traffic noise levels of approximately 0.2 dBA at the maximum. Therefore, predicted traffic noise levels would not result in a substantial increase in traffic noise levels along other primarily affected roadways.

**TABLE 3.10-4  
PREDICTED INCREASES IN TRAFFIC NOISE LEVELS  
EXISTING PLUS PROJECT CONDITIONS**

Roadway Segment	Leq at 75 Feet from Near-Travel-Lane Centerline <sup>1</sup>		Increase	Threshold	Impact	Affected Land Use
	Without Project	With Project				
<b>El Camino Real</b>						
West of S. Wolfe Road	69.1	69.2	<b>0.1</b>	3.0	<b>No</b>	Commercial
S. Wolfe Road to Norman Drive	70.2	70.2	<b>0.0</b>	3.0	<b>No</b>	Commercial
Norman Drive to Halford Avenue	70.3	70.3	<b>0.0</b>	3.0	<b>No</b>	Commercial
Halford Avenue to Lawrence Expressway	71.6	71.7	<b>0.1</b>	3.0	<b>No</b>	Commercial
East of Lawrence Expressway	71.2	71.4	<b>0.2</b>	3.0	<b>No</b>	Commercial
<b>S. Wolfe Road</b>						
North of El Camino Real	67.8	67.9	<b>0.1</b>	3.0	<b>No</b>	Commercial
El Camino Real to Fremont Avenue	68.6	68.7	<b>0.1</b>	3.0	<b>No</b>	Commercial
Fremont Avenue to Elizabeth Way	68.0	68.2	<b>0.2</b>	3.0	<b>No</b>	Commercial & Residential
Elizabeth Way to Marion Way	68.2	68.4	<b>0.2</b>	3.0	<b>No</b>	Residential
Marion Way to Inverness Way	67.9	67.9	<b>0.0</b>	3.0	<b>No</b>	Residential
Inverness Way to Homestead Road	67.5	67.7	<b>0.2</b>	3.0	<b>No</b>	Residential
South of Homestead Road	68.3	68.5	<b>0.2</b>	3.0	<b>No</b>	Commercial & Residential
<b>Homestead Road</b>						
West of S. Wolfe Road	66.5	66.5	<b>0.0</b>	3.0	<b>No</b>	Residential, Commercial & Medical
S. Wolfe Road to Nightingale Avenue	67.2	67.3	<b>0.1</b>	3.0	<b>No</b>	Commercial & Residential
Nightingale Avenue to Peacock Avenue	67.1	67.2	<b>0.1</b>	3.0	<b>No</b>	Residential & Medical
Peacock Avenue to Quail Avenue	67.1	67.2	<b>0.1</b>	3.0	<b>No</b>	Residential & Medical
Quail Avenue to Swallow Drive	67.3	67.3	<b>0.0</b>	3.0	<b>No</b>	Residential & Medical
Swallow Drive to Lawrence Expressway	67.2	67.2	<b>0.0</b>	3.0	<b>No</b>	Residential & Medical
East of Lawrence Expressway	67.1	67.1	<b>0.0</b>	3.0	<b>No</b>	Commercial
<b>Lawrence Expressway</b>						
North of El Camino Real	68.6	68.6	<b>0.0</b>	3.0	<b>No</b>	Commercial &

### 3.10 NOISE

Roadway Segment	Leq at 75 Feet from Near-Travel-Lane Centerline <sup>1</sup>		Increase	Threshold	Impact	Affected Land Use
	Without Project	With Project				
						Residential
El Camino Real to Benton Street	76.8	76.9	<b>0.1</b>	3.0	<b>No</b>	Residential, Commercial & Medical
Benton Street to Lochinvar Avenue	76.8	76.8	<b>0.0</b>	3.0	<b>No</b>	Residential
Lochinvar Avenue to Homestead Road	76.5	76.5	<b>0.0</b>	3.0	<b>No</b>	Commercial
South of Homestead Road	76.5	76.5	<b>0.0</b>	3.0	<b>No</b>	Commercial & Medical

Notes:

1. Traffic noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (Fehr & Peers 2015; Appendix I).

2. For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 3.0 dB or greater.

As shown in **Table 3.10-4**, predicted increases in traffic noise levels associated with the project would be **less than significant**.

#### Mitigation Measures

None required.

#### **On-Site Operational Noise Source Impacts (Standards of Significance 1 and 3)**

**Impact 3.10.2** Project implementation would not result in on-site noise levels that would exceed the City's applicable noise standards, nor would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above existing levels. This would be a **less than significant** impact.

The project would result in the modernization of a school campus that is currently vacant and students attending class on-site. Noise associated with the renovated classrooms would be primarily associated with the operation of exterior wall-mounted heating, ventilation, and air conditioning (HVAC) units. Increases in noise due to the student population would be of greatest concern associated with exterior recess and physical education activities. Additional noise would be generated by occasional parking and student pickup/drop-off areas. Noise-related impacts associated with these sources are discussed in more detail below.

#### Exterior Recess and Physical Education Activities

The proposed improvements would include new playgrounds, a new volleyball court, and a new basketball court. Noise from outdoor activities would occur from the use of these facilities. The greatest concentration of students outdoors would be during recess and lunch periods. Noise would be highly variable during athletic use, recess, and lunch breaks depending on the level of activity at these areas. There would be no nighttime use as a result of the project, since no playground lights or basketball lights are proposed.

The nearest existing noise-sensitive receptors are the single-family homes fronting Peacock Avenue to the south of the site at approximately 100 feet distant. There are also single-family homes on Quail Avenue at approximately 100 feet away. Noise levels associated with exterior recreational activities, such as recess and physical education activities, average less than 60 dBA at 50 feet from the acoustical center of the source (Ambient 2010), and lowering as the acoustical center gets farther away. As previously described, the project site and surrounding vicinity currently experiences noise levels of approximately 60 dBA (Sunnyvale 2011). As such, the project would not introduce any noise conditions that would exacerbate existing condition over the identified significant impact of a 3dBA increase. Therefore, the outdoor activities would not result in a substantial change in ambient noise levels at nearby noise-sensitive land uses.

Additionally, because the adjacent parcel, Raynor Park, is currently used for recreational use, noise generated by the proposed outdoor activities would not be uncharacteristic of the existing noise environment. Exterior recess and physical education activities would occur only during the daytime hours when school is in session, and occasionally after school per the joint use agreement (see **Appendix C**).

The proposed basketball court would be available for school use and public use during after hours per the joint use agreement. The center of the basketball court would be approximately 250 feet north east of the nearest property line of Glenbar Avenue. Measurements from outdoor field sport and basketball school activities, taken for similar projects, show that the average noise levels from such uses typically range from 66 to 68 dBA Leq at a distance of 50 feet. Maximum noise levels from these activities typically result from whistles and voices, and can reach 75 dBA Lmax at a distance of 50 feet. For basketball courts, it was calculated that operational noise levels at approximately 250 feet would be a maximum of 59 dBA (San Jose 2012). Further, no lights would be installed that would facilitate late night use and noise generated from basketball use would be consistent with other recreational uses in the park, like minor league baseball, youth soccer and skateboarding. As such, there would be no increase in ambient noise levels, which are currently at approximately 60 dBA, due to basketball court operations.

Therefore impacts from exterior recess and physical activities noises would be **less than significant**.

### Parking Lot and Pickup/Drop-off Areas

Noise levels associated with parking lots and drop-off areas include vehicles starting, doors opening and closing, and amplified music playing, as well as the occasional sound of vehicle alarms and horns. These noise events can generate noise levels of up to approximately 92 dBA at 50 feet. Overall, average-hourly noise levels associated with parking lots are largely dependent on vehicle activity and thus would likely be greatest during the peak commute hours preceding or upon conclusion of daily school activities.

Noise levels associated with the proposed on-site parking lot and pickup/drop-off area were calculated using methodologies recommended for use by the FTA, which takes into account noise generated by automobiles. Modeling was conducted for the project based on the a.m. peak-hour trip generation rates noted above. All vehicles generated during the peak hour were assigned to the proposed pickup/drop-off area located along the eastern portion of the project site. An average of ten school buses per hour was also included. Based on these assumptions, combined peak-hour noise levels generated by pickup/drop-off activities would generate noise levels of approximately 43 dBA Leq at the nearest residence. Therefore, predicted noise levels would not exceed the City's daytime noise standard of 60 dBA Leq at the nearest receptors. Furthermore, the predicted noise levels would not result in a substantial permanent increase in

### 3.10 NOISE

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ambient noise levels in the project vicinity above existing levels. As previously described, Figure 6-4 of the City's General Plan Noise Element identifies current noise levels in the project area as approximately 60 dBA.

For these reasons, this impact would be **less than significant**.

#### Mitigation Measures

None required.

#### **Exposure to Groundborne Vibration (Standard of Significance 2)**

**Impact 3.10.3** Groundborne vibration levels associated with short-term construction and long-term operational activities would not exceed applicable groundborne vibration criterion at nearby land uses. This impact is **less than significant**.

This analysis uses the FTA vibration impact threshold for sensitive buildings and residences. The threshold is 85 VdB, which is the vibration level that is considered by the FTA to be acceptable only if there are an infrequent number of events per day as described in **Table 3.10-2**.

Construction activities would require the use of off-road equipment such as tractors, jackhammers, and haul trucks. The use of major groundborne vibration-generating construction equipment, such as pile drivers, would not be needed for the project. Groundborne vibration levels associated with representative construction equipment are summarized in **Table 3.10-5**. Based on the vibration levels presented in the table, ground vibration generated by construction equipment would not be anticipated to exceed 85 VdB at 50 feet.

**TABLE 3.10-5  
REPRESENTATIVE VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT**

Equipment	Approximate VdB	
	50 Feet	100 Feet
Large Bulldozer	81	75
Caisson Drilling	81	75
Loaded Trucks	80	74
Jackhammer	73	67
Small Bulldozer	52	46

Source: FTA 2006

Notes: The vibration levels at the off-site sensitive uses are determined with the following equation from the FTA Transit Noise and Vibration Impact Assessment, Final Report:  $L_v(D) = L_v(25 \text{ ft}) - 20 \log(D/25)$ , where  $L_v$  = vibration level of equipment,  $D$  = distance from the equipment to the receiver,  $L_v(25 \text{ ft})$  = vibration level of equipment at 25 feet

Project construction would require 5 months. Once construction is completed, all construction-generated groundborne vibration would cease. The nearest residence to the school site is within 65 feet of the construction fence line at Partridge Avenue and Partridge Court. There is also another school to the northeast, the nearest building located approximately 500 feet of the construction fence line. Based on the vibration levels presented in **Table 3.10-5**, ground vibration generated by construction equipment would not exceed the threshold of 85 VdB at 50 feet. Since all off-site structures in the vicinity are farther than 50 feet away, the predicted vibration

levels at the nearest off-site structures would not exceed the minimum recommended criteria during construction.

There would be no source of ground vibration associated with the proposed school operations.

For the reasons described, this impact would be **less than significant**.

#### Mitigation Measures

None required.

#### **Exposure to Short-Term Construction Noise (Standard of Significance 4)**

**Impact 3.10.4** Project construction would not result in the exposure of persons to or generation of noise levels in excess of the City of Sunnyvale's noise standards, as short-term construction noise is exempt from all noise level standards and construction is limited to daytime hours. This impact would be **less than significant**.

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges are generally similar for all construction phases, the initial site preparation phase tends to involve the most heavy-duty equipment having a higher noise-generation potential. Noise levels associated with individual construction equipment are summarized in **Table 3.10-6**.

**TABLE 3.10-6**  
**TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS**

Equipment	Typical Noise Level (dBA L <sub>max</sub> ) 50 Feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Vibrator	76
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jackhammer	88
Loader	85
Truck	88
Paver	89

### 3.10 NOISE

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Equipment	Typical Noise Level (dBA L <sub>max</sub> ) 50 Feet from Source
Pneumatic Tool	85
Roller	74
Saw	76

Source: FTA 2006

As depicted in **Table 3.10-6**, noise levels generated by individual pieces of construction equipment typically range from approximately 74 dBA to 89 dBA L<sub>max</sub> at 50 feet (FTA 2006). Average-hourly noise levels associated with construction projects can vary, depending on the activities performed, reaching levels of up to approximately 83 dBA L<sub>eq</sub> at 50 feet. Short-term increases in vehicle traffic, including worker commute trips and haul truck trips, may also result in temporary increases in ambient noise levels at nearby receptors.

During project construction, exterior noise levels could affect the nearest existing sensitive receivers in the vicinity. The nearest sensitive receptors include residences to the west, east, and south, the nearest within 65 feet of the construction fence line at Partridge Avenue and Partridge Court, and a school track and field facility approximately 350 feet to the northeast. Based on the construction equipment noise levels depicted in **Table 3.10-6** and assuming an average noise attenuation rate of 6 dB per doubling of distance from the source center, predicted exterior average-hourly noise levels would range from approximately 66 dBA at the school to 87.8 dBA at the nearest residence. The City of Sunnyvale does not establish quantitative noise limits for demolition or construction activities occurring in the city. According to Municipal Code Chapter 16.08, the legal hours of construction are between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday, and between 8:00 a.m. and 5:00 p.m. on Saturdays. These hours are intended to mitigate temporary noise impacts by avoiding construction during nighttime periods that would disturb noise-sensitive land uses (residential). Because construction noise would be temporary, intermittent, short in duration, and would take place during legal hours of construction the project would have a **less than significant** impact.

#### Mitigation Measures

None required.

### 3.10.5 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

#### CUMULATIVE SETTING

The geographic extent of the cumulative setting for noise consists of the project site and vicinity. Based on the noise measurement surveys conducted, ambient noise levels at the nearest residential land uses are primarily affected by vehicle traffic on nearby area roadways. However, no major stationary sources of noise have been identified in the vicinity of the nearest noise-sensitive land uses. As a result, the primary factor for cumulative noise impact analysis is the consideration of future traffic noise levels along area roadways.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

**Cumulative Traffic Noise Impacts**

**Impact 3.10.5** Project operation would result in a substantial contribution to cumulative noise levels. This impact would be considered **less than cumulatively considerable**.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Stratford School at Partridge Avenue and other projects in the vicinity. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of both components of the project to the future cumulative base traffic volumes in the project vicinity. The noise levels associated with cumulative base traffic volumes without the project and cumulative base traffic volumes with the project are identified in **Table 3.10-7**.

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**TABLE 3.10-7  
PREDICTED INCREASES IN CUMULATIVE TRAFFIC NOISE LEVELS**

Roadway Segment	Leq at 75 Feet from Near-Travel-Lane Centerline <sup>1</sup>		Increase	Threshold	Impact	Affected Land Use
	Without Project	With Project				
<b>El Camino Real</b>						
West of S. Wolfe Road	70.1	70.2	<b>0.1</b>	3.0	<b>No</b>	Commercial
S. Wolfe Road to Norman Drive	70.9	70.9	<b>0.0</b>	3.0	<b>No</b>	Commercial
Norman Drive to Halford Avenue	71.1	71.1	<b>0.0</b>	3.0	<b>No</b>	Commercial
Halford Avenue to Lawrence Expressway	72.6	72.7	<b>0.1</b>	3.0	<b>No</b>	Commercial
East of Lawrence Expressway	72.1	72.1	<b>0.0</b>	3.0	<b>No</b>	Commercial
<b>S. Wolfe Road</b>						
North of El Camino Real	68.9	69.0	<b>0.1</b>	3.0	<b>No</b>	Commercial
El Camino Real to Fremont Avenue	69.9	70.0	<b>0.1</b>	3.0	<b>No</b>	Commercial
Fremont Avenue to Elizabeth Way	69.4	69.5	<b>0.1</b>	3.0	<b>No</b>	Commercial & Residential
Elizabeth Way to Marion Way	69.6	69.7	<b>0.1</b>	3.0	<b>No</b>	Residential
Marion Way to Inverness Way	69.3	69.4	<b>0.1</b>	3.0	<b>No</b>	Residential
Inverness Way to Homestead Road	69.0	69.6	<b>0.6</b>	3.0	<b>No</b>	Residential
South of Homestead Road	70.1	70.2	<b>0.1</b>	3.0	<b>No</b>	Commercial & Residential
<b>Homestead Road</b>						
West of S. Wolfe Road	67.6	67.6	<b>0.0</b>	3.0	<b>No</b>	Residential, Commercial & Medical
S. Wolfe Road to Nightingale Avenue	68.1	68.1	<b>0.0</b>	3.0	<b>No</b>	Commercial & Residential
Nightingale Avenue to Peacock Avenue	68.0	68.1	<b>0.1</b>	3.0	<b>No</b>	Residential & Medical
Peacock Avenue to Quail Avenue	68.3	68.3	<b>0.0</b>	3.0	<b>No</b>	Residential & Medical
Quail Avenue to Swallow Drive	67.6	67.7	<b>0.1</b>	3.0	<b>No</b>	Residential & Medical
Swallow Drive to Lawrence Expressway	67.8	67.9	<b>0.1</b>	3.0	<b>No</b>	Residential & Medical
East of Lawrence Expressway	67.7	67.7	<b>0.0</b>	3.0	<b>No</b>	Commercial
<b>Lawrence Expressway</b>						
North of El Camino Real	69.8	69.9	<b>0.1</b>	3.0	<b>No</b>	Commercial & Residential

Roadway Segment	Leq at 75 Feet from Near-Travel-Lane Centerline <sup>1</sup>		Increase	Threshold	Impact	Affected Land Use
	Without Project	With Project				
El Camino Real to Benton Street	78.1	78.1	<b>0.0</b>	3.0	<b>No</b>	Residential, Commercial & Medical
Benton Street to Lochinvar Avenue	78.0	78.0	<b>0.0</b>	3.0	<b>No</b>	Residential
Lochinvar Avenue to Homestead Road	77.8	77.8	<b>0.0</b>	3.0	<b>No</b>	Commercial
South of Homestead Road	77.7	77.8	<b>0.1</b>	3.0	<b>No</b>	Commercial & Medical

## Notes:

1. Traffic noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (Fehr & Peers 2015; Appendix I).

2. For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 3.0 dB, or greater.

As shown in **Table 3.10-7**, under the cumulative project scenario, the project would not result in roadway noise level increases beyond noise level thresholds at all vicinity roadway segments. This impact would be **less than cumulatively considerable**.

#### Mitigation Measures

None required.



## **3.11 PUBLIC SERVICES**



This section describes public services that serve the project site. Specifically, the section includes an evaluation of public services including fire protection and emergency medical services, law enforcement, and parks and recreation facilities. Each subsection includes a description of existing facilities and infrastructure, applicable service goals, and environmental impacts potentially resulting from the project.

Given that the project proposes to operate a school facility in the city, it would not increase demand for public school services or require the construction of new or expanded school facilities elsewhere in Sunnyvale. Therefore, the project would have no impact on schools and this issue is not addressed further in this section.

A summary of the impact conclusions related to public services is provided below.

Impact Number	Impact Topic	Impact Significance
3.11.1	Increased Demand for Fire Protection and Emergency Medical Services	Less than significant
3.11.2	Cumulative Fire Protection and Emergency Medical Services Impacts	Less than cumulatively considerable
3.11.3	Increased Demand for Law Enforcement Services	Less than significant
3.11.4	Cumulative Law Enforcement Impacts	Less than cumulatively considerable
3.11.5	Increased Demand for Parks and Recreation Facilities	Less than significant
3.11.6	Cumulative Parks and Recreation Demands	Less than cumulatively considerable

### 3.11.1 EXISTING SETTING

#### FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

##### Sunnyvale Department of Public Safety Fire Services Bureau

The Sunnyvale Department of Public Safety (DPS) Fire Services Bureau (Fire Bureau) is an all-hazard/full-service department that provides emergency medical services, fire suppression, hazardous material incident mitigation, rescue operations, fire prevention/Investigations, and statewide mutual aid response (Sunnyvale 2011).

The Fire Bureau operates six fire stations in the city, each of which was remodeled between 1998 and 1999. The stations are situated throughout Sunnyvale, with locations based on a combination of call volume and response time. The station nearest the project site is a Santa Clara Fire Department station located at 3495 Benton Street, approximately one-half mile east of the project site. The project site is located within the response district of Fire Bureau Station #4 located at 996 S. Wolfe Avenue, just under 1 mile north of the project site. Station #4 is equipped with two engines: (1) Engine 44 is staffed with a Lieutenant (Company Officer) and a PSO (Engine Operator); (2) Engine 244 is staffed with two PSO's (SPECS 1999; Google 2015; Sunnyvale 2015a).

The Fire Bureau has mutual aid and/or auto aid agreements with Santa Clara County Fire, San Jose Fire, Mountain View Fire, and Santa Clara (City) Fire. These agreements cover responses to freeway incidents and structure fire incidents in areas of common shared boundaries between jurisdictions (Sunnyvale 2011).

### **3.11 PUBLIC SERVICES**

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An often-cited measure of fire suppression capability is the rating assigned to a department by the nationally recognized Insurance Services Office (ISO). The ISO is a subsidiary of a publicly traded company and acts as an advisory organization which provides information that insurance companies may use to establish premium costs. The rating is based on, among other things, fire alarm and communications systems, telephone and dispatching systems, fire equipment, staffing, training, and geographic distribution of fire stations. Based on all this information, the ISO assigns a classification rating from 1 to 10. Sunnyvale has an ISO rating of 2, which falls within the "superior" category (Sunnyvale 2011; 2015a).

In 2014, the Fire Bureau responded to 7,448 fire/emergency medical service calls. First responding units were on the scene within 6 minutes 14 seconds of dispatch 86 percent of the time (Sunnyvale 2015a).

#### **Emergency Medical Services**

The DPS participates in an emergency medical services (EMS) system that is integrated into the larger Santa Clara County Emergency Medical Services System. This system provides Basic Life Support (BLS) response by the Department of Public Safety resources, followed by Advanced Life Support (ALS) response by the County of Santa Clara.

The County of Santa Clara contracts with a vendor to provide a fee-for-service paramedic transport system for all of Santa Clara County, with the exception of the City of Palo Alto, which maintains its own fire department-based paramedic transport service. The Santa Clara County paramedic ambulance contract sets response time standards for the vendor that apply throughout the county (Sunnyvale 2011).

Sunnyvale is the only city in Santa Clara County that does not provide paramedic services through its own or a contracted fire service provider. Since the inception of paramedic services in Santa Clara County, the DPS has brought to the City Council options to provide paramedic services within the Public Safety model. The DPS will continue to monitor the County's paramedic service provision, will evaluate the options/opportunities to deliver paramedic services within DPS, and will periodically report its findings to the City Council (Sunnyvale 2011).

#### **LAW ENFORCEMENT**

##### **City of Sunnyvale Department of Public Safety Bureau of Police Services**

Police services are provided by the City of Sunnyvale DPS Bureau of Police Services (Police Bureau). The Police Bureau operates out of a central station located at 700 All America Way. The Police Bureau maintains two patrol teams consisting of five patrol squads, allowing continuous coverage of the city. The number of officers in each of the squads changes depending on the time of the day the shift covers. In addition to patrolling, the Police Bureau provides a traffic safety unit, a SWAT team, a crisis negotiations team, a canine unit, a desk officer, a police training officer, a crime scene investigator, a bicycle patrol, a gang enforcement team, a crisis intervention team, a mobile field force, and technical services. The Bureau's Crime Prevention Unit also provides public information and school presentations to promote school security and safety related to safe walking and bicycle routes, drug and alcohol awareness, internet safety, stranger awareness, gang awareness, teen dating violence, bicycle safety (Sunnyvale 2015b).

In the fiscal year from July 2014 to June 2015, the average response time to emergency calls for service is currently approximately 4.40 minutes, while for urgent calls the response time is 6.37 minutes (Pitts 2015).

**PARKS AND COMMUNITY SERVICES**

**Parks and Open Space**

About 745 acres, over 7 percent of the area within the city's incorporated limits, is devoted to open space facilities owned or maintained by the City for public use, including 20 neighborhood parks (comprising 223 acres) and 9 special use facilities (comprising 355 acres). The City operates 38 tennis courts, 2 golf courses, and 4 swimming pools, including the Fremont Pool constructed in cooperation with the Fremont Union High School District.

The City operates 143 acres of playfields, of which 111 acres are at school playfields and accessible to the public through joint use agreements with three high school districts. The community can now use nearly 40 baseball and soccer fields on school grounds after school hours. The City recently completed the 1.5-mile Calabazas Creek Trail, a pedestrian and bicycle trail between US 101 and State Route 237. The trail allows residents to connect to the 400-mile San Francisco Bay Trail, 3.45 miles of which are in Sunnyvale (Sunnyvale 2011).

The project site is immediately adjacent to Raynor Park, and includes the use of a portion of the park. This public park consists of 7 acres and features a children's play area, horseshoe pits, a reservable multi-use field, barbecues and picnic areas, a skating rink, and restrooms (Sunnyvale 2015c).

Park Ratios

The National Recreation and Park Association (NRPA) at one time developed standards and guidelines, which recommended 4–6 acres of open space per 1,000 residents. The NRPA has since acknowledged the difficulty in setting standards that would be applicable to all communities, given each community's unique characteristics. The 1990 NRPA standard of 4–6 acres per 1,000 residents is, however, still widely used as a starting point of discussion. At 5.03 acres per 1,000 residents, Sunnyvale falls within that guideline (Sunnyvale 2011).

**3.11.2 REGULATORY FRAMEWORK**

**FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES**

**State**

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. Fire Code provisions 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 such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

## **3.11 PUBLIC SERVICES**

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### California Health and Safety Code

Additional state fire regulations are set forth in Sections 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.

### 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>.

## **Local**

### City of Sunnyvale Fire Code

The Fire Code, Section 16.52 of the City's Municipal Code, prescribes regulations governing conditions hazardous to life and property from fire or explosion through adoption of the 2010 California Fire Code.

## **LAW ENFORCEMENT**

## **State**

### 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. SEMS consists of five organizational levels, which are activated as necessary: (1) Field Response, (2) Local Government, (3) Operational Area, (4) Regional, and (5) State.

**Local**

City of Sunnyvale Emergency Plan

The City's 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. 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.

PARKS AND COMMUNITY SERVICES

**Federal**

National Recreation and Parks Association

Recreational lands differ from other open space lands in that they allow a greater range of public access and direct recreational uses. Recreational lands vary by size, use, and facilities. The National Recreation and Park Association has developed definitions for various types of recreational facilities.

Mini-Park

A specialized facility that serves a concentrated or limited population or specific group such as tots or senior citizens. This facility should be located in neighborhoods and in close proximity to apartment complexes, townhouse developments, or housing for the elderly.

Neighborhood Park

An area for intense recreational activities such as field games, court games, crafts, playground apparatus, skating, picnicking, wading pools, etc. Neighborhood park sites should be suited for intense development, easily accessible to neighborhood populations, and geographically located for safe walking and bicycle access.

Community Park

An area of diverse recreational value including intense recreational facilities such as athletic complexes and pools, as well as more passive uses such as picnicking, viewing, nature study, and other types of recreational development.

Regional Park/Park Preserve

An area of natural or ornamental quality for outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses, with much of the land reserved for conservation and natural resource management.

The NRPA also describes other types of recreational facilities, such as linear parks for hiking, bicycling, and equestrian activities; special use areas for golf, gardening, and outdoor theatres;

### **3.11 PUBLIC SERVICES**

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and conservancies designated for the protection and management of natural or cultural resources. The NRPA has established guidelines for the amount of recreational land necessary to serve a given population; however, these guidelines are oriented toward more metropolitan areas. The NRPA advises each jurisdiction to establish its own standards, tailored to the unique characteristics of the area.

#### **State**

##### Quimby Act

The goal of the 1975 Quimby Act (California Government Code Section 66477) was to require developers to help mitigate the impacts of property improvements by requiring them to set aside land, donate conservation easements, or pay fees for park improvements. The Quimby Act gave authority for passage of land dedication ordinances only to cities and counties, thus requiring special districts to work with cities and/or counties to receive parkland dedication and/or in-lieu fees. The fees must be paid and land conveyed directly to the local public agencies that provide parks and recreation services community-wide. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities (Westrup 2002).

Originally, the Quimby Act was designed to ensure “adequate” open space acreage in jurisdictions adopting Quimby Act standards (e.g., 3 to 5 acres per 1,000 residents). In some California communities, the acreage fee was very high where property values were high, and many local governments did not differentiate on their Quimby fees between infill projects and greenbelt developments. In 1982, the Quimby Act was substantially amended via Assembly Bill (AB) 1600. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts as identified through traffic studies required by the California Environmental Quality Act (CEQA).

In other words, AB 1600 requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed (Westrup 2002). Cities or counties with a high ratio of parkland to inhabitants can set a standard of 5 acres per 1,000 residents for new development. Cities or counties with a lower ratio can only require the provision of up to 3 acres of parkland per 1,000 residents. The calculation of a city's or county's parkland-to-population ratio is based on a comparison of the population count of the last federal census to the amount of city- or county-owned parkland.

As previously mentioned, at 5.03 acres per 1,000 residents, Sunnyvale falls within the parkland acreage standard of 4–6 acres per 1,000 residents. The City of Sunnyvale has adopted Park Dedication Fees for park facilities in order to acquire and improve parkland consistent with the standard.

### 3.11.3 IMPACTS AND MITIGATION MEASURES

#### FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

##### Standards of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. A fire protection and emergency services impact is considered significant if the project would:

- 1) Create substantial adverse physical impacts associated with the provision of new or physically altered fire related facilities or services, the construction and/or provision of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.

The reader is referred to Section 3.7, Hazards and Human Health, regarding emergency access and wildland fire impacts.

##### Methodology

Evaluation of potential fire service impacts was based on consultation with the Sunnyvale Fire Services Bureau, as well as review of the Sunnyvale General Plan (2011) and other relevant literature.

##### Project Impacts and Mitigation Measures

###### Increased Demand for Fire Protection and Emergency Medical Services (Standard of Significance 1)

**Impact 3.11.1** The project could increase the demand for fire protection and emergency medical services at the currently vacant project site by operating it as a school facility. However, the anticipated increase in demand for fire protection services would be minimal, and no new or expanded facilities would be needed. This impact would be **less than significant**.

The project site has been in use as a school or other community use, like artist studios, since the 1950s and has only recently become vacant. Throughout this time, the site was provided fire protection and emergency medical services by the City as needed. Although the project would increase the number of users at the site, compared with historical uses, it would include building and site upgrades, as necessary, to meet current fire code standards. Further, the project would not change the overall site design or the height of any buildings and would not create any unique circumstances requiring special equipment, staffing, or training. Therefore, the operation of the site as a school would not be considered a new or greater demand for service.

Fire Bureau staff have indicated that the Fire Bureau would be capable of serving the project with existing resources (Kilpatrick 2015). This impact would be **less than significant**.

##### Mitigation Measures

None required.

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### Cumulative Setting, Impacts, and Mitigation Measures

#### Cumulative Setting

The cumulative setting for fire protection and emergency medical services includes the service area boundaries of the Sunnyvale Department of Public Safety Fire Service Bureau.

#### Cumulative Impacts and Mitigation Measures

##### Fire Protection and Emergency Medical Services Impacts

**Impact 3.11.2** The project, along with potential development in the surrounding area, would increase cumulative demand for fire protection and emergency medical services. The project's contribution to this impact would be **less than cumulatively considerable**.

Future development in Sunnyvale could potentially increase cumulative demand for fire protection and emergency medical services, requiring additional Fire Bureau personnel, equipment, and facilities. However, future development projects would be subject to developer fees that would provide sufficient resources to expand services in response to growth. The City will consider the environmental effects of constructing new or expanded facilities at a project level as they are proposed over time. Future fire facilities would be constructed within Sunnyvale's existing urban area and would not be expected to result in significant ground disturbance impacts to natural resources. Therefore, this impact would be less than significant. Further, as described in Impact 3.11.1, the project's contribution to this impact would be less than cumulatively considerable.

#### Mitigation Measures

None required.

### LAW ENFORCEMENT

#### Standards of Significance

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. A law enforcement services impact is considered significant if the project would:

- 1) Create substantial adverse physical impacts associated with the provision of new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.

#### Methodology

Evaluation of potential law enforcement impacts was based on consultation with the City of Sunnyvale Police Bureau and review of the City's General Plan (2011) and other relevant literature.

## Project Impacts and Mitigation Measures

### Increased Demand for Law Enforcement Services (Standard of Significance 1)

**Impact 3.11.3** The project would result in increased demand for law enforcement services at the currently vacant project site by operating it as a school facility. However, the anticipated increase in demand for law enforcement services would be minimal and no new or expanded facilities would be needed. This impact would be **less than significant**.

The project site has been in use as a school or other community uses, like daycare or artist studios, since the 1950s and was provided law enforcement services by the City during that time. The site has only recently become vacant and is still routinely patrolled by the Police Bureau's patrol teams. Although the project would increase the number of users at the site, it would include installation of fencing around the entire campus area for increased safety and security, as well as other measures as crossing guards during peak traffic hours.

Police Bureau staff have indicated that renewed operation of the facility as a school could potentially increase demand for service from the Crime Prevention Unit and Traffic Unit. However, the Bureau indicated that it would be capable of serving the proposed project with existing resources (Pitts 2015). Therefore, this impact would be **less than significant**.

#### Mitigation Measures

None required.

## Cumulative Setting, Impacts, and Mitigation Measures

### Cumulative Setting

The cumulative setting for law enforcement services includes the service area boundaries of the City of Sunnyvale DPS Bureau of Police Services. The Police Bureau provides services within the Sunnyvale city limits. Therefore, the cumulative setting is limited to the city and does not extend to a regional level. The cumulative analysis includes all existing, planned, proposed, approved, and reasonably foreseeable development in the city.

### Cumulative Impacts and Mitigation Measures

#### Cumulative Law Enforcement Impacts

**Impact 3.11.4** The project, along with potential development in the surrounding area, could result in a cumulative increase in demand for law enforcement services. The project's contribution to this impact would be **less than cumulatively considerable**.

Future development in Sunnyvale could potentially increase cumulative demand for law enforcement services, requiring additional Police Bureau personnel, equipment, and facilities. However, future development projects would be subject to developer fees that would provide sufficient resources for the Police Bureau to expand services in response to growth. The City will consider the environmental effects of constructing new or expanded facilities at a project level as they are proposed over time. Future police facilities would be constructed within Sunnyvale's existing urban area and would not be expected to result in significant ground disturbance

### 3.11 PUBLIC SERVICES

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impacts to natural resources. Therefore, this impact would be less than significant. Further, as described in Impact 3.11.3, the project's contribution to this impact would be **less than cumulatively considerable**.

#### Mitigation Measures

None required.

### PARKS AND COMMUNITY SERVICES

#### **Standards of Significance**

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. Parks and recreation impacts are significant if the project would:

- 1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- 2) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

#### **Methodology**

Evaluation of potential park and recreation service impacts was based on review of the current park and recreation information provided on the City's website and of the project description.

#### **Project Impacts and Mitigation Measures**

##### Increased Demand for Parks and Recreation Facilities (Standards of Significance 1 and 2)

**Impact 3.11.5** The project would use the existing buildings as a school, thereby increasing use of the adjacent joint-use park. In addition, the project proposes to construct new recreational facilities including volleyball and basketball courts. This impact would be **less than significant**.

The project would renovate the existing buildings on the project site and operate it as a private school. The buildings were initially developed as a school facility by the Santa Clara Unified School District starting in 1956. The current buildings and their accompanying parcel, which now make up Raynor Park, were deemed surplus by the Santa Clara Unified School District in 1979 and were subsequently purchased by the City. The existing buildings have been used over the years as an activity center for art studios, gymnastic clubs, private preschool operations, a philatelic library, and a City storage facility. The buildings are not currently in use.

Operation of the site as a private school, with a joint use agreement for Raynor Park would substantially increase the use of the park facilities and could potentially accelerate their physical deterioration. However, the City has policies in place for turf maintenance that would prevent the park from substantially deteriorating. Since the park is located in an urban area occasional replacement of equipment or turf repair would not be expected to result in significant environmental effects. Such routine maintenance and repair would be performed by the City and would be funded by tax revenue and park fees.

In addition, the project proposes to construct new recreational facilities including a volleyball court and student courtyard on the school campus and a basketball court in Raynor Park. Impacts associated with construction of these recreational improvements are assumed as part of the project and are addressed throughout this Draft EIR (see Sections 3.1 through 3.14). Typical environmental effects associated with constructing parks and recreational facilities include disturbance of biological and/or cultural resources, temporary air emissions, soil erosion and water quality degradation, handling of hazardous materials, temporary construction noise, and temporary construction traffic.

Through implementation of City policies regarding turf maintenance and mitigation measures outlined in the Draft EIR, this impact would be **less than significant**.

Mitigation Measures

None required.

**Cumulative Setting, Impacts, and Mitigation Measures**

Cumulative Setting

The cumulative setting for parks and recreation consists of the City of Sunnyvale's Parks Department service area boundary and the County of Santa Clara Parks and Recreation Department's jurisdiction. Development in the city that currently places demand on Sunnyvale's parks and recreation facilities, or is expected to place demand on them in the future, could contribute to cumulative impacts.

Cumulative Impacts and Mitigation Measures

Cumulative Parks and Recreation Demands

**Impact 3.11.6** The project, along with other potential development in Santa Clara County, would increase the use of existing parks and require additional parks and recreational facilities. The project's contribution to this impact would be **less than cumulatively considerable**.

Future development in Sunnyvale and Santa Clara County would contribute to a cumulative increase in demand for regional and local parks and recreational facilities and services within the service boundaries of the City's Parks Department and the County's Parks and Recreation Department. Future development projects would be subject to development impact fees to fund the provision of new parks and recreational facilities. The City and County will consider the environmental effects of constructing new or expanded facilities at a project level as they are proposed over time. Therefore, this impact would be less than significant. As described in Impact 3.11.5, the project's contribution to this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.



## **3.12 RECREATION**



## 3.12 RECREATION

This section describes recreational opportunities in the project area and at the project site. Specifically, the section includes an evaluation of recreation facilities and opportunities in the project area. A description of existing facilities and environmental impacts resulting from project implementation is included.

A summary of the impact conclusions related to recreational resources is provided below.

Impact Number	Impact Topic	Impact Significance
3.12.1	Substantially Increase in the Use of Recreational Facilities	Less than significant
3.12.2	Require or Include the Construction of Recreational Facilities	Less than significant
3.12.3	Cumulative Impacts to Recreation	Less than cumulatively considerable

### 3.12.1 EXISTING SETTING

#### REGIONAL

Approximately 10 percent of the area within the city's incorporated limits, or about 818.70 acres, is devoted to open space facilities owned or maintained by the City for public use (Sunnyvale 2011). This includes:

- 6 mini parks (7.63 acres)
- 6 neighborhood parks (31.57 acres)
- 10 community parks (11.90 acres)
- 18 school playfields (95.16 acre)
- regional open space (177 acres)
- special use areas that include golf courses, state parks and tennis centers (263.98 acres)
- civic spaces (1.60 acres)
- public grounds (14.10 acres)
- greenbelt and trail (81.96 acres)
- small urban plots (8.47 acres) .

The City also operates the Sunnyvale Community Center and Orchard Heritage Park, which includes a 10-acre working orchard and the Orchard Heritage Interpretive Exhibit. Orchard Heritage Park includes the Historical Museum, which is operated by the Sunnyvale Historical Society. The Community Center Theater hosts two resident theater companies, producing many children's productions and Sunnyvale's Summer Repertory. The 23,000-square-foot Senior Center, which opened in 2003, hosts many social, cultural, and educational activities for seniors and has rooms for large events (City of Sunnyvale 2011).

## 3.12 RECREATION

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To adequately plan for open space facilities, the City has identified neighborhood planning areas to describe open space availability. The City defines neighborhood planning areas as areas generally bounded by traffic arterials, served with an elementary school or park within walking distance, and with neighborhood shopping facilities within a half-mile radius. In Sunnyvale, nine neighborhood planning areas are used by the City as a means to describe and evaluate the city's physical organization and distribution of parks (Sunnyvale 2011).

Parks of 3 acres or less in size were considered to primarily serve those living with a quarter-mile radius of the park. For larger parks, a half-mile radius was used, because the larger parks generally include more amenities and can serve more people. For school open space, which represents athletic fields without amenities such as restrooms or playgrounds, a quarter-mile radius was used (Sunnyvale 2011). **Figure 3.12.1** depicts all park sites with their accompanying buffers and service areas.

The project site is located in the Raynor neighborhood area, and the project area was found to be adequately served by park space, with the exception of the area identified as the Southeast Corner.

### Park Ratios

The National Recreation and Park Association (NRPA) developed standards and guidelines, which recommended 4–6 acres of open space per 1,000 residents (NRPA, 1995). The NRPA has since acknowledged the difficulty in setting standards that would be applicable to all communities, given each community's unique characteristics. The 1990 NRPA standard is, however, still widely used as establishing if sufficient park space is available in a community. At 5.53 acres per 1,000 residents, Sunnyvale falls within that guideline.

### PROJECT SITE

The project site is approximately 3.55 acres and is located at the southeast corner of Dunford Way and Partridge Avenue. The project site is currently occupied by eight buildings, two parking lots, and two play areas and is adjacent to Raynor Park. Raynor Park is identified as a 11.92-acre park with community amenities such as a children's play area, horseshoe pits, a multi-use field available for reservations, restrooms, and a skating rink (Sunnyvale 2015a). Raynor Park is defined as a community park, which is an area of diverse recreational value including intense recreational facilities such as athletic complexes and pools, as well as passive uses such as picnicking, viewing, nature study, and other types of recreational development. Further as a community park Raynor Park serves the population within a half mile radius per the Sunnyvale General Plan. As such, it would serve a maximum population of 8,097 people and 2,968 housing units. (Census, 2011) Other recreational facilities in the project area include Ortega Park (18.60 acres) approximately 1.3 miles west of Raynor Park; Panama Park (5.02 acres) approximately 0.8 miles northwest; and school playfields at Peterson Middle School and Laurelwood Elementary.

Per Section 2.0, Project Description (Project Site History), the current buildings and their accompanying parcel were deemed surplus by the Santa Clara Unified School District in 1979 and were subsequently purchased by the City. The existing buildings have been used over the years as an activity center for art studios, gymnastic clubs, private preschool operations, a philatelic library, and a City storage facility. The buildings are not currently in use. In 2012, the City declared the project site as surplus property and directed staff to conduct a competitive process for its sale.

There are two types of user communities in Raynor Park: casual users comprising neighbors and other community members, and sports clubs. Casual park users include community members who use the play area at the southeast corner of Raynor Park and the rental picnic facilities at the southwest corner of Raynor Park. Other casual users include skateboarders and community members walking their pets. The City of Sunnyvale requires that dogs in parks be on a leash of 6 feet or less in length at all times (Sunnyvale 2015b).

Raynor Park recreational facilities are used by Sunnyvale Metro and the American Soccer Youth Organization (AYSO). Sunnyvale Metro Little League is a volunteer organization operating under the Charter of Little League Baseball and is located in Little League Region 5, District 44 (Sunnyvale Metro 2015). Raynor Park field usage during the regular season is from early March through mid-June, while off season is June through mid-July.

Raynor Field 1 (Main Field) is defined by Sunnyvale Metro as located at 1565 Quail Avenue; it accommodates Majors/Minors field and TOC and All-Star games. Raynor Field 2 is defined by Sunnyvale Metro as being located at the parking lot off Partridge Avenue near Durlane Court and serves as the Pioneer Field (Sunnyvale Metro 2015).

Typical Raynor Field usage by the Sunnyvale Metro Little League during regular season is as follows (Sunnyvale Metro 2015):

- Mondays: 5:30 p.m. game
- Tuesdays: 5:30 p.m. game
- Wednesday: 5:30 p.m. game
- Thursdays: 5:30 p.m. game
- Friday: no games
- Saturday: 9:30 a.m., 12:30 p.m. and 2:30 p.m. games
- Sunday: games

The American Youth Soccer Organization (AYSO) is a nonprofit organization that provides youth soccer programs for participants all over the United States and internationally in the Virgin Islands and Trinidad and Tobago. It consists of over 50,000 teams and 500,000 players nationwide (AYSO 2015). AYSO Region 44 serves Sunnyvale and surrounding areas. It is open to all boys and girls aged 3.5 to 18, and their fall season runs from early September to early November each year. The spring season runs from mid-March to mid-May, while their competitive program (Spring Select) has tryouts in the fall and starts in late February.

Raynor Park is one of 12 locations used by the league. The park is usually used by the U7-U10 division, which plays Saturday mornings and early afternoons. Typically, the U7 and U8 divisions will have one weekday practice of about an hour, while the U10 or U12 divisions' practice up to twice a week. All coaches are volunteers, and practices are usually scheduled as late as daylight allows (AYSO 2015).

## 3.12 RECREATION

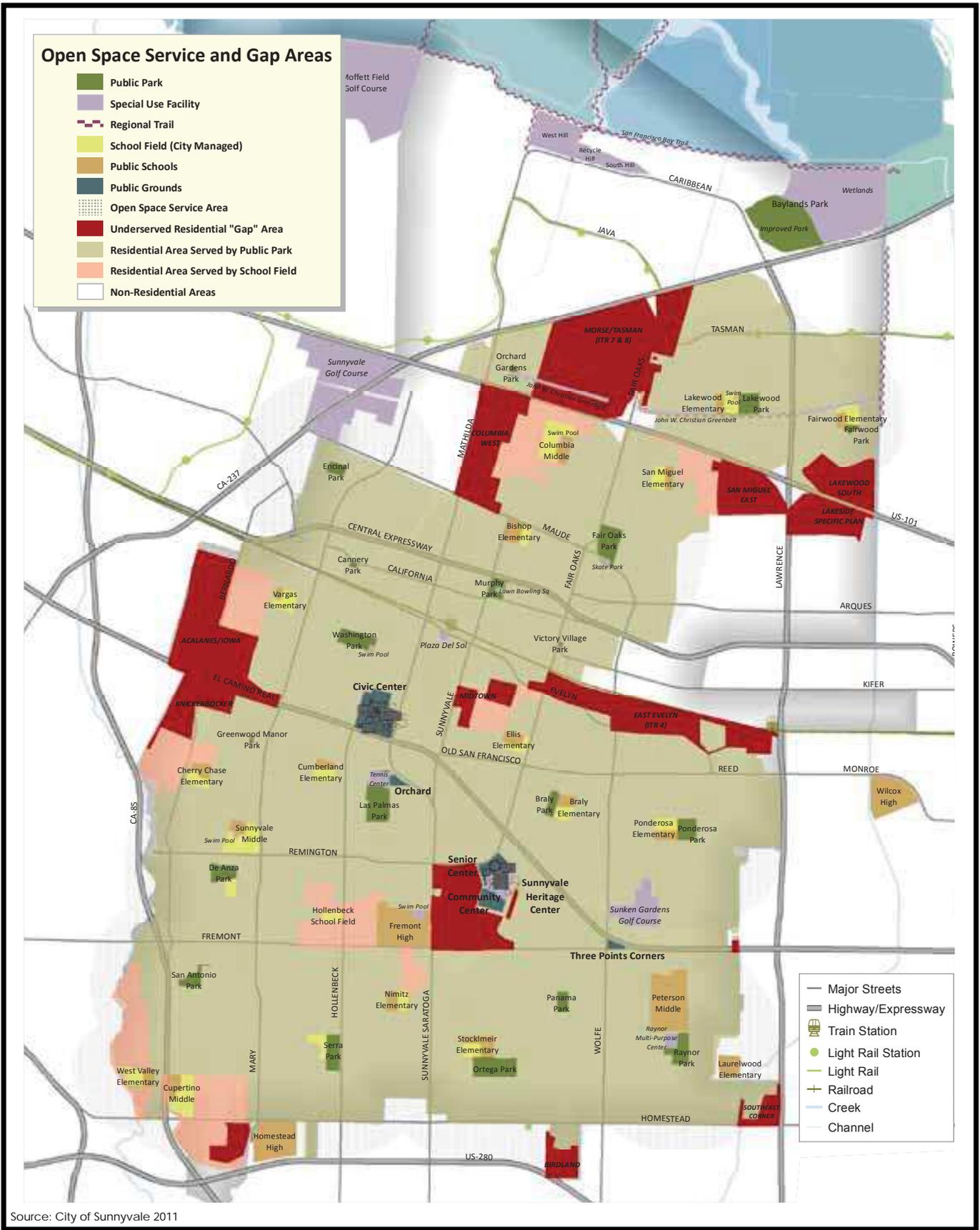
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### JOINT USE AGREEMENT

Project approvals would include a joint use agreement between the City and the Stratford School at Partridge Avenue (**Appendix C**). The joint use agreement outlines the portions of Raynor Park for which Stratford would be given priority use during certain hours of the day.

The following conditions are excerpts from the joint use agreement. For the full conditions of approval, please see **Appendix C**.

- Priority field use hours on school days for Stratford School for Area 1 (**Figure 3.12.2**) are from 9:00 a.m. to 3:00 p.m.
- Priority use Area 2 (**Figure 3.12.2**) is designated for the future construction of a basketball court by Stratford. Priority use hours are from 9:00 a.m. to 5:30 p.m. on regular school days.
- The basketball court would be available for public use during priority use hours when not in use by Stratford.
- Area 1 would be available for public use during priority use hours when not in use by Stratford.
- Stratford has also agreed to work with the City to assist in funding minor park improvements, which include:
  - Adding benches at the proposed basketball court
  - Relocating the irrigation piping along the proposed property line
  - Seal coating and restriping the City parking lot located along Quail Avenue
  - Relocating the electronic scoreboard used by Little League baseball
  - Adding to existing bleachers at the Little League field if desired by field users
- The Stratford “after-hours” uses are from 4:00 p.m. to 5:30 p.m. on Wednesdays and Thursdays, and 4:00 p.m. to 6:00 p.m. on Fridays during the months of February through May, and 4:00 p.m. to 5:00 p.m. on Thursdays and 4:00 p.m. to 6:00 p.m. on Fridays during the months of September through November. Additional after-hours use by Stratford not specifically noted in the Joint Use Agreement would be based on availability of space with no impact to the other groups using the open space area. Stratford would not have the ability to use its reserved times to allow other third-party groups to use the fields or basketball court.

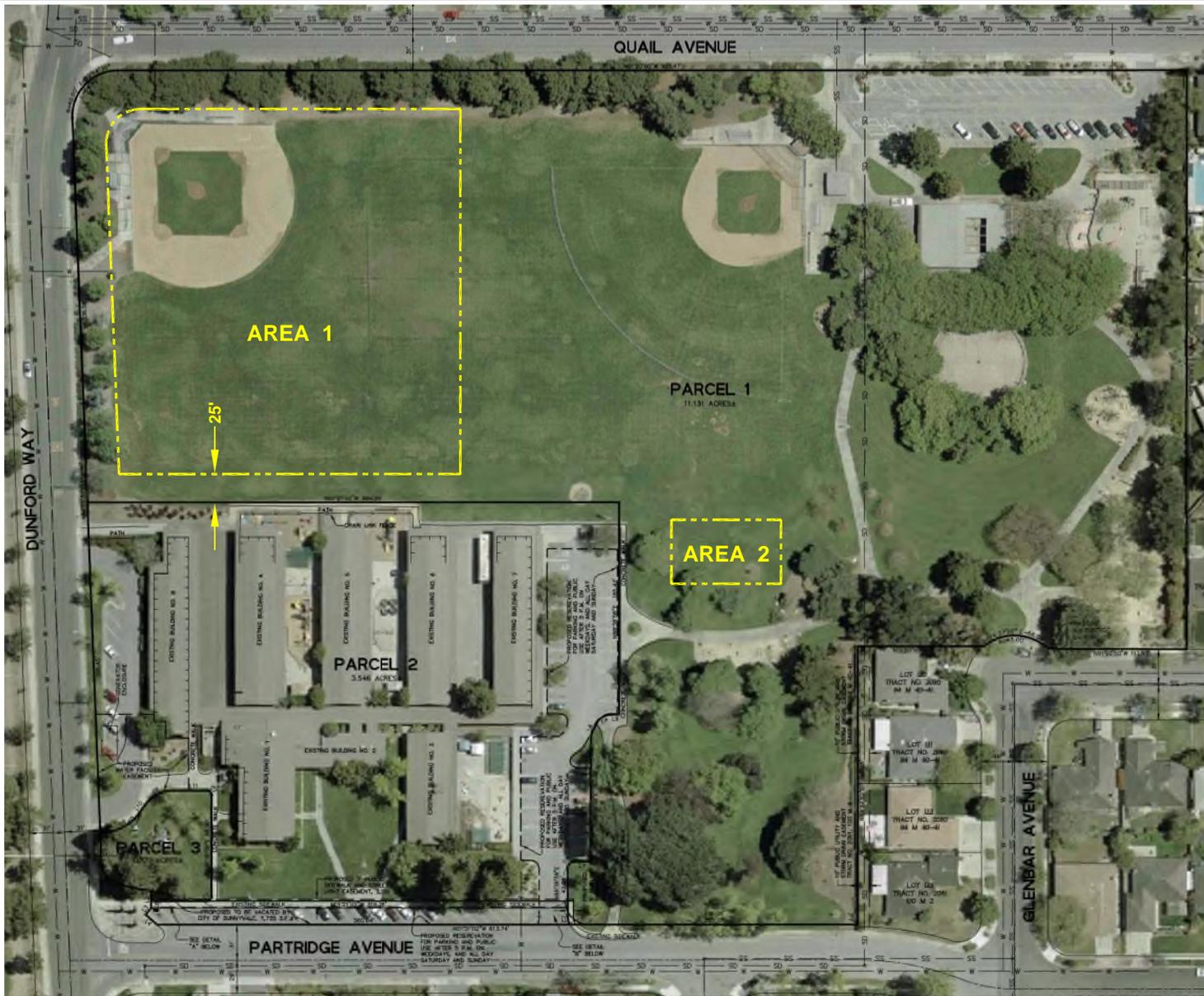


Source: City of Sunnyvale 2011



Figure 3.12-1  
Sunnyvale Park Map





Source: City of Sunnyvale 2015

Not to scale



Figure 3.12-2  
Joint Use Agreement



### 3.12.2 REGULATORY FRAMEWORK

#### FEDERAL

##### **National Recreation and Parks Association**

Recreational lands differ from other open space lands in that they allow a greater range of public access and direct recreational uses. Recreational lands vary by size, use, and facilities. The NRPA has developed definitions for various types of recreational facilities.

##### Mini-Park

A specialized facility that serves a concentrated or limited population or specific group such as tots or senior citizens. This facility should be located within neighborhoods and in close proximity to apartment complexes, townhouse developments, or housing for the elderly.

##### Neighborhood Park

An area for intense recreational activities such as field games, court games, crafts, playground apparatus, skating, picnicking, wading pools, etc. Neighborhood park sites should be suited for intense development, easily accessible to neighborhood populations, and geographically located for safe walking and bicycle access.

##### Community Park

An area of diverse recreational value including intense recreational facilities such as athletic complexes and pools, as well as more passive uses such as picnicking, viewing, nature study, and other types of recreational development.

##### Regional Park/Park Preserve

An area of natural or ornamental quality for outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses, with much of the land reserved for conservation and natural resource management.

The NRPA also describes other types of recreational facilities, such as linear parks for hiking, bicycling, and equestrian activities; special use areas for golf, gardening, and outdoor theatres; and conservancies designated for the protection and management of natural or cultural resources. The NRPA has established guidelines for the amount of recreational land necessary to serve a given population; however, these guidelines are oriented toward more metropolitan areas. Therefore, the NRPA advises each jurisdiction to establish its own standards that are tailored to the unique characteristics of the area.

#### STATE

##### **Quimby Act**

The goal of the 1975 Quimby Act (California Government Code Section 66477) was to require developers to help mitigate the impacts of property improvements by requiring them to set aside land, donate conservation easements, or pay fees for park improvements. The Quimby Act gave authority for passage of land dedication ordinances only to cities and counties, thus requiring special districts to work with cities and/or counties to receive parkland dedication

### 3.12 RECREATION

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and/or in-lieu fees. The fees must be paid and land conveyed directly to the local public agencies that provide parks and recreation services community-wide. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities (Westrup 2002).

Originally, the Quimby Act was designed to ensure “adequate” open space acreage in jurisdictions adopting Quimby Act standards (e.g., 3 to 5 acres per 1,000 residents). In some California communities, the acreage fee was very high where property values were high, and many local governments did not differentiate on their Quimby fees between infill projects and greenbelt developments. In 1982, the Quimby Act was substantially amended via Assembly Bill (AB) 1600. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project’s impacts as identified through traffic studies required by the California Environmental Quality Act (CEQA).

In other words, AB 1600 requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed (Westrup 2002). Cities or counties with a high ratio of parkland to inhabitants can set a standard of 5 acres per 1,000 residents for new development. Cities or counties with a lower ratio can only require the provision of up to 3 acres of parkland per 1,000 residents. The calculation of a city’s or county’s parkland-to-population ratio is based on a comparison of the population count of the last federal census to the amount of city- or county-owned parkland.

As previously mentioned, at 5.53 acres per 1,000 residents, Sunnyvale falls within the parkland acreage standard of 4–6 acres per 1,000 residents. The City of Sunnyvale has adopted Park Dedication Fees for park facilities in order to acquire and improve parkland consistent with the standard.

#### LOCAL

#### City of Sunnyvale

The Sunnyvale General Plan outlines several policies geared toward enhancing and retaining open space in the city. A summary of such goals follows.

- **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.
- **LT-2.2d:** Maintain public open space areas and require private open space to be maintained. (Previously LUTE Action Strategy C1.2.4)
- **Goal LT-8 Adequate and Balanced Open Space:** 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. (Previously Open Space and Recreation Goal A, adopted in 2006)

- **Goal LT-9 Regional Approach to Open Space:** A regional approach to providing and preserving open space and providing open space and recreational services, facilities, and amenities for the broader community.

The City's General Plan Open Space Element includes a description of existing park resources in the city, pressures on park space, and key initiatives to address public concerns. Key Initiative #4 relates to the project site:

- **Key Initiative #4:** Evaluate how the Raynor Activity Center meets open space and recreation priorities and determine what should be done with the site (e.g., keep for use as recreation facility; tear down and use for civic, non-recreation use; sell). In June 2010, the City Council declared that the Raynor Activity Center was no longer needed for public purposes and available for long-term lease.

### 3.2.3 IMPACTS AND MITIGATION MEASURES

#### STANDARDS OF SIGNIFICANCE

This analysis evaluates the project's impacts on recreational resources based on the standards of significance identified in the CEQA Guidelines Appendix G. A recreation impact is considered significant if the project would:

- 1) The project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- 2) The project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

#### METHODOLOGY

The following impact analysis is based on project site field observations, a review of the project description, and a review of City policies regarding open space. This analysis is based on anticipated changes to recreational resources from the project.

#### PROJECT IMPACTS AND MITIGATION MEASURES

##### **Substantial Increase in the Use of Recreational Facilities (Standard of Significance 1)**

**Impact 3.12.1** The project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Due to the joint use agreement restrictions on park use and existing City turf management policies, this would be a **less than significant** impact.

Project construction and operation would impact the existing park facilities. The project would include the construction of a basketball court, a new circulation driveway, and a new volleyball court, in addition to renovating existing structures and repaving existing parking lots. The project would also entail park improvements like adding benches at the basketball court and adding to existing bleachers at the Little League field, if desired by field users.

## 3.12 RECREATION

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### Construction Impacts

Project construction would take approximately 5 months during the summertime, which coincides with the off season for the sports clubs that utilize the park. Construction techniques would include grading, repaving, revegetation, and any other activities associated with building improvements. During construction, streets would not be closed and materials would be hauled in and out of the project area using city streets. Construction impacts on park users and park facilities would be temporary in nature. Such impacts would include noise (see Section 3.10, Noise), dust (see Section 3.2, Air Quality), and visual degradation (see Section 3.1 Aesthetics). Construction activities, although potentially perceived as a nuisance by park users, would not prevent the park functions from continuing and would not substantially diminish people's ability to use the park.

Further, per the Sunnyvale Municipal Code Title 16, Chapter 16.08, construction activity is permitted between the hours of 7:00 a.m. and 6:00 p.m. daily Mondays through Fridays and 8:00 a.m. and 5:00 p.m. on Saturdays. No construction activity is allowed on Sundays or national holidays when City offices are closed. As such, it is not expected that construction activities would substantially interfere with either casual park usage or athletic games, since most park usage takes place after 6:00 p.m. on the weekdays and on the weekends. Although some park users may elect to use adjoining parks, the volume of displaced users during construction would be minimal and would not increase the use of other recreational facilities such that substantial physical deterioration of facilities would occur. Because of the short duration of construction, its intermittent nature and legal construction hours, impacts due to construction would be **less than significant**.

### Operational Impacts

#### **Raynor Park Impacts**

The proposed project would increase Raynor Park usage and consequently increase deterioration of Raynor Park facilities. The project would entail the use of portions of Raynor Park for school activities as outlined in the Joint Use Agreement. Stratford School would have priority use of a portion of Raynor Park on school days for Area 1 (see **Figure 3.12.2**) from 9:00 a.m. to 3:00 p.m. Area 2 (see **Figure 3.12.2**) priority hours would be from 9:00 a.m. to 5:30 p.m. on regular school days. As explained above, the Stratford School's after-hours uses are from 4:00 p.m. to 5:30 p.m. on Wednesdays and Thursdays, and 4:00 p.m. to 6:00 p.m. on Fridays during the months of February through May, and 4:00 p.m. to 5:00 p.m. on Thursdays and 4:00 p.m. to 6:00 p.m. on Fridays during the months of September through November. Additional after-hours use by Stratford not specifically noted in the joint use agreement would be based on availability of space with no impact to the other groups using the open space area. Further, the Stratford School would not have the ability to use its reserved times to allow other third-party groups to use the fields or basketball court.

The Stratford School would use the park facilities for recess and for physical education. Area 1 and 2 would be open to public use during Stratford School priority time if not in use by the school. The project would increase park usage in such a manner that deterioration of facilities would accelerate. For example, an increase in park usage would accelerate turf deterioration when combined with other park activities. Traditionally, such accelerated degradation is managed through an increase in upkeep that is supported by user fees or by limiting the amount of usage of athletic facilities.

Per the joint use agreement, the City is responsible for Raynor Park upkeep activities. Sports clubs that use Raynor Park must reserve the fields and pay any associated fees. Such fees can be used for park upkeep. Further, Stratford School would be paying taxes on the property and such tax income can be used for increase park upkeep.

The City of Sunnyvale Department of Public Works Parks Division has policies in place to maintain sports fields in a safe, usable, and attractive condition. The City is responsible for determining whether wear and tear on park facilities reaches a point where park facilities are not appropriate for park use. Most fields are closed every winter from December through February and throughout the year as conditions require (Sunnyvale 2015c). The City would exercise its authority in deciding if Raynor Park facilities must be closed to activities that would further deteriorate field conditions at Raynor Park, and the City would implement scheduling restrictions as needed.

The project would increase Raynor Park usage, which would increase the pace of deterioration. Through implementation of the joint use agreement policies regarding restricted use and the application of City standards for turf management, the project would not increase the use of Raynor Park such that substantial physical deterioration of the facility would occur or be accelerated. This impact would be **less than significant**.

### **Regional Parks or Other Facilities**

The project would have priority use of portions of Raynor Park during hours specified above for Areas 1 and 2, and would have the potential to increase usage of regional parks and other facilities due to displacement of Raynor Park users. There are two types of users that could be impacted and would elect to choose other facilities: casual users, such as joggers, walkers and picnickers, and sports clubs.

Based on field observations and personal communications with park staff the majority of casual park use takes place after 3:00 pm on weekdays and weekend days (**Appendix J**). As observed by Raynor Park maintenance staff, between 8:00 am to 2:30 pm casual users include joggers, dog walkers, and playground users and are estimated at 20 to 40 people. Usage is heavier during summer months from mid June to mid September and lighter during the school year. The majority of those users recreate in the playground area, with only dog walkers occasionally use the field areas to walk their dogs (**Appendix J**). Walkers and joggers usually walk or run around the park's perimeter. Picnicking facilities, the playground and skateboard areas, which have the heaviest usage during school hours, are not part of the Joint Use Agreement and the public would continue to use those facilities without any restrictions (**Figure 3.12.2**). Further, the Joint Use Agreement restricts Stratford School after hours use to accommodate evening use, when Raynor Park has higher usage and allows public use of Areas 1 and 2 during Stratford priority hours when the school is not using the space. Because the areas of heaviest use have unrestricted usage, few users during school hours and availability of Areas 1 and 2, the project would not displace a substantial number of casual users which would lead to substantial deterioration of regional parks or other facilities.

As described above, Sunnyvale Metro and AYSO Region 44 use Raynor Park for games and practices. Per the City of Sunnyvale park inventory, it is apparent that providing priority use of sports fields in parks is a common practice in city parks. Sunnyvale Metro and AYSO Region 44 use several other locations in the city for games and practices, besides Raynor Park. To use City fields, the sports clubs must reserve field use for practices and games. As shown, the fields at Raynor Park are not currently reserved by any sports user groups on weekdays from 9:00 a.m. to 3:00 p.m., which coincides with the Stratford School's priority use hours. Further, after-school

### 3.12 RECREATION

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priority use hours by Stratford have been limited to avoid conflicts with existing user groups as much as possible. The coordination of scheduling with current athletic users and the joint use agreement provisions that make both Area 1 and Area 2 open to the general public when the Stratford School is not using them would ensure that sports teams would not be displaced, and would not lead to increase usage of regional or other facilities that would lead to substantial degradation of those facilities.

Although some casual users may elect to use other regional facilities it is not expected that this number would be substantial, as described above. Further, the project would not displace Raynor Park sports club users and the project would have a **less than significant** impact on regional and other facilities and substantial physical deterioration of the facility would not occur or be accelerated because of the project.

#### Mitigation Measures

None required.

#### **Require or Include the Construction of Recreational Facilities (Standard of Significance 2)**

**Impact 3.12.2** The project would include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. The project would have a **less than significant** impact.

As stated above and in Section 2.0, Project Description, the project would include the construction of a new basketball court and a new volleyball court. The volleyball court would be part of school facilities and would not be open to the public. The basketball court (Area 2 of the joint use agreement) would be open to public use when the Stratford School is not using it and after school hours. The addition of the basketball court would enhance recreational opportunities in the project area.

Impacts associated with construction of these planned recreational improvements are assumed as part of the project and are addressed throughout this Draft EIR (see Sections 3.1 through 3.14). Typical environmental effects associated with constructing parks and recreational facilities include disturbance of biological and/or cultural resources, temporary air emissions, soil erosion and water quality degradation, handling of hazardous materials, temporary construction noise, and temporary construction traffic. Per the analysis, this impact would be **less than significant**.

#### Mitigation Measures

None required.

### **3.12.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES**

#### CUMULATIVE SETTING

The project's cumulative setting includes buildout of the city of Sunnyvale as well as buildout of the surrounding communities of Santa Clara, Cupertino, Mountain View, and Los Altos.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

**Cumulative Impacts to Recreation**

**Impact 3.12.3** The project would not result in a significant contribution to the cumulative degradation of recreational resources. This impact would be **less than cumulatively considerable**.

As discussed under Impacts 3.12.1 and 3.12.2, the project would not result in significant degradation or displacement of park users. The project would repurpose the existing buildings and add a basketball court to the existing park. Although the project would accelerate degradation of existing facilities, current City policies and the joint use agreement would ensure that such degradation would be managed properly. Impacts associated with the construction of the new recreational facilities are addressed throughout the Draft EIR in Sections 3.1 through 3.14. Therefore, the project's contribution to cumulative recreational impacts in the region would be **less than cumulatively considerable**.

Mitigation Measures

None required.



## **3.13 UTILITIES**



This section describes the utility systems that serve the project site. Specifically, the section includes an evaluation of utility systems including wastewater, water, storm drainage, and solid waste. Each subsection includes a description of existing facilities and infrastructure, applicable service goals, and environmental impacts potentially resulting from the project.

A summary of the impact conclusions related to utilities is provided below.

<b>Impact Number</b>	<b>Impact Topic</b>	<b>Impact Significance</b>
3.13.1	Water Supply Demand and Environmental Effects	Less than significant
3.13.2	Cumulative Water Supply Impacts	Less than cumulatively considerable
3.13.3	Wastewater Discharge Requirements	Less than significant
3.13.4	Cumulative Wastewater Service Impacts	Less than cumulatively considerable
3.13.5	Increased Solid Waste Disposal	Less than significant
3.13.6	Cumulative Solid Waste Impacts	Less than cumulatively considerable
3.13.7	Increased Demand for Electrical, Natural Gas, and Telecommunications Services	Less than significant
3.13.8	Cumulative Demand for Electrical, Natural Gas, and Telecommunications Services	Less than cumulatively considerable

**3.13.1 EXISTING SETTING**

**WATER SUPPLY AND SERVICE**

**Water Supply**

The project site is supplied potable water by the City of Sunnyvale. The City has four different sources of water supply readily available: (1) Hetch Hetchy Reservoir and Sunol Valley water supply from the San Francisco Public Utilities Commission (SFPUC); (2) imported Central Valley Project and Delta water from the Santa Clara Valley Water District (SCVWD); (3) local groundwater from eight (one standby) operating wells; and (4) recycled water produced at the Sunnyvale Water Pollution Control Plant for non-potable use. The California Water Service Company (Cal Water), an investor-owned water utility, also retails potable drinking water from Cal Water-owned groundwater wells in pocket areas of the city (Sunnyvale 2015b).

SFPUC Supply

The City receives water from the City and County of San Francisco's Regional Water System (RWS), operated by SFPUC. This supply is predominantly from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties.

The business relationship between the SFPUC and Sunnyvale 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" (WSA) entered into in July 2009. The WSA is supplemented by an individual Water Supply Contract between SFPUC and each individual retailer, also entered into in July 2009. These contracts also expire in 25 years. The City of Sunnyvale has an Individual Supply Guarantee (ISG) of 12.58 million gallons a day (mgd) (or

### 3.13 UTILITIES

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approximately 14,100 acre feet<sup>1</sup> per year (afy)). Although the WSA 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 Sunnyvale 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.

#### SCVWD Supply

SCVWD supplies the City of Sunnyvale with treated surface water through an entitlement of imported Central Valley Project (CVP) water and the State Water Project (SWP), as well as surface water from local reservoirs. The current contractual agreement between the City and SCVWD sunsets in 2051, it went into effect in 1976 with a 75 year term.

SCVWD's imported water is conveyed through the Sacramento-San Joaquin Delta then pumped and delivered to the county through three main pipelines: the South Bay Aqueduct, which carries water from the SWP, and the Santa Clara Conduit and Pacheco Conduit, which bring water from the federal CVP.

#### Local Groundwater

The City of Sunnyvale has seven operating wells and one well on stand-by for emergencies. The seven wells are used by the City as a supplemental source to the imported SFPUC and SCVWD water supplies. Historically the wells produced more than 8,000 afy. Water demand has been reduced due to conservation, building code changes and manufacturing operations moving out of state and overseas. As a result the City now utilizes treated water first to meet its take-or-pay contract provisions before using groundwater. Groundwater production is estimated at 1,000 afy in the long term. Groundwater will also be used to meet customer demands in the event SFPUC or SCVWD supplies are disrupted.

#### Recycled Water

The City of Sunnyvale has developed a recycled water program that today serves parks, golf courses, and the landscaping needs of diverse industries. A wastewater reclamation program was developed in 1991 when the City first identified short-term goals of recycling wastewater of 20 percent to 30 percent of high-quality effluent from the Sunnyvale Water Pollution Control Plant. The long-term goal is to reuse 100 percent of all wastewater (15 million gallons per day) generated from the plant to reduce all flows to the San Francisco Bay, as stated in the 2000 Recycled Water Program Master Plan. The plant has a design flow treatment capacity of 29.5 mgd for treatment of wastewater from Sunnyvale (Sunnyvale 2011a).

Sunnyvale has completed Phases I and II of the 2000 Recycled Water Program Master Plan, which now serves Baylands Park, the Lockheed/Martin Area, the Sunnyvale Municipal Golf Course, and other parks and industrial areas in the northern part of the city. A storage tank was built in the year 2000 to allow more recycled water to be developed and stored in order to keep up with demand on the system once the area is built out. In September 2013, the City Council approved the Recycled Water Feasibility Study that identifies possible extensions of the recycled

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<sup>1</sup> An acre foot is equal to the volume of a sheet of water one acre in area and one foot in depth (about 325,850 gallons).

water system. Possible extensions to serve the south end of Sunnyvale along Wolfe road are currently under way (Sunnyvale 2011a).

#### Water Supply Reliability

##### SFPUC Water

In July 2009, in connection with the WSA, the wholesale customers and the City of San Francisco adopted a Water Shortage Allocation Plan (WSAP) to allocate water from the regional water system to retail and wholesale customers during system-wide shortages of up to 20 percent (the Tier One Plan). The Tier One Plan replaced the prior Interim WSAP, adopted in 2000, which also allocated water during shortages up to 20 percent. The Tier One Plan also allows voluntary transfers of shortage allocations between the SFPUC and any wholesale customer and between wholesale customers themselves. In addition, water "banked" by a wholesale customer, through greater than required reductions in usage, may also be transferred.

The wholesale customers have negotiated and adopted the Tier Two Plan, the second component of the WSAP, which allocates the collective wholesale customer share among each of the 26 wholesale customers. In order to enhance the ability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, the SFPUC has undertaken the Water System Improvement Program, approved October 31, 2008. The program will deliver capital improvements aimed at enhancing the SFPUC's ability to meet its water service mission of providing high quality water to customers in a reliable, affordable, and environmentally sustainable manner. The Water System Improvement Program is scheduled to be completed in December 2015.

In February 2005, the SFPUC Water Quality Bureau published a City Emergency Drinking Water Alternatives report. The purpose of this project was to develop a plan for supplying emergency drinking water in the city after damage and/or contamination of the SFPUC raw and/or treated water systems resulting from a major disaster. The report addresses immediate response after a major disaster. Since the publication of this report, the SFPUC has implemented a number of projects to increase its capability to support the provision of emergency drinking water during an emergency (Sunnyvale 2011a).

##### Well Water

The SCVWD's Groundwater Management Plan ensures that local groundwater resources are sustained and protected. SCVWD programs to sustain and protect groundwater resources are described in detail in the SCVWD's Groundwater Management Plan of 2012 (Sunnyvale 2011a).

##### SCVWD Water

The SCVWD obtains its local and imported water supplies from a variety of sources to maintain maximum efficiency, flexibility, and reliability. The SCVWD augments natural groundwater recharge with a managed recharge program to offset groundwater pumping, sustain storage reserves, and minimize the risk of land subsidence. Through these recharge activities, the SCVWD works to keep groundwater basins "full" to protect against drought. Storing surplus water in the groundwater basins enables part of the supply to be carried over from wet years to dry years. The SCVWD also has a contract for 100,000 afy from the State Water Project and 152,500 afy from the Central Valley Project (CVP). However, the actual amount of water delivered is typically significantly less than these contractual amounts and depends on hydrology, conveyance limitations, and environmental regulations, including regulatory constraints to

### 3.13 UTILITIES

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protect water quality and aquatic wildlife. On a long-term average basis, 83 percent of the CVP supply is delivered for municipal and industrial use, and 17 percent is delivered for irrigation use. The SCVWD routinely acquires supplemental imported water to meet the county's needs from the water transfer market, water exchanges, and groundwater banking activities.

In 2003, the SCVWD initiated the Water Utility Infrastructure Reliability Project to determine the current reliability of its water supply infrastructure (pipes, pump stations, treatment plants) and to appropriately balance level of service with cost. The project measured the baseline performance of critical facilities in emergency events and identified system vulnerabilities. The study concluded that the SCVWD's water supply system could suffer up to a 60-day outage if a major event, such as a 7.9 magnitude earthquake on the San Andreas fault, were to occur. Less severe hazards, such as other earthquakes, flooding, and regional power outages, had less of an impact on the SCVWD, with outage times ranging from 1 to 45 days. The level of service goal identified for the Infrastructure Reliability Project was "potable water service at average winter flow rates available to a minimum of one turnout per retailer within seven days, with periodic one day interruptions for repairs." In order to meet this level of service goal, the project developed seven portfolios to mitigate the identified system risks, and identified a recommended portfolio for implementation. As a result, the SCVWD has been implementing the recommended portfolio of reliability improvement projects (Sunnyvale 2011a).

#### Drought Planning

##### Average/Normal Water Year

The "normal" year is a year in the historical sequence that most closely represents median runoff levels and patterns. Carryover storage is that portion of the SCVWD's local and outside of the county surface storage, local groundwater storage, and outside the county banked storage that is not required to meet the current year's demands but could potentially be used in subsequent years. Note that groundwater is used in all year types (including years where the total supplies exceed total demands) for distribution, storage, and treatment. The average/normal water year used by both wholesalers and the City is 2002.

The City selected 1985 as a representation of a normal or average water year based on an analysis of past water use. The year 1985 was determined to be representative of a year with both average precipitation and average water usage by Sunnyvale (Sunnyvale 2011a).

##### Single Dry Year Supply

The single dry year supply is defined as the year with the minimum usable supply. The hydrology of 1977 represents the minimum total supply that has been observed in the historical record, according to the SCVWD. The SCVWD will be able to meet the county's water needs during the single dry year even with increasing demands, based on the historical hydrologic sequence and carryover supplies that are projected to be available leading into a single dry year. If a similar dry year occurred when carryover storage was not available, actions associated with water shortage contingency plan would be required.

In the single dry year analysis, supplies for the SCVWD from carryover storage are needed to meet the annual demands under all demand years and make up almost half of the total supplies in the single dry year. The SCVWD's ability to take water from the Semitropic Water Bank is proportional to State Water Project allocation percentages for the year. During drought years, this can significantly limit how much of its water bank balance the SCVWD can withdraw.

SFPUC modeling and historic hydrological sequence identifies 1978 as the model single dry year. The City selected 1977 as the single dry year since groundwater managed by the SCVWD will be relied upon to make up the deficit from water wholesalers (Sunnyvale 2011a).

#### Multiple Dry Year Supply

Multiple dry year scenario analysis is useful, particularly in the evaluation of carryover storage. Evaluating the availability of the county's water supplies requires an understanding of the driest periods that can reasonably be expected to occur. Over the more than 120 years of recorded rainfall, seven major drought events have occurred. SCVWD modeling results indicate that the county's water supply system is more vulnerable to successive dry years, such as those that occurred in 1928–1934 and 1987–1992. Multiple dry year periods deplete water storage reserves in local and imported supply reservoirs and in the groundwater subbasins. Multiple dry years (such as the 1987–1992 drought) pose the greatest challenge to the SCVWD's water supply. Although the supply in each year may be greater than in a single very dry year, as drought lingers, storage reserves are relied on more and more. The multiple dry year period selected by the City for analysis is from 1987 through 1990.

The water supply available to individual retailers will ultimately be determined by the SCVWD and the SFPUC. The City will work closely with the SCVWD, the SFPUC, and other water retail agencies to implement any stages of action to reduce the demand for water during water shortages (Sunnyvale 2011a).

#### Supply Availability

In the event of a decrease of local supplies, the City would respond by pursuing demand reduction programs in accordance with the severity of the supply shortage. Any supply deficit would be compensated for by increased conservation levels and restrictions in consumption. The City's 2010 Urban Water Management Plan (UWMP) indicates that supplies would be available to meet demands even in times of drought, with no reduction of supply necessary until the fifth year and beyond of a multi-year drought. The UWMP notes that Sunnyvale would be able to increase the amount of groundwater pumped to meet reasonably anticipated deficiencies from other sources; thus, supply is projected to be sufficient to meet demand out to 2035. The Santa Clara Subbasin underlying Sunnyvale is not adjudicated, which means the right to pump groundwater from the basin has not been given by judgment of a court or board.

Three-year dry periods analyzed in the UWMP indicate that supplies will be able to meet demands through increased groundwater pumping and implementation of drought conservation programs. The City will be able to address the projected demands without rationing (Sunnyvale 2011a).

#### Distribution System

The City owns, operates, and maintains a closed water supply and distribution system consisting of three different pressure zones. Sunnyvale's elevation varies from sea level at its northern end to approximately 300 feet above sea level at its southwest corner. Zone I extends roughly from El Camino Real northward to the San Francisco Bay and is supplied primarily by SFPUC water. Zone II consists of everything south of Zone I, with the exception of the southwest corner of Sunnyvale, and is served by a supply mixture of SFPUC water, city groundwater, and SCVWD treated water. Zone III serves the southwest section of the city, with Hollenbeck Avenue on the east side and Fremont Avenue on the north side, and is served by a combination of SCVWD

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treated water and city groundwater. The conveyance system extends over 300 miles, with pipe diameters ranging from 4 to 36 inches.

Water pressure in the distribution system is maintained in a range of 40 pounds per square inch (psi) to 105 psi throughout all three zones. A Supervisory Control and Data Acquisition (SCADA) system allows the City to maintain a balanced system, generally keeping water deliveries between those pressure readings. Zone I receives direct downstream pressure from the SFPUC pipeline system with an operating pressure of approximately 130 psi, though that pressure is reduced through the use of pressure-regulating valves before it is delivered to customers.

Several pocketed areas in Sunnyvale's city boundaries, located primarily along Fremont Avenue and Sunnyvale Saratoga Road, receive water from the California Water Service Company (Cal Water). These areas were at one time part of unincorporated Santa Clara County but have since been annexed by the City of Sunnyvale. Cal Water produces its own water from wells the company owns exclusively. The City, through a cooperative effort, provides emergency connections to Cal Water's system to improve fire flows when needed.

Ten potable water storage reservoirs at five different locations throughout Sunnyvale have a total storage capacity of 27.5 million gallons. There is also one recycled water reservoir with a storage capacity of 2 million gallons. This volume of water can meet at least one day of average water demand during the summer and up to two days of average water demand during the winter for the entire city (Sunnyvale 2011a).

#### **Water Demand**

Water use varies throughout the years depending on several natural factors, including the weather and the extension of seasons, but is also dependent on other factors such as the business climate and the economy. Recognizing long-term general trends in water requirements is valuable in projecting future supply needs.

Water use in Sunnyvale generally increased during the period from 1993 to 2001 and has steadily decreased since 2002 in response to drought-related conservation measures and economic factors and based on contractual limitations previously negotiated. The City converted its traditional sewer treatment plant in the mid 1990s to allow the production of recycled water and began using recycled water in 1999, supplementing the overall water supply. The City of Sunnyvale strategically plans its purchases of water from the SCVWD and the SFPUC based on cost, so the increase in deliveries from one source will generally be accompanied by a decrease from the other. **Table 3.13-1** reflects the total annual water production in afy by Sunnyvale since 2000, as well as the City's planned water supplies for 2035 (as calculated in the 2010 UWMP with a 2035 population of 163,300) (Sunnyvale 2011a).

**TABLE 3.13-1  
HISTORICAL, PRESENT, AND PROJECTED WATER PRODUCTION (AFY)**

Year	SFPUC Hetch Hetchy	SCVWD	Local Wells	Recycled Water	Total Water Production
2000	11,192	12,372	1,649	437	25,649
2005	10,868	10,232	1,631	1,851	24,582
2010	8,982	9,331	1,629	1,523	21,465
2035	10,003	12,728	1,000	1,775	25,506

Source: Sunnyvale 2011a

The City categorizes its water accounts into five broad customer categories: single-family, multi-family, commercial (incorporating industrial and institutional), irrigation, and fire services. The commercial sector includes all nonresidential accounts that are not classified as irrigation.

Past, current, and projected water use in Sunnyvale is summarized by classification of the water delivered to all customers in **Table 3.13-2** and by source in **Table 3.13-3**. Population is a primary factor affecting urban water demand. Since 2005, the number of service connections has increased by more than 1,500 for residential and commercial accounts. Single-family residential connections increased by 446, nearly a 20 percent increase; multi-family residential connections increased by 278, over a 17 percent increase; and commercial/institutional connections increased by 941, nearly a 50 percent increase. Landscape irrigation connections decreased from 786 to 588 connections, while recycled water landscape irrigation connections increased by 31 to 112. "Other" connections, historically fire lines, decreased from 862 to 108 connections. Present and projected water demands for Sunnyvale are shown in **Table 3.13-1**. The decrease in demand from 2005 to 2010 can be attributed to the economic downturn (Sunnyvale 2011a).

**TABLE 3.13-2  
PAST, CURRENT, AND PROJECTED WATER USE BY CUSTOMER TYPE (AFY)**

Customer Type	2005	2010	2035
Single-family residential	8,264	7,023	6,378
Multi-family residential	6,047	8,309	7,545
Commercial	9,035	4,261	8,100
Irrigation	642	970	881
Other (fire lines)	946	911	827
Total potable	24,934	21,474	23,731

Source: Sunnyvale 2011a

While the number of irrigation connections has decreased since 2005, the water usage in that category increased during the same period. This is due to several factors, including the combining of water meters for greater efficiency and the increased use by large customers such as golf courses and athletic fields (Sunnyvale 2011a).

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**TABLE 3.13-3  
PROJECTED DEMAND BY SOURCE (AFY)**

Customer Type	2005	2010	2035
SFPUC	10,868	8,982	10,003
SCVWD	10,232	9,331	12,728
Wells	1,631	1,629	1,000
Total Demand	24,582	21,464	23,731

Source: Sunnyvale 2011a

Water loss in Sunnyvale's distribution system can occur from various causes such as leaks, breaks, malfunctioning valves, and the difference between the actual and measured quantities from water meter inaccuracies. Other losses come from legitimate uses such as water/sewer main and hydrant flushing, tests of fire suppression systems, and street cleaning. The system loss projections and total demand projections contained in Sunnyvale's UWMP assume a future system loss percentage of approximately 6 percent, which represents a conservative estimate based on the actual system losses historically experienced by the city (Sunnyvale 2011a).

#### WASTEWATER SERVICE

##### Existing Wastewater Facilities

Wastewater from homes and businesses (toilets, showers, kitchen sinks, etc.) in the city is carried by sanitary sewer lines to the Sunnyvale Water Pollution Control Plant (WPCP), where it is treated before being discharged to local waterways that flow into the San Francisco Bay. 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 the San Francisco Bay in compliance with the California Water Code and the federal Clean Water Act.

Sunnyvale's wastewater collection system has the capacity to convey all sewage and industrial wastes generated when the city is fully developed in accordance with the land use projections (with an approximately 55.7 mgd collection capacity under the existing General Plan). Five major trunk networks terminate at the WPCP, referred to as the Lawrence, Borregas, Lockheed, Moffett, and Cannery trunks.

Based on growth projections in 2001, it was not anticipated that flows would exceed the capacity of the overall collection system. Specific locations in the collection system may require additional capacity in the future.

As sanitary sewers become older, gaps from cracks, joints, aging gaskets, and leaking services 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. Components of the system itself, such as piping, manholes, pumps, etc., will also require replacement as they exceed their life expectancy (Sunnyvale 2011a).

### Water Pollution Control Plant

The WPCP is located at 1444 Borregas Avenue and is designed for an ultimate flow treatment capacity of 29.5 mgd, though current flows through the plant average approximately 15 mgd. The amount of influent wastewater handled by the WPCP varies with the time of day and with the seasonal changes in demand. The WPCP collects wastewater from the sanitary sewer system; the water must then be treated before it can be discharged to the lower San Francisco Bay (Sunnyvale 2011). This treatment occurs at the WPCP, which is an advanced tertiary treatment plant consisting of primary treatment (sedimentation), secondary treatment (oxidation), and tertiary treatment (filtration and disinfection).

These processes provide treatment to a level that will meet National Pollutant Discharge Elimination System (NPDES) discharge requirements. Most of the treated water is discharged to the southern San Francisco Bay via the Guadalupe Slough. Approximately 10 percent of the WPCP flow is treated to a higher level to meet necessary recycled water quality and is delivered to customers for nonpotable uses, primarily irrigation. The City anticipates a steady level of 15 mgd for plant influent over the next 25 years. **Table 3.13-4** presents information on the total amount of wastewater that is collected and treated as well as the amount that is treated to meet recycled water standards. As shown in this table, the plant would collect 19,548 afy (or 17.44 mgd) of wastewater in 2035 under existing General Plan buildout conditions (Sunnyvale 2011a).

**TABLE 3.13-4**  
**RECYCLED WATER – WASTEWATER COLLECTION AND TREATMENT (AFY)**

Type of Wastewater	2005	2010	2035
Total wastewater collected and treated	17,016	15,515	19,548
Volume that meets recycled water standard	811	866	2,298

Source: Sunnyvale 2011a, pp. 4–8

### Future Water Pollution Control Plant Improvements

Sunnyvale's General Plan (2011b) states that WPCP capacity was deemed sufficient based on use in 2001 and the updated projections. The US Environmental Protection Agency (EPA) requires that when flows reach 75 percent of design capacity, agencies begin to evaluate future needs and develop plans for expansion, if appropriate. Based on 2001 figures, it was not anticipated that this milestone would be reached in Sunnyvale and it would not be necessary to evaluate ways to provide additional capacity at the WPCP during the following 5 to 10 years. Projections indicate that flows may not continue to increase significantly between 2001 and 2020. This overall projection is attributed to changes in land use, changes in water consumption patterns, and the overall reduced rate of growth.

Portions of the WPCP were first constructed in 1954 and are now over 50 years old. In addition, the nature of wastewater treatment itself presents an adverse environment for facilities and equipment. In order to maintain this infrastructure and ensure the ongoing ability to meet effluent and recycled water quality requirements, it is necessary to have in place a strategy for the ongoing refurbishment and replacement of components of the WPCP.

An asset condition assessment conducted in 2005 identified several critical plant structures as at risk and in need of rehabilitation. In 2007, a Capital Project Strategic Infrastructure Plan was put in place to set future direction of plant process enhancements and physical improvements. Following completion of this effort, Strategic Infrastructure Plan implementation is expected to

### 3.13 UTILITIES

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continue for 10 to 15 years for construction of new and/or rehabilitated plant facilities (Sunnyvale 2011a).

#### SOLID WASTE SERVICES

The City of Sunnyvale serves the recycling and garbage disposal needs of residents and businesses, advocating the reduction, reuse, and recycling of household and commercial waste. The City offers a multitude of services, workshops, and special events to encourage waste reduction, recycling, and safe waste disposal (Sunnyvale 2015a).

#### Garbage and Recycling Services

Garbage and cardboard recycling collection service is provided to Sunnyvale businesses by the City's franchised hauler, Specialty Solid Waste & Recycling. Customers can choose to use hauler-provided carts or bins or can choose to provide their own containers and compactors (Sunnyvale 2015a).

#### Transfer Station

The Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®) is the focal point for the transfer and processing of solid waste and recyclable materials collected in the city. The station, which opened in October 1993, is located on a 9-acre site north of Caribbean Drive. It has a total floor area of over 110,000 square feet, including a tipping floor and recycling/processing area. The SMaRT Station has the capacity to receive and process for removal of recyclables 1,500 tons of solid waste per day. The station currently processes approximately 1,000 tons per day and 260,000 tons annually and serves the cities of Sunnyvale, Mountain View and Palo Alto. The unused capacity of the station is available, at an appropriate price, to other public or private enterprises outside the city. The current contracted service provider for the operation of the SMaRT Station is Bay Counties Waste Services.

#### Landfill Disposal

The solid waste generated in Sunnyvale is hauled from the SMaRT Station to the Kirby Canyon Landfill 27 miles away in south San Jose. The City of Sunnyvale has contracted for disposal capacity, ending on 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 Sunnyvale is disposed at the Zanker Road Landfill and other disposal sites around the state. **Table 3.13-5** summarizes the permitted throughput, estimated capacity, and estimated closure date for these facilities.

**TABLE 3.13-5  
SOLID WASTE DISPOSAL FACILITIES**

Facility	Permitted Daily Throughput (tons per day)	Estimated Remaining Capacity (CY)	Estimated Closure Date
SMaRT Station	1,500	N/A	N/A
Kirby Canyon Landfill	2,600	57,271,507	2022
Zanker Road Landfill	1,300	700,000	2015

Source: CalRecycle 2015a

cy = cubic yards

### Solid Waste Source Reduction Program

The City has 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 2013, Sunnyvale was recycling or otherwise diverting 65 percent of its solid waste, thereby complying with the standards established by AB 939 (CalRecycle 2015b).

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.<sup>2</sup>

On December 9, 2008, the Sunnyvale City Council adopted the Zero Waste Policy, which 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 consumerism. As a result, on April 23, 2013, the City Council adopted the Zero Waste Strategic Plan, which included both a waste characterization study and a long-term plan. The plan provides options for implementing the Zero Waste Policy along with quantifiable goals and analysis of the diversion potential associated with each option. The plan concluded that the City will need to significantly expand its source separation programs and significantly increase the diversion of materials through the SMaRT Station if it is to achieve its goal of a 75 percent diversion rate (Sunnyvale 2013).

### ELECTRICAL, NATURAL GAS, AND TELEPHONE SERVICES

#### Electrical and Natural Gas Services

Electric and natural gas service in Sunnyvale is provided by the Pacific Gas and Electric Company (PG&E). PG&E provides gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in Northern and Central California (PG&E 2015).

#### Electric Services

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 Sunnyvale, 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.

**Table 3.13-6** shows electricity consumption by land use for PG&E's service area from 2006 to 2013 expressed in millions of kilowatt-hours (kWh). Santa Clara County's electricity consumption from 2006 to 2013 is shown in **Table 3.13-7**.

<sup>2</sup> 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 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.

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**TABLE 3.13-6  
ELECTRICITY CONSUMPTION FOR PG&E'S SERVICE AREA (IN MILLIONS OF KWH) 2006–2013**

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Streetlight	Total Usage
2006	4,030	30,643	4,098	12,314	1,863	30,823	444	84,214
2007	5,241	31,459	4,336	11,934	2,100	30,797	447	86,313
2008	5,686	31,580	4,697	11,816	2,159	31,727	459	88,124
2009	5,392	30,681	4,426	10,639	2,150	31,297	466	85,051
2010	5,002	30,858	4,091	10,746	2,340	31,021	466	84,524
2011	4,601	30,259	4,204	10,553	2,377	31,235	456	83,684
2012	6,373	31,081	4,427	10,619	2,388	30,823	472	86,182
2013	7,032	30,914	4,369	10,337	2,026	31,410	425	86,513

Source: ECDMS 2015

**TABLE 3.13-7  
SANTA CLARA COUNTY ELECTRICITY CONSUMPTION (IN MILLIONS OF KWH) 2006–2010**

Year	Residential	Nonresidential	Total
2006	4,070	11,955	16,025
2007	3,903	12,791	16,694
2008	4,019	13,069	17,088
2009	3,968	12,484	16,452
2010	3,937	12,627	16,564
2011	3,980	12,544	16,524
2012	3,877	12,615	16,492
2013	3,968	12,605	16,573

Source: ECDMS 2015

#### Natural Gas Service

**Table 3.13-8** shows natural gas consumption by land use for PG&E's service area from 2006 to 2013 expressed in millions of therms.

**TABLE 3.13-8  
NATURAL GAS CONSUMPTION FOR PG&E'S SERVICE AREA (IN MILLIONS OF THERMS) 2006–2013**

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Total Usage
2006	48	907	104	1,513	45	2,005	4,622
2007	46	859	50	1,513	37	2,023	4,528
2008	44	907	55	1,575	45	2,052	4,677

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Total Usage
2009	37	877	51	1,528	41	2,039	4,572
2010	35	873	49	1,552	53	2,052	4,613
2011	37	872	52	1,643	50	2,124	4,777
2012	37	868	54	1,746	25	2,001	4,731
2013	39	874	54	1,749	20	2,045	4,780

Source: ECDMS 2015

Santa Clara County's natural gas consumption between 2006 and 2013 is shown in **Table 3.13-9**.

**TABLE 3.13-9**  
**SANTA CLARA COUNTY NATURAL GAS CONSUMPTION (IN MILLIONS OF THERMS) 2006–2013**

Year	Residential	Nonresidential	Total
2006	260	218	478
2007	263	210	473
2008	254	219	473
2009	264	198	462
2010	260	198	458
2011	271	201	472
2012	257	197	454
2013	261	193	454

Source: ECDMS 2015

### Telecommunications Services

Several purveyors provide telecommunications services such as telephone service, cable/satellite television, and Internet service in Sunnyvale. Telephone and Internet service providers include Verizon Wireless, Cingular, Sprint, AT&T, Metro PCS, Pacific Bell, and Comcast. Cable/satellite 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.

### **3.13.2 REGULATORY FRAMEWORK**

#### WATER SUPPLY AND SERVICES

##### **Federal**

##### Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes,

### 3.13 UTILITIES

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reservoirs, springs, and groundwater wells. The SDWA applies to every public water system in the United States but does not regulate private wells that serve fewer than 25 individuals.

The act authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. Originally, the SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments changed the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach is intended to ensure the quality of drinking water by protecting it from source to tap (EPA 2015).

#### **State**

##### California Water Plan Update 2013

The California Water Plan is the state's blueprint for integrated water management and sustainability. The California Department of Water Resources (DWR) updates the Water Plan approximately every five years. California Water Plan Update 2013 is the latest edition of the water plan. The California Water Plan provides framework and resource management strategies promoting two major initiatives: integrated regional water management that enables regions to implement strategies appropriate for their own needs and helps them become more self-sufficient, and improved statewide water management systems that provide for upgrades to large physical facilities, such as the State Water Project, and statewide management programs essential to the California economy. The California Water Plan Update 2013 also contains a first-of-its-kind finance plan (DWR 2014).

##### Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 afy of water, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act describes the contents of Urban Water Management Plans as well as how urban water suppliers should adopt and implement the plans. It is the intention of the act to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied (DWR 2012b). The City of Sunnyvale adopted its 2010 Urban Water Management Plan in 2011.

##### Senate Bill 610

Senate Bill (SB) 610 (Water Code Section 10910(c)(2)) makes changes to the Urban Water Management Planning Act to require additional information in Urban Water Management Plans if groundwater is identified as a source available to the supplier. Required information includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if nonadjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current DWR publication on that basin. If the basin is in overdraft, the plan must include current efforts to eliminate any long-term overdraft. A key provision in SB 610 requires that any project subject to the California Environmental Quality Act (CEQA) supplied with water from a public water system be provided a specified water supply assessment, except as specified in the law. Water supply assessments are required under SB 610 for projects that include 500 units of residential

development (would demand an amount of water equivalent to, or greater than, the amount of water required by a project with 500 dwelling units) or a project that would increase the number of the public water system's existing service connections by 10 percent (DWR 2012a).

#### Assembly Bill 901

Assembly Bill (AB) 901 requires Urban Water Management Plans to include information relating to the quality of existing sources of water available to an urban water supplier over given time periods and the manner in which water quality affects water management strategies and supply (DWR 2012a).

#### California Urban Water Conservation Council

The California Urban Water Conservation Council (CUWCC) was created in 1991 by numerous urban water agencies, public interest organizations, and private entities throughout California to assist in increasing water conservation in the state. The goal of the CUWCC is to integrate best management practices (BMPs) into the planning and management of California's water resources. A Memorandum of Understanding Regarding Urban Water Conservation in California was signed by these agencies in 2007 and formalizes an agreement to implement the BMPs and makes a cooperative effort to reduce the consumption of California's water resources (CUWCC 2015). Cal Water is a signatory of the memorandum. By signing the council's memorandum, members agree to implement 14 best management practices to conserve water in urban areas. The council's BMPs were updated in 2008 to include current technology and to credit agencies for innovative water conservation programs. The 14 BMPs are now organized into five categories. Two categories, Utility Operations and Education, are foundational BMPs because they are considered to be essential water conservation activities by any utility and are adopted for implementation by all signatories to the Memorandum of Understanding as ongoing practices with no time limits. The remaining BMPs are programmatic and are organized into residential, commercial, industrial, institutional, and landscape categories.

#### Assembly Bill 1420

Effective January 1, 2009, AB 1420 amended the Urban Water Management Planning Act (Water Code Section 10610 et seq.) to require that water management grants or loans made to urban water suppliers and awarded or administered by the DWR, the State Water Resources Control Board, or the California Bay-Delta Authority or its successor agency be conditioned on implementation of the water demand management measures.

#### Governor's 20x2020 Program

On February 28, 2008, California Governor Schwarzenegger introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta. As part of the plan, the governor directed state agencies to prepare and implement a program to achieve a 20 percent reduction in statewide average per capita water use by year 2020 (20x2020 Program). Several state agencies involved in water planning and management have joined together to form an agency team to direct the development and implementation of the 20x2020 Program. The program's focus is to understand current urban water use patterns in order to propose a practical and effective conservation strategy. The process of developing this program involves five steps:

- Data analysis

### 3.13 UTILITIES

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- Baseline definition
- Preliminary targets development
- Conservation potential identification
- Implementation planning

Cal Water developed a conservation program intended to achieve a 20 percent reduction in per capita water use by year 2020 consistent with the 20X2020 Program. Cal Water is currently implementing BMPs as identified above in order to begin working toward this goal. It is anticipated that further BMPs will be implemented in coming years as funding allows and as approved by the California Public Utilities Commission (Cal Water 2010).

#### **Local**

##### Santa Clara Valley Water District Integrated Water Resources Master Plan

The SCVWD is currently in the process of developing the Integrated Water Resources Master Plan to replace the existing Comprehensive Water Resources Management Plan. The Integrated Water Resources Master Plan will identify, prioritize and implement activities at a watershed scale to maximize established water supply, flood protection, and environmental stewardship goals and objectives (SCVWD 2015).

##### Sunnyvale Green Building Program

On April 24, 2012, the City Council revised the green building standards for new construction, additions, and remodels of buildings. Incentives are offered for projects that exceed the minimum green building standards and are offered to encourage project applicants and developers to provide additional green building features. Mixed-use projects are required to meet the appropriate Build It Green standard for the residential portion and Leadership in Energy and Environmental Design (LEED) for the nonresidential portion. These measures include efficient irrigation systems, insulation of hot water pipes, and water-efficient fixtures.

##### Sunnyvale Water Conservation Programs

The City collaborates with the Santa Clara Valley Water District, which administers various water conservation programs for businesses, residents, and landscaping, including site evaluations and water efficiency rebate programs.

#### WASTEWATER SERVICES

#### **Federal**

##### Clean Water Act

##### General Pretreatment Regulations

A type of discharge regulated by the Clean Water Act (CWA) is discharge that goes to a publicly owned treatment works (POTW). POTWs collect wastewater from homes, commercial buildings, and industrial facilities and transport it via a collection system to the treatment plant. Here, the POTW removes harmful organisms and other contaminants from the sewage so it can

be discharged safely into the receiving stream. Generally, POTWs are designed to treat domestic sewage only. However, POTWs also receive wastewater from industrial (nondomestic) users. The General Pretreatment Regulations establish responsibilities of federal, state, and local government, industry, and the public to implement pretreatment standards to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the quality of sludge generated by these plants. Discharges to a POTW are regulated primarily by the POTW itself, rather than the state/tribe or the EPA (EPA 2014).

### **State**

#### State Water Resources Control Board

##### Recycled Water Policy

To establish uniform requirements for the use of recycled water, the State Water Resources Control Board (SWRCB) adopted a statewide Recycled Water Policy on February 3, 2009. The policy's purpose is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code Section 13050(n) in a manner that implements state and federal water quality laws. The policy describes permitting criteria that are intended to streamline the permitting of the vast majority of recycled water projects. The intent of this streamlined permit process is to expedite the implementation of recycled water projects in a manner that implements state and federal water quality laws while allowing the Regional Water Quality Control Boards (RWQCBs) to focus on projects that require substantial regulatory review due to unique site-specific conditions (RWQCB, 2015).

##### Statewide General Permit for Landscape Irrigation Uses of Recycled Water

The SWRCB is also developing a statewide general permit for landscape irrigation uses of recycled water (General Permit). The intent of the law is to develop a uniform interpretation of state standards to ensure the safe, reliable use of recycled water for landscape irrigation uses, consistent with state and federal water quality law, and for which the California Department of Public Health has established uniform statewide standards. The law is also intended to reduce costs to producers and users of recycled water by streamlining the permitting process for using recycled water for landscape irrigation (SWRCB 2015).

##### Division of Drinking Water

The SWRCB's Division of Drinking Water is responsible for establishing criteria to protect public health in association with recycled water use. The criteria issued by this division are found in the California Code of Regulations, Title 22, Division 4, Chapter 3, entitled Water Recycling Criteria. Commonly referred to as Title 22 Criteria, the criteria contain treatment and effluent quality requirements that vary based on the proposed type of water reuse. Title 22 sets bacteriological water quality standards on the basis of the expected degree of public contact with recycled water. For water reuse applications with a high potential for the public to come into contact with the reclaimed water, Title 22 requires disinfected tertiary treatment. For applications with a lower potential for public contact, Title 22 requires three levels of secondary treatment, basically differing by the amount of disinfectant required (City of San Jose 2015).

Title 22 also specifies the reliability and redundancy for each recycled water treatment and use operation. Treatment plant design must allow for efficiency and convenience in operation and maintenance and provide the highest possible degree of treatment under varying

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circumstances. For recycled water piping, the division has requirements for preventing backflow of recycled water into the public water system and for avoiding cross-connection between the recycled and potable water systems (City of San Jose 2015).

#### **Local**

##### City of Sunnyvale Municipal Code

Title 12, Water and Sewers, of the City's Municipal Code regulates wastewater use in Sunnyvale. Specifically, Chapter 12.40 lays out wastewater capacity allocation, including initial allocations and baseline limits, monitoring of wastewater flows, need for wastewater capacity evaluations, and declarations of restrictions.

#### SOLID WASTE SERVICES

#### **Federal**

##### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), an amendment to the Solid Waste Disposal Act of 1965, was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. The RCRA gives the US Environmental Protection Agency the authority to control hazardous waste from "cradle to grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. 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 focused 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. Amendments to the RCRA in 1986 enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances (EPA 2011).

#### **State**

##### California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) required all California cities and counties to reduce the volume of waste deposited in landfills by 50 percent by the year 2000 and continue to remain at 50 percent or higher for each subsequent year. The purpose of AB 939 is to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible."

The act requires each California city and county to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet the Integrated Waste Management Act's mandated diversion goals. Each jurisdiction's SRRE must include specific components, as defined in Public Resources Code Sections 41003 and 41303. In addition, the SRRE must include a program for management of solid waste generated in the jurisdiction that is consistent with the following hierarchy: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. Included in this hierarchy is the requirement to emphasize and maximize the use of all feasible source reduction, recycling, and

composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal (Public Resources Code Sections 40051, 41002, and 41302) (CalRecycle 2015b).

### ELECTRICAL, NATURAL GAS, AND TELEPHONE SERVICES

#### State

##### California Public Utilities Commission

The California Public Utilities Commission (CPUC) is the state agency that regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. The CPUC grants operating authority, regulates service standards, sets rates, and monitors utility operations for safety, environmental stewardship, and public interest (CPUC 2007).

##### California Building Energy Efficiency Standards

Title 24, Part 6, of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods (CEC 2012). The 2013 Building Energy Efficiency Standards went into effect on July 1, 2014 (CEC 2015).

##### California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. The CEC was created by the California Legislature in 1974 and is responsible for the following: forecasting future energy needs and keeping historical energy data; licensing thermal power plants 50 megawatts or larger; promoting energy efficiency by setting the state's appliance and building efficiency standards; supporting public interest energy research that advances energy science and technology; supporting renewable energy by providing market support to existing, new, and emerging renewable technologies; developing and implementing the State Alternative and Renewable Fuel and Vehicle Technology Program to reduce the state's petroleum dependency and help attain the state climate change policies; administering more than \$300 million in American Reinvestment and Recovery Act funding through state programs; and planning for and directing the state response to energy emergencies (CEC 2012).

### 3.13.3 IMPACTS AND MITIGATION MEASURES

#### WATER SUPPLY AND SERVICES

##### Standards of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. A water service impact is considered significant if the project would:

- 1) Result in the need for new entitlements or a substantial expansion or alteration to local or regional water supplies that would result in a physical impact to the environment.

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- 2) Result in the need for new systems or a substantial expansion or alteration to the local or regional water treatment or distribution facilities that would result in a physical impact to the environment.
- 3) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Water quality impacts are discussed in Section 3.8, Hydrology and Water Quality, of this Draft EIR.

#### Methodology

Evaluation of potential water service impacts was based primarily on Sunnyvale's 2010 Urban Water Management Plan. A detailed list of reference material used in preparing this analysis can be found at this end of this section. The analysis includes a comparison of potential water demand and supplies with the project, as well as proposed and anticipated development in the surrounding area.

#### Impacts and Mitigation Measures

##### Water Supply Demand and Environmental Effects (Standards of Significance 1 and 3)

**Impact 3.13.1** The project would not increase demand for water supply beyond what was considered in the City's Urban Water Management Plan. Therefore, increased groundwater production would not be required to serve the project. This would be a **less than significant** impact.

The project site has been in use as a school or other public use since the 1950s and has only recently become vacant. The project would increase water demand at the site due to increase in user population, even compared with previous uses at the site. Nonetheless, the project proposes to upgrade the facility's plumbing and restroom facilities, which would reduce leaks and improve efficiency through water-conserving fixtures. These measures would minimize water usage. Further, proposed landscaping and irrigation improvements would be subject to the City's water efficiency design requirements (Municipal Code Section 19.37.050), which would reduce water demand at the project site compared to historical use for irrigation. Based on a water demand factor of 3.46 afy per acre for elementary schools (Elk Grove 2014), the project would have a total water demand of approximately 12.3 afy.<sup>3</sup> This represents approximately 0.05 percent of the city's projected 2035 water demand of 23,731 afy and would be considered a negligible increase in overall water demand. Given that the City projects a water supply surplus of 1,775 afy in 2035, no new or expanded water entitlements would be needed to serve the project. Although, the project site would accommodate more users upgrades to plumbing and irrigation systems would minimize increases in water usage at the site.

As discussed previously, water supplies would be available to meet demands even in times of drought, with no reduction of supply necessary until the fifth year and beyond of a multi-year drought under the UWMP's population projections. Therefore, this impact would be **less than significant**.

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<sup>3</sup> Calculation: 3.55 acres X 3.46 afy/acre = 12.283 afy

The project site is currently connected to the City's water supply system and would not require any new or expanded off-site water supply infrastructure. The project proposes to improve on-site water fixtures and plumbing as determined necessary to meet code requirements. Impacts associated with these improvements are assumed as part of the project and are addressed throughout this Draft EIR.

#### Mitigation Measures

None required.

#### **Cumulative Setting**

The cumulative setting for water services, including supplies and related infrastructure, consists of the SCVWD's service boundaries, which include the entirety of Santa Clara County. In addition to Santa Clara County, the SFPUC water supply is distributed to other wholesale customers in Alameda and San Mateo counties. The SCVWD is Santa Clara County's principal water wholesaler and serves surrounding communities, like Palo Alto and Mountain View. Most new urban land uses in the surrounding area would be dependent on these two water supply sources. The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in the SCVWD, SFPUC, and Cal Water service areas and the Santa Clara Subbasin.

#### **Cumulative Impacts and Mitigation Measures**

##### Cumulative Water Supply Impacts (Standards of Significance 1, 2, and 3)

**Impact 3.13.2** The project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the region, would increase the cumulative demand for water supplies and related infrastructure. The project's contribution to cumulative water supply and infrastructure impacts would be **less than cumulatively considerable**.

As noted under Impact 3.13.1, the City projects to have a water supply surplus of 1,775 afy in 2035 after meeting the demands of all projected growth and development in the city. Future growth in Santa Clara County would further contribute to the need for additional groundwater supply to be drawn from the Santa Clara Subbasin. The basin is an unadjudicated groundwater basin and has not been identified or projected to be in overdraft by the DWR (Sunnyvale 2010). Additionally, given the project's negligible increase in overall water demand, its contribution to cumulative water supply would be **less than cumulatively considerable**.

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. The project would not require any off-site water supply infrastructure. Therefore, the project's contribution to this impact would be **less than cumulatively considerable**.

#### Mitigation Measures

None required.

### 3.13 UTILITIES

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#### WASTEWATER SERVICE

##### Standards of Significance

The following standards are based on CEQA Guidelines Appendix G. A significant impact to wastewater service would occur if the project would:

- 1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- 2) Require or result in the construction of new wastewater treatment facilities or expansion or existing facilities, the construction of which could cause significant environmental effects.
- 3) 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

Evaluation of potential impacts on wastewater facilities and services was based primarily on the City's General Plan and Urban Water Management Plan. A detailed list of reference material used in preparing this analysis can be found at this end of this section.

##### Project Impacts and Mitigation Measures

###### Wastewater Discharge Requirements (Standard of Significance 1)

**Impact 3.13.3** The project would increase wastewater generation in the city. However, projected wastewater flows would remain within the capacity of Sunnyvale's wastewater collection and treatment system and would not exceed applicable wastewater treatment requirements of the RWQCB or require expansion of conveyance or treatment infrastructure. This impact would be **less than significant**.

As discussed in Impact 3.13.1, the project would have an annual water demand of approximately 12.3 afy. Assuming a general wastewater generation rate of 80 percent of water demand, the project would generate approximately 9.8 afy or 17,813 gallons per day of wastewater.

As stated above, the WPCP has an existing treatment capacity of 29.5 mgd<sup>4</sup>. As described in the Environmental Management chapter of the General Plan, existing flow at the Water Pollution Control Plant is approximately 16.2 mgd (Sunnyvale 2011b). Thus, the Water Pollution Control Plant has approximately 13.3 mgd of unused capacity. The project's projected wastewater flow would represent approximately 0.1 percent of this unused capacity. Thus, there is adequate capacity to treat the additional wastewater that would result from the project. No new facilities would be necessary.

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<sup>4</sup> The City is in the process of revising WPCP's treatment capacity and it is expected that the capacity would go down.

Because no new wastewater facilities would be necessary as a result of the project, the project would not exceed wastewater treatment requirements, and the impact would be **less than significant**.

#### Mitigation Measures

None required.

#### **Cumulative Setting**

Because wastewater services are provided by the City, the cumulative setting for wastewater services includes full buildout of Sunnyvale, which is expected to occur in 2035. It also includes the Rancho Rinconada area in Cupertino.

#### **Cumulative Impacts and Mitigation Measures**

##### Cumulative Wastewater Service Impacts (Standards of Significance 2 and 3)

**Impact 3.13.4** The project, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative setting area, would contribute to the cumulative demand for wastewater service. However, continued implementation of City standards would ensure adequate wastewater facilities are provided. This impact would be **less than cumulatively considerable**.

As identified under the Existing Setting subsection, additional wastewater treatment and infrastructure capacity improvements would be needed to serve future development in the city. However, the project would generate a negligible volume of wastewater that would not exceed the capacity of the WPCP. Further, as an existing use, the project would not require any new or expanded wastewater conveyance infrastructure. Thus, the project's contribution to this impact would be **less than cumulatively considerable**.

#### Mitigation Measures

None required.

#### SOLID WASTE SERVICE

#### **Standards of Significance**

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. A solid waste impact is considered significant if the project would:

- 1) Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- 2) Fail to comply with federal, state, and local statutes and regulations related to solid waste.

Hazardous waste sites and disposal issues in the city are discussed in Section 3.7, Hazards and Hazardous Materials, of this Draft EIR.

## 3.13 UTILITIES

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### Methodology

Evaluation of potential solid waste service impacts was based primarily on information from CalRecycle. A detailed list of reference material used can be found at this end of this section. The capacity of the serving landfills and other solid waste facilities was evaluated and compared to the project's estimated solid waste generation. The impact analysis focuses on whether impacts would have a significant impact on the physical environment.

### Project Impacts and Mitigation Measures

#### Increased Solid Waste Disposal (Standard of Significance 1)

**Impact 3.13.5** The project would generate increased amounts of solid waste that would need to be disposed of in landfills or recycled. This impact would be **less than significant**.

According to an estimated solid waste generation rate for schools of one pound per student per day (CalRecycle 2013), the proposed school would generate an estimated 520 pounds of solid waste per day or 46.8 tons per year.<sup>5</sup> The City currently provides schools with collection services for cardboard, mixed paper and beverage containers. Per the requirements of AB 1826, any contract between the school and a landscape maintenance contractor must require the contractor to arrange for recycling of organic wastes from landscape maintenance. Wastes remaining after source-separation collections would be hauled to the SMaRT Station for processing. As of June, 2014, approximately 30% of the solid waste received and processed at the SMaRT Station is diverted from landfill disposal. As discussed previously, the SMaRT Station has approximately 500 tons per day remaining capacity and would be capable of serving the project. Given Sunnyvale's current community-wide diversion rate of 65 percent, it is assumed that, after source-separation, then SMaRT Station processing, approximately 16.4 tons of this waste would be transferred annually from the SMaRT Station to the Kirby Canyon Landfill. As shown in **Table 3.13-5**, the Kirby Canyon Landfill has sufficient capacity to accept this volume of waste. Therefore, the project would be served by a landfill with sufficient permitted capacity and would not require the construction of any new or expanded disposal facilities. Further, City staff would ensure that the project complies with all applicable solid waste regulations through the City's design review process. This impact would be **less than significant**.

#### Mitigation Measures

None required.

### Cumulative Setting

The cumulative setting for solid waste includes Santa Clara County and the surrounding region. The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in the area. The project, as well as future development in the surrounding region, would result in an incremental cumulative demand for solid waste collection and disposal in regional landfills.

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<sup>5</sup> Assumes 180 days of student instruction (ECS 2011).

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## Cumulative Impacts and Mitigation Measures

### Cumulative Solid Waste Impacts (Standards of Significance 1 and 2)

**Impact 3.13.6** The project, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the region, would result in increased demand for solid waste services. This impact would be **less than cumulatively considerable**.

As described in Impact 3.13.5, the project would generate an estimated 46.8 tons of solid waste annually. Growth in the city and in surrounding communities, such as Mountain View, Santa Clara, and Cupertino, would also generate solid waste. However, solid waste management is generally provided by the respective jurisdiction and not on a regional basis. Since the project's solid waste would represent 0.01 percent of the permitted daily throughput of the Kirby Canyon Landfill, it is anticipated that the landfill would have adequate capacity to accommodate solid waste generation from the project as well as from the remainder of the city and the surrounding communities. Therefore, the project's contribution to this impact would be **less than cumulatively considerable**.

#### Mitigation Measures

None required.

### ELECTRICAL, NATURAL GAS, AND TELEPHONE SERVICES

#### Standards of Significance

The impact analysis provided below is based on CEQA Guidelines Appendices F and G. A utilities impact is considered significant if the project would:

- 1) Result in the need for new systems or supplies or a substantial expansion or alteration to electricity, natural gas, and/or telecommunication systems that results in a physical impact on the environment or utilizes energy an inefficient or wasteful manner.

#### Methodology

Evaluation of potential electricity, natural gas, and telecommunications impacts was based on information from the California Energy Commission and the California Public Utilities Commission. A detailed list of reference material used can be found at this end of this section. This material was compared to the project-specific electricity, natural gas, or telecommunications impacts. The impact analysis below focuses on whether the physical environment would be significantly affected.

### Increased Demand for Electrical, Natural Gas, and Telecommunications Services (Standard of Significance 1)

**Impact 3.13.7** The project would increase demand for electrical, natural gas, and telecommunications services, including associated infrastructure. This is considered to be a **less than significant** impact.

The project would result in the renovation of existing buildings, which were built to serve as a school facility. The buildings have been in operation since the 1950s but are currently vacant.

### 3.13 UTILITIES

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Proposed improvements include replacement of windows and doors and other upgrades that would increase the facility's energy efficiency and reduce consumption compared to historical use. Regardless, the project would increase demand for electric, natural gas, and telecommunications services at the project site compared to current conditions.

PG&E currently provides electrical and natural gas services to the project site and would continue to provide these services. The site is already connected to PG&E's electrical and natural gas lines, as well as to telecommunications lines, and would not require any new or expanded infrastructure. The school facility would demand a negligible amount of electricity and natural gas compared to PG&E's service commitments across the state and would not impact the company's ability to serve its existing and future customers. Likewise, the applicable telecommunications companies would be capable of serving the project site in addition to current and future customers. The project would not result in the need to construct new or expanded electric, natural gas, or telecommunications infrastructure. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

None required.

#### **Cumulative Setting**

The cumulative setting for electrical, natural gas, and telecommunications services encompasses the service areas of the each particular service provider (PG&E, Comcast, Verizon, etc.). The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in these service areas that currently place demand on these services or are expected to place demand on them in the future.

#### **Cumulative Impacts and Mitigation Measures**

##### Cumulative Demand for Electrical, Natural Gas, and Telecommunications Services (Standard of Significance 1)

**Impact 3.13.8** The project, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the region, would contribute to the cumulative demand for electrical, natural gas, and telecommunications services and associated infrastructure. This impact would be **less than cumulatively considerable**.

The project, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the areas served by PG&E and the various telecommunications purveyors in the region, would result in a cumulative increase in demand for electrical, natural gas, and telecommunications services and associated infrastructure.

The environmental effects of specific infrastructure projects needed to accommodate future growth in the region would be evaluated in greater detail for each specific energy-related project. In general, such infrastructure would be collocated and constructed concurrently with other utilities within roadway rights-of-way to lessen or eliminate potential environmental effects. Therefore, this impact would be less than cumulatively considerable. Further, because the Stratford School at Partridge Avenue would not require the construction of any such infrastructure, its contribution to this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

