CHAPTER 4
Cumulative Impacts

CEQA Analysis Requirements

A cumulative impact is created as a result of the combination of the project evaluated in an EIR together with other projects causing related impacts. The CEQA Guidelines require that EIRs discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects.[1] According to CEQA Guidelines §15130(a) and (b), the purpose of this section is to provide a discussion of significant cumulative impacts which reflects "the severity of the impacts and their likelihood of occurrence." The CEQA Guidelines indicate that the discussion of cumulative impacts should include:

(1) Either: (A), a list of past, present, and probable future projects producing related or cumulative impacts; OR (B), a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, which described or evaluated conditions contributing to a cumulative impact;

(2) A discussion of the geographic scope of the area affected by the cumulative effect;

(3) A summary of expected environmental effects to be produced by these projects; and,

(4) Reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

The analysis of cumulative effects in this chapter focuses on the effects of concurrent construction of the proposed project with other spatially and temporally proximate projects. As such this analysis relies on a list of projects that have the potential to contribute to cumulative impacts in the project area.

Related Projects

Geographic Scope

The potential for project-generated impacts to contribute to a significant cumulative impact would arise if they are located within the same geographic area. This geographic area may vary, depending upon the issue area discussed and the geographic extent of the potential impact. For

[1] *CEQA Guidelines* Section 15130, 15065, as amended January 1, 2000.

example the geographic area associated with construction noise impacts would be limited to areas directly affected by construction noise, whereas the geographic area that could be affected by construction-related air emissions may include the larger airshed. Construction impacts associated with aesthetics, increased noise, dust, erosion, and access limitations tend to be localized and could be exacerbated if other development or improvement projects are occurring within the same or adjacent locations as the proposed project.

Geographically, the proposed project is contained within the southern region of the San Francisco Bay Area and includes the City of Palo and unincorporated areas of Santa Clara County. The project area is bounded by Route 280 to the west, Highway 101 to the East, the City of Menlo Park to the north and the cities of Los Altos and Mountain View to the south. For the purposes of this analysis, potential cumulative effects within a slightly larger area- extending from Sunnyvale just south of Los Altos and Mountain View, to San Carlos just north of Menlo Park- are considered. The geographic scope may vary for each issue area depending on the nature of the cumulative impacts.

Project Timing

In addition to the geographic scope, cumulative impacts are determined by timing of the other projects relative to the proposed project. Schedule is particularly important for construction-related impacts: for a group of projects to generate cumulative construction impacts, they must be temporally as well as spatially proximate. The projects described in the following sections may or may not occur simultaneously with the proposed project, depending upon the schedule of each individual project. Although the timing of the cumulative projects described in the following sections are likely to fluctuate due to schedule changes or other unknown factors, this analysis assumes these cumulative projects would be implemented sequentially, with some project component implementation activities potentially occurring concurrently, with construction of the Palo Alto Emergency Water Supply and Storage Project, between 2007 and 2012.

Type of Projects Considered

As described in Chapter 3 of this EIR, the majority of impacts associated with construction of the proposed project are short-term and related to construction of the proposed facilities, rather than long-term project operation. Therefore, cumulative effects could result when considering the combined impacts of the proposed project with other construction projects in Santa Clara County area. For this analysis, other past, present, and reasonably-foreseeable future construction projects, particularly other infrastructure projects, in the area have been identified. Long-term cumulative impacts are assessed as well, considering the proposed project in conjunction with other wastewater and water resource management projects in the area.

Table 4-1 lists current and proposed projects that, along with construction of the Palo Alto Emergency Water Supply and Storage Project, could potentially contribute to cumulative impacts within the project area. A brief description of the larger-scale projects or projects in the immediate vicinity of the proposed project is provided below. In addition to the projects listed in Table 4-1, additional development that has not been identified as of this time, could occur within the project area, as planned by the City of Palo Alto and County of Santa Clara, and may

TABLE 4-1
PLANNED AND APPROVED PROJECTS IN THE PROJECT VICINITY

Project	Anticipated Construction Dates	Areas Affected
Caltrans District 4		
Landscaping throughout Santa Clara County	2007–2009	US 101
Modify and interconnect existing traffic signals	2009–2010	Highway 82: Bellomy Street to Quarry Road in Palo Alto
Install exit number signs	2008–2009	Highway 101 at various locations throughout Santa Clara and other counties
Install Traffic Management Systems	2007–2008	Various routes throughout Santa Clara and other counties
Highway planting restoration	2006–2007	Route 237, Route 82 and Route 85 in Mountain View
Upgrade median barrier	2008–2009	US 101 and Route 85 in and near Cupertino and Sunnyvale
Metropolitan Transportation Commission		
Replace California Avenue undercrossing of Caltrain tracks at Alma Street	unknown	California Avenue and Alma Street
Palo Alto Intermodal Transit Center (Phase 1)	Environmental Analysis commencing	Near the intersection of University Avenue and Alma Avenue
Palo Alto Smart Residential Arterials	In Planning Stages	Charleston, Arastradero, Embarcadero, Middlefield Roads and University Avenue; Castilleja/Park/Wilkie Way, Matadero Ave/Margarita Ave, El Camino Way/Maybell Ave/Donald Drive, Everett Ave/Palo Alto Ave, Homer Ave, Chaucer/Boyve/Melville, Extension of Bryant St Bicycle Blvd.
Install traffic signal interconnect systems in Sunnyvale, Palo Alto, Mountain View and Los Altos	unknown	Cities of Palo Alto, Sunnyvale, Mountain View and Los Altos
Alma Bridge replacement feasibility study	Under Consideration	Intersection of University Avenue and Alma Avenue
Bus Rapid Transit Corridor: El Camino Real (Line 22) (Phase 1 and 2)	Under Consideration	Highway 82 (El Camino Real)
Caltrain local station improvements throughout Santa Clara County	unknown	101 S. California Ave in Palo Alto; 1120 Merrill St in Menlo Park; 600 W. Evelyn Ave and 190 Showers Dr in Mountain View; 1 Dinkelspiel Station Lane in Atherton
High-occupancy toll lane demonstration projects on one freeway corridor in Santa Clara County	Under Consideration	TBD
Bay Area Rapid Transit (BART) extension into Santa Clara County	In Planning Stages	Santa Clara County
Santa Clara County Planning Department		
Subdivision – 22388 Mt. Eden Road, Santa Clara County	Subdivision application submitted	Santa Clara County
Subdivision – 480 Border Hill Drive, Santa Clara County	Subdivision application submitted	Santa Clara County

TABLE 4-1 (continued)
PLANNED AND APPROVED PROJECTS IN THE PROJECT VICINITY

Project	Anticipated Construction Dates	Areas Affected
Santa Clara County Roads and Airports Department		
Maintenance, chip sealing	2006-2007	South Santa Clara County
Paving, curb and gutter south of Lawrence Expressway; major resurfacing of Montague Expressway	2006-2007	Central Santa Clara County
Santa Clara Valley Water District		
Calabazas Creek Capacity Improvement	Jan 2007	Guadalupe Slough to the Saratoga Foothills
Pajaro Wetland Mitigation	May 2007	Carnadero Preserve
Upper Guadalupe Reach 6 Flood Control	Dec 2007	Willow Glen to Blossom Hill Road
Adobe Creek Flood Control	Jan 2008	Burke Rd to Hwy 280
Adobe Creek Reach 5 Flood Control	Jan 2008	Los Altos
Lower Berryessa Creek Phase 1 Flood Control	Jan 2008	Calaveras Boulevard in Milpitas to Old Piedmont Road in San Jose
Advanced Recycled Water Treatment Facility	Jan 2008	Santa Clara
Lenihan Dam	Jan 2008	Los Gatos
Rinconada Water Treatment Plant Upgrade	Jan 2008	Los Gatos
Alviso Slough Vegetation Removal	Spring 2008	Alviso
Penitencia Water Treatment Plan Generator	Mar 2008	San Jose
Rinconada Water Treatment Plant Generator	Mar 2008	Los Gatos
Lower Berryessa Creek Phase 2 Flood Control	Dec 2009	Calaveras Boulevard in Milpitas to Old Piedmont Road in San Jose
Peninsula Corridor Joint Powers Board		
Caltrain ROW Safety and Security Program	Fall 2007	Train corridor
State of Good Repair Program	2006-2010	Palo Alto Station; other stations; train corridor
San Francisquito Creek Joint Powers Authority		
Bank Stabilization and Revegetation Demonstration Projects		San Francisquito Creek
Creek Improvements Analysis and Feasibility Study in Conjunction with ACE	n/a	San Francisquito Creek
Stanford University		
Public Safety Annex	Jan 2007–Sept 2007	Stanford University
Edwards 1 Otolaryngology Lab	Dec 2006–July 2007	Stanford University
Edwards Orthopaedic Surgery Lab	Dec 2006–July 2007	Stanford University
Munger Law School Housing	Apr 2007–Oct 2007	Stanford University
Main Quad Balustrade	May 2005–Apr 2007	Stanford University
Campus Drive Reconstruction	July 2007–Aug 2007	Stanford University
JSB Culvert Replacement	June 2007–Aug 2007	Stanford University
Golf Practice Center	July 2006–July 2007	Stanford University
Governor's Corner Residence Renovation	June 2007–Sept 2007	Stanford University

TABLE 4-1 (continued)
PLANNED AND APPROVED PROJECTS IN THE PROJECT VICINITY

Project	Anticipated Construction Dates	Areas Affected
Robert Moore and Xanadu Renovation	June 2007–Sept 2007	Stanford University
Crothers/Crothers Memorial Renovation	Apr 2007–Aug 2008	Stanford University
Black Community Center Expansion	Nov 2006–May 2007	Stanford University
City of Palo Alto Planning Department		
Single Family Units		
11 SF Units: 12-lot subdivision that also includes one multiple-family lot and a new public street – 4219 El Camino Real	Final Map Approved	City of Palo Alto
11 SF Units – 4216 Wilkie Way	Building Permit Pending	City of Palo Alto
Multi-Family Units		
MF Units: 3-lot condo subdivision – 334 Hawthorne Ave	Request for Final Map	City of Palo Alto
MF Units: 2-lot condo subdivision – 739 Webster Street	Request for Preliminary Map	City of Palo Alto
12 MF Units: apartment units added to an existing complex – 1702 Tanland Drive	Request for Major Architectural Review	City of Palo Alto
West Bayshore Associates Condominium Project 96 MF Units: residential condos – 3270 W. Bayshore Road	Request for Tentative Subdivision Map	City of Palo Alto
Warmington PA Associates LP Condominium Project 76 MF Units: condos – 928 E. Meadow Drive	Building Permit Pending	City of Palo Alto
Standard Pacific Homes Condominium Project 75 MF units: condos – 1101 E. Meadow Drive	Building Permit Pending	City of Palo Alto
10 MF units: condos – 4219 El Camino Real	Building Permit Pending	City of Palo Alto
Mixed Use Projects		
New retail/residential building – 102 University Avenue with below-grade parking garage and improvements to University Circle	Preliminary Architectural Review	City of Palo Alto
Planned community – 135 Hamilton Ave including a 4-story retail/office building and separate 146-space parking structure on City Lot P	Pre-screening Public Hearing	City of Palo Alto
New mixed-use building – 2226 El Camino Real	Building Permit Issued	City of Palo Alto
New mixed-use building – 1795 El Camino Real	Building Permit Issued	City of Palo Alto
New mixed-use building – 1805 El Camino Real	Building Permit Issued	City of Palo Alto
New mixed-use building – 260 Homer Ave	Building Permit Issued	City of Palo Alto
Commercial Projects		
Town and Country upgrade project – 855 El Camino Real	Begin Fall/Winter 2006	City of Palo Alto
Demolition of 2 Stanford Buildings 68,000 sq ft and new construction in Stanford Research Park – 3412 Hillview Avenue	Request for Site and Design Review	City of Palo Alto
New office building – 3401 Hillview Ave	Building Permit Issued	City of Palo Alto
New commercial building – 1310 Bryant Street	Building Permit Pending	City of Palo Alto
City of Palo Alto renovations/additions – 1305 Middlefield Road	Building Permit Pending	City of Palo Alto
New commercial buildings and site development – 3401 Hillview Ave	Building Permit Pending	City of Palo Alto

TABLE 4-1 (continued)
PLANNED AND APPROVED PROJECTS IN THE PROJECT VICINITY

Project	Anticipated Construction Dates	Areas Affected
City of Palo Alto Public Works		
Alma Street Electrical Substation Relocation	Jan 2008	Alma St. and High St. between Embarcadero and University; Quarry Road
Bicycle Boulevards implementation project	2007–2011	Near project sites along stretches of Homer Avenue, Matadero/Margarita Avenues, Everett/Palo Alto Avenues, Chaucer/Boyce/Melville Streets, and Castilleja/ Park Boulevard/Wilkie Way
Rebuild underground electrical distribution systems	2008–2011	Various districts at or near project locations
Intermodal Transit Center	2006–2007	Alma Street where it crosses University and Palm and Everett
Water System Portable Emergency Generators	2006–2009	City of Palo Alto
Water Regulation Station Improvements	2006–2008	Mayfield Pump Station
Water main replacements	2006–2011	12 miles throughout the City of Palo Alto
Southgate neighborhood storm drain improvements	2009–2011	Area adjacent to Palo Alto High School
California Avenue improvements	2006–2007	California Avenue shopping area
Heritage Park Playground and Public Restroom	2007-2008	Waverly Street side of Roth building between building and central pathway
City Parks improvements	2007–2008	Various, including Peers and El Camino parks
Various improvements involving comprehensive parking signage, park restroom installation, school street improvements, street light improvements and traffic signal upgrades	2006–2011	Various locations throughout the City of Palo Alto
Fiberoptic customer connections, network improvements, and electric customer connections	2006–2011	Various locations throughout the City of Palo Alto
Installation of gas meters and regulators	2006–2011	Various locations throughout the City of Palo Alto
Sewer system extensions	2006–2011	Various locations throughout the City of Palo Alto
Alma Street storm drain improvements	2007–2009	4400 linear feet along Alma Street
Storm drain improvements, San Francisquito Creek storm water pump station, storm drain system replacement and rehabilitation	2006–2011	Various locations throughout the City of Palo Alto
City of Sunnyvale Planning Department		
335 Residential Units and 26,000 sf of commercial space	Pending approval	1287 Lawrence Station Rd.
Town Center Mall- 1,275,000+ sf of mixed-use redevelopment	Approved	2502 Town Center Lane
Jay Paul Industrial Project- 1,582,473+ sf	Pending approval	1111 Lockheed Martin Way

TABLE 4-1 (continued)
PLANNED AND APPROVED PROJECTS IN THE PROJECT VICINITY

Project	Anticipated Construction Dates	Areas Affected
New 3-story mini-storage facility totaling 199,155 sf	Approved	1165 E. Arques Ave.
Network Appliance Industrial Project- 1,375,978 sf	Approved	495 Java Drive
250 Condominium Units	Pending approval	1044 E. Duane Ave.
242 Townhouse Units	Pending approval	962 E. Duane Ave.
130 Townhouse Units	Approved	108 S. Wolfe Rd.
55 Single-family Homes	Approved	610 Alberta Ave.
263 Hotel Units and 250 Residential Units	Approved	1250 Lakeside Dr.
Sunnyvale City Park- 130 Town Homes	Under Construction	545 E. Weddell Dr.
City of Sunnyvale Public Works Department		
Caltrain Bridge Replacement	2007-2008	Matilda Bridge
Pedestrian/bike Paths	2007-2008	Over Highways 237 and 101
Roadway Extension	2007-2008	Mary Avenue, over Highways 237 and 101
City of Mountain View Planning Department		
98 unit subdivision	Under review	City of Mountain View at 333-405 W. Evelyn Avenue
108 rowhouses	Approved	City of Mountain View at 1950 Colony St
206 rowhouses	Approved	City of Mountain View at 111 N. Rengstorff Ave
151 rowhouses	Approved	City of Mountain View at 505 E. Evelyn Ave
106 rowhouses	Under construction	City of Mountain View at 274, 290 & 300 Ferguson Dr
555,000 sf hospital, office building and parking structure	Under construction	City of Mountain View at 2500 Grant Rd
250,000 sf medical facility	Under construction	City of Mountain View at 701 E. El Camino Real
City of Mountain View Public Works Department		
Pedestrian/bike Paths	2007-2011	Over Highway 101 into the N. Bayshore Area
City of Los Altos Planning Department		
Silverstone Condominiums- 78 Residential Condos	Pending design review approval	4390 and 4400 El Camino Real
City of Menlo Park Planning Department		
Hamilton Avenue Housing and Park Project- 47 homes	Pending	507-555 Hamilton Avenue
56 Residential Units	Pending	110,175 Linfield Drive
165,000 sf hotel and 100,000 sf office complex	Pending	2825 Sand Hill Road, adjacent to Sand Hill Road/280 Interchange
New Safeway store- 77,248 sf	Pending	525 El Camino Real
Mixed-use Project- 134 rental units and 78,065 sf commercial space	Pending	1300 El Camino Real

TABLE 4-1 (continued)
PLANNED AND APPROVED PROJECTS IN THE PROJECT VICINITY

Project	Anticipated Construction Dates	Areas Affected
135 Condos and 17,000 sq commercial space	Pending	550-580 Oak Grove Ave and 540-470 Derry Lane
Independence/Constitution Project- 514,543 sf office space and 125-room hotel	Pending	Near Marsh Road/US 101
City of Menlo Park Public Works Department		
Valparaiso Ave Water Main Replacement Project	In construction	Between Alameda de Las Pulgas and El Camino Real
City of San Carlos Planning Department		
90 Residential Units	Tentative map	1000 El Camino Real
Palo Alto Medical Foundation- 478,325 sf and 597,200 sf parking		301 Industrial Avenue
Peninsula Corridor	Planning stages	El Camino Real in City of San Carlos
Purissima Hills Water District		
Page Mill Water Intertie	2008/2009	City of Los Altos Hills

TBD = To be determined
sf = square foot

SOURCES:
City of Palo Alto, Building Permit Report and New Planning Applications, June 2006.
City of Palo Alto Capital Improvement Projects, 2006-2011
State Highway Operation and Protection Program Project List for Santa Clara County, 2006
California Department of Transportation 2006 Interregional Transportation Improvement Program.
Metropolitan Transportation Commission 2030 Transportation Plan
County of Santa Clara Office of Planning 2006
Stanford Facilities Operations Current Construction Projects List 2006
BART Program 2006
Santa Clara Valley Transportation Authority (VTA) Silicon Valley Rapid Transit Corridor 2006
Santa Clara Valley Water District (SCVWD), tentative project list for 2007-2009
City of Mountain View, Planning Department list of recent projects, 2006
City of Mountain View, list of adopted Capital Improvement Projects, planned 2007-2011
City of Sunnyvale Planning and Engineering Departments, 2006
Peninsula Corridor Joint Powers Board (Caltrain), 2006
City of Los Altos, list of current planning projects, 2006
City of Menlo Park, list of current planning and public works projects
City of San Carlos, list of current planning and public works projects
San Francisquito Creek Joint Powers Authority, list of projects

contribute to cumulative construction impacts. The growth inducement potential of the proposed project and the secondary effects of accommodating planned growth within the project area are discussed separately in Chapter 6 of this EIR.

Description of Cumulative Projects

BART Extension into Santa Clara County

The BART extension into Santa Clara County is a 16.3-mile project connecting Santa Clara County to BART. Located in the southern part of the San Francisco Bay area, this project adds a Caltrain-type rail line on the Union Pacific tracks between downtown San Jose, through east San Jose and Milpitas, and up to the BART system in Alameda County. In July 2000, the Santa Clara

VTA, in conjunction with various agencies along the corridor, completed the BART Extension Study from Fremont to the cities of Milpitas, San Jose and Santa Clara. This study concluded that a BART extension was feasible and would offer fast travel times to passenger destinations; congestion relief; improved access to employment, education, medical, and retail centers; regional connectivity; and opportunities for transit-oriented development in conjunction with local land use planning efforts. Major highways in the project study area are Interstates 880 and 680 running north and south, Interstate 280 and Highway 237 running east to west, and U.S. 101 intersecting the study area. Alviso, former Southern Pacific, and Union Pacific railways are in the project area. Existing transit services in the area include VTA light rail, VTA and AC Transit local and express buses, Caltrain, Altamont Commuter Express (ACE), Capitol Corridor Intercity Rail, and Amtrak. In December 2004 the Final EIR was approved. A Supplemental EIR with scoping meetings is scheduled for summer 2006, with preliminary engineering complete by December 2006. Final design will occur from 2008-2010 with construction occurring from 2008 through 2015.

West Bayshore Associates Condominium Project

The West Bayshore Associates Condominium Project is a multi-family residential infill development. The 6.5 acre parcel would provide 96 housing units. The area would be raised above the flood plain, and then 3-story buildings would be constructed. The quasi-judicial project is located in a Research Office and Limited Manufacturing Zone in close proximity to U.S. 101. Located at the northwestern corner of the intersection of West Bayshore Road and Loma Verde Avenue, the site is bordered to the east by U.S. 101, to the west by Sterling Canal and single family homes, and to the north and south by light industrial/office buildings. West Bayshore Associates has applied for approval of a tentative subdivision map. No EIR is required on this project because the approved residential development is expected to be less intensive than the existing commercial uses when operating at full capacity; a revised Negative Declaration has been filed.

Warmington PA Associates LP Condominium Project

The Warmington PA Associates LP Condominium Project is a multi-family residential infill development. The 4.4 acre parcel would provide 76 housing units. The project is located in a Research Office and Limited Manufacturing Zone on the west side of the U.S. 101, in close proximity to city parks, schools, and other services, and becomes part of the Charleston Corridor traffic improvement area. A Phase II Environmental Assessment has been completed. Warmington PA Associates LP has applied for a building permit and approval is pending.

Standard Pacific Homes Condominium Project

The Standard Pacific Homes Condominium Project is a multi-family residential infill development. The approximately 4-acre parcel would provide 75 housing units- about 17.2 units per acre. The area would be raised above the flood plain, and then 3-story buildings would be constructed. There would be a total of 12 buildings, with 5-7 condo units each. The project is located in a Research Office and Limited Manufacturing Zone, bordering SCVWD's Adobe

Creek and electrical substation on one side. The approved residential development is expected to be less intensive than the existing commercial uses, resulting in a reduction in traffic, noise and air pollution; a Negative Declaration has been filed. Standard Pacific Homes has applied for a building permit and approval is pending.

Description of Cumulative Effects

Construction Related Impacts

Impact 4.1: Concurrent construction of several projects within the project area could result in cumulative short-term impacts associated with construction activities.

Construction of the Palo Alto Emergency Water Supply and Storage Project is scheduled to occur between 2007 and 2009. For the purposes of this analysis, the projects identified in Table 4-1 are all presumed to be implemented concurrently within the 2007-2009 timeframe. Capital improvement and development projects within the project area may contribute to certain types of regional impacts, such as air quality and traffic, depending upon their implementation timing. The following discussion reviews construction related impacts, and the potential cumulative contribution of both the proposed project, and the other projects identified within the project area.

Land Use, Agricultural Resources, and Recreation

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) would also result in the temporary disturbance of recreational resources, such as parks and bikeways, due to noise and construction traffic as described in Section 3.2, Land Use, Agricultural Resources, and Recreation. Construction of the wells, reservoir, and pump stations could occur at or in the vicinity of El Camino Park, Timothy Hopkins Creekside Park, Rinconada Park, Boulware Park, Peers Park, Eleanor Pardee Park, Heritage Park, Bowden Park, and Wallis Park. Proposed construction would also occur adjacent to multiple-use recreation trails adjacent to the Town and Country Shopping Center and the Mayfield Pump Station site. With the exception of construction of Hale Well, Rinconada Well, Fernando Well, Peers Park Well, El Camino Park Reservoir, and Pardee Park Well (see Impact 4.2), disruption to such recreational facilities would be temporary. Temporary disturbances would be mitigated to less than significant levels with the mitigation measures identified in Chapter 3. As such, the contribution of the proposed project to cumulative recreational resource impacts is not considerable.

Visual Quality

Concurrent construction of the proposed project with other projects in the area (Table 4-1) located within the same viewsheds would result in short-term visual impacts during construction. Construction activities would require the use of heavy equipment and storage of materials at the construction zone. During construction, excavated trenches, stockpiled soils, and other materials within the construction easement would constitute negative aesthetic elements in the visual

landscape that would directly affect the area. In addition, drilling activities would require 24 hour activities over 6 weeks per well. Therefore, well drilling activities could result in light and glare effects as experienced from adjacent streets and residential uses.

Temporary visual impacts would occur at the wells, reservoir, pipelines, and pump stations from the use of heavy equipment, storage of materials, stockpiled soils, and nighttime lighting. Other projects listed in Table 4-1 could have similar visual impacts. Excavated trenches, stockpiled soils, and other materials within the construction easement would constitute negative aesthetic elements in the visual landscape. As noted in Section 3.3, Visual Quality, these effects would be temporary during project construction, and would not be considered significant on a project basis. During construction, lighting used during nighttime construction would be directed downward (see Mitigation Measure 3.3-5a). Following construction, disturbed areas would be restored to their previous state upon project completion (see Mitigation Measure 3.3-1c). As such, the proposed project's contribution to the short-term disruption to visual quality is not considered cumulatively considerable.

Water Quality

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) and the San Francisquito and Matadero Creek watershed could result in temporary impacts to hydrology and water quality in the project area. Concurrent construction activities could result in increased erosion and subsequent sedimentation, with impacts to water quality in downstream water bodies and/or storm drain capacity. Additionally, surface water quality could be affected by construction activities that result in the release of fuels or other hazardous materials to stream channels or storm drains, or discharge from excavation dewatering activities. Other projects in the watershed that could impact hydrology and water quality include projects listed in Table 4-1 above.

Within the two watersheds, construction of the proposed project would result in temporary disturbances within the 45-square mile San Francisquito Creek watershed. As described in Section 3.7, Hydrology and Water Quality, the City would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) as part of its NPDES General Construction Permit and comply with NPDES permit requirements by the RWQCB for dewatering activities. The SWPPP would include Best Management Practices (BMPs) to reduce the impact of construction of the proposed project to less than significant levels. As such, the contribution of the proposed project to hydrology and water quality impacts is not cumulatively considerable.

Biological Resources

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) could result in temporary impacts to biological resources in the project area. Potential impacts during excavation include disturbance to nesting habitat and the reproductive potential of special-status bird and bat species (e.g., Cooper's hawk, sharp-shinned hawk, great horned owl, fringed myotis, long-eared myotis, pallid bat) due to ground-disturbing activities, such earthmoving, grading, trenching, and vegetation removal.

These impacts would be mitigated to a less than significant level by implementation of the mitigation measures in Section 3.6, Biological Resources. As such, the proposed project's contribution to short-term impacts to biological resources is not cumulatively considerable.

Transportation and Traffic

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) would temporarily increase traffic due to increases in vehicle trips by construction workers and construction vehicles on area roadways; increase potential traffic safety hazards for vehicles, bicyclists and pedestrians on public roadways; damage road pavement; result in delays for emergency vehicle access in the vicinity of the work site; disrupt access to bus stops and slow bus movements; and increase short-term demand for parking spaces.

Implementation of Mitigation Measures 3.8-1a through 3.8-1g, which require the contractor to obtain road encroachment permits and prepare a traffic management plan, would lessen potential impacts associated with temporary lane closures and increases in construction traffic to less than significant. Implementation of Mitigation Measures 3.8-4a through 3.8-4c, which require the contractor to provide onsite and offsite parking for construction workers as well as valet parking service during peak shopping seasons, would reduce parking impacts to less than significant. Implementation of Mitigation Measure 3.8-6, which require the contractor to repair roads damaged by construction, would lessen damage to road pavement to less than significant. As such, the proposed project's contribution to short-term impacts to transportation and traffic is not cumulatively considerable.

Air Quality

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. For construction-phase dust impacts, BAAQMD recommends that significance be based on a consideration of the control measures to be implemented (BAAQMD, 1999). If appropriate mitigation measures are implemented to control respirable particulate matter (PM_{10}) emissions, then the impact would be less than significant. BAAQMD Guidelines contain a list of feasible control measures for construction-related PM_{10} emissions. The BAAQMD Guidelines also indicate that construction-related emissions of criteria pollutants are accounted for in the district's emission inventory that is the basis for regional air quality plans; thus, construction-related emissions are not expected to impede attainment or maintenance of ozone or carbon monoxide standards in the Bay Area. As such, the potential contribution to air quality impacts associated with the proposed project would be rendered less than cumulatively considerable through implementation of these measures, as required in Mitigation Measures 3.9-1a and 3.9-1b.

Noise and Vibration

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) would temporarily generate noise associated with construction equipment and construction traffic. Construction of the proposed project would occur within 25 feet of the nearest sensitive receptor (See Section 3.10, Noise and Vibration). As discussed in Section 3.10, Noise and Vibration, the noisiest construction equipment would generate a noise level of approximately 104 dBA at a distance of 25 feet, assuming no noise mitigation features. With implementation of Mitigation Measures 3.10-1a through 3.10-1e, the proposed project's short-term noise impacts would be considered Significant and Unavoidable at most project sites. Construction of the proposed project in combination with the projects listed in Table 4-1, would result in noise impacts to residential land uses in the City of Palo Alto that are considered cumulatively significant, short-term, and unavoidable.

Hazards and Hazardous Materials

Concurrent construction of the Palo Alto Emergency Water Supply and Storage Project with other projects in the area (as shown in Table 4-1) could cause an increase in risk of exposure (human and the environment) to hazardous materials from the potential discovery of contaminated material during excavation and the use of construction related hazardous materials, such as gasoline, oils, and solvents. Construction of the proposed project would require excavation within roadways, bike paths, or open fields. For project components excavations, implementation of mitigation measures in Section 3.11 would reduce the potential impact of encountering contaminated areas to less-than-significant levels. Therefore, the proposed project's contribution to this impact is not cumulatively considerable.

Public Services and Utilities

For all planned projects in the area (as shown in Table 4-1), including the Palo Alto Emergency Water Supply and Storage Project, construction activities could result in temporary, planned or accidental disruption to utility services. As described in Section 3.12, Public Services and Utilities, water, sewer, storm drain, natural gas, oil, electric, and/or communication lines are located within the project area. Implementation of Mitigation Measure 3.12-1 would require the City of Palo Alto to obtain encroachment permits for utility excavation and notify residents and businesses of any planned utility service disruptions, which would reduce the impact to public utilities to less than significant levels. As such, no effects to utility customer service are anticipated, and the proposed project would not contribute to cumulative effects related to utilities.

Construction of the proposed project concurrent with all other projects in the area (as shown in Table 4-1) could increase service demands for police and fire services in the event of an accident. For the proposed project, this need would be limited to traffic management, safety inspection, and fire-suppression during construction. Construction of the proposed project would require the temporary closure of one lane of traffic on roads. The City of Palo Alto would be required to submit a traffic control plan to local police and fire agencies for their review prior to construction

(see Mitigation Measure 3.12-2). As such, the proposed project's contribution to cumulative impacts to public services is considered less than significant.

Mitigation Measures

Mitigation Measure 4.1a: The City of Palo Alto shall communicate and coordinate project construction activities with other agencies in the area, including Santa Clara County Planning and Santa Clara County Roads and Airports Department. Phasing of project construction shall be coordinated when feasible to minimize cumulative environmental impacts.

Mitigation Measure 4.1b: Implement the following Mitigation Measures identified in Chapter 3 of this EIR:

- Visual Quality: 3.3-1a through 3.3-1c; 3.3-5a
- Water Quality: 3.5-1a and 3.5-1b
- Biological Resources: 3.6-3 and 3.6-4
- Traffic and Circulation: 3.8-1a through 3.8-1g; 3.8-4a through 3.8-4c; 3.8-6
- Air Quality: 3.9-1a and 3.9-1b
- Noise and Vibration: 3.10-1a through 3.10-1e
- Hazards and Hazardous Materials: 3.11-1; 3.11-2a through 3.11-2c
- Public Services and Utilities: 3.12-1 and 3.12-2

Significance after Mitigation: Less than Significant.

Long-Term Impacts

Impact 4.2: Concurrent construction of projects could result in cumulative long-term impacts to land use.

As described in Section 3.2, Land Use, Agricultural Resources, and Recreation, Hale Well, Rinconada Well, Fernando Well, Peers Park Well, El Camino Park Reservoir, and Pardee Park Well would be constructed at locations currently designated as Public Parks in the Palo Alto Comprehensive Plan, or currently under use as a park. However, the City of Palo Alto will prepare a Park Improvement Ordinance to allow development within Dedicated Parklands.

Other projects in the area, as shown in Table 4-1, may contribute to permanent impacts to surrounding land uses. These projects have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to minimize impacts to surrounding land uses. With implementation of mitigation measures from other projects, the potential cumulative impacts associated with the proposed project would be considered less than significant.

Impact 4.3: Concurrent construction of projects could result in cumulative long-term impacts to visual quality.

For the proposed project, new above-ground facilities would impact aesthetic resources in the project area. As discussed in Section 3.3, Visual Quality, construction of the wells and pump stations would alter the existing landscape by removing vegetation and trees and introducing a new, contrasting object into the landscape. However, building design and external features would be similar in character to adjacent facilities/buildings and screening vegetation would be installed (see Mitigation Measures 3.3-2a and 3.3-2b). This would reduce the long-term visual quality effects of the wells and pump stations to a less-than-significant impact.

The proposed project would include security lighting at proposed new facilities. However, the lighting will be shielded and directed downward, reducing potentially significant lighting impacts to a less-than-significant level (see Mitigation Measure 3.3-5b).

Other projects in the area, as shown in Table 4-1, may contribute to permanent impacts to surrounding visual resources. These projects have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to minimize visual impacts to surrounding land uses. With implementation of mitigation measures from other projects and the mitigation measures described in Section 3.3, Visual Quality, the potential cumulative impacts associated with the proposed project would be considered less than significant.

Mitigation Measures

Measure 4.3: Implement Mitigation Measures 3.3-2a, 3.3-2b, and 3.3-5b.

Significance after Mitigation: Less than Significant.

Impact 4.4: Concurrent construction of projects could result in cumulative long-term impacts to water resources, water quality, and flooding associated with alteration of drainage patterns and increases in impervious surface areas

Construction of the proposed project, concurrent with other projects in the area (as shown in Table 4-1) would have the potential to contribute to surface water resource, water quality, and flooding impacts due to alterations of drainage patterns and increases in impervious surface areas.

The proposed project would result in the alteration of local drainage patterns at the well locations, and reservoir site as described in Section 3.5. Within the San Francisquito Creek watershed, other projects that may impact drainage patterns include those listed in Table 4.1. These projects could include the conversion of open grassland or agricultural land to industrial, commercial or residential land uses, with subsequent increases in storm water runoff and flooding potential, as well as reductions in water quality.

The proposed project would include re-grading and paving for construction of pumps and pump stations, and increase impervious surfaces by approximately 0.7 acres. Storm water runoff from well sites would be drained to a local drainage facilities. The storm drain would be designed according to City criteria to manage increased runoff from increased impervious surfaces.

The proposed facilities are not contiguous and comprise a total area of 0.7 acres within the 75-square-mile San Francisquito Creek watershed. As such, these facilities would not substantially contribute to runoff within the watershed during storm events. Therefore, the proposed project's contribution to cumulative impacts to surface waters, water quality, and flooding are not cumulatively considerable.

Mitigation: None required.

Impact 4.5: Concurrent groundwater operations with other pumpers in the vicinity could result in cumulative long-term impacts to groundwater resources and groundwater quality.

Operation of the proposed project would result in maximum pumpage of 1,500 acre-feet per year of groundwater during emergency conditions. Other major groundwater pumpers within the area include O'Connor Tract Water Company in East Palo Alto, the monastery in the Middlefield Area, and the City of East Palo Alto. Smaller private wells are also located within the vicinity, but do not substantially contribute to groundwater extraction. During emergency conditions, groundwater pumpage by these entities would contribute to groundwater extraction and subsequent drawdown of groundwater levels.

Groundwater pumpage of this nature is by definition temporary, and would cease as service from high quality SFPUC imported supplies is restored. Over time, groundwater levels would recover to pre-emergency conditions due to natural inflow into aquifer materials. As noted in Section 3.5, drawdown experienced from pumpage of 1,500 acre feet in 1988 was on the order of 25-feet, with recovery of the basin to pre-pumpage conditions within 18 months. Although drawdown could be exacerbated by the cumulative effect of other pumpers within the area, this type of temporary drawdown in water levels would not be sustained, and would not be anticipated to approach the historical low levels of 120 to 200 feet below ground surface, which resulted from sustained annual pumpage of as much as 7,500 acre-feet of groundwater from the San Francisquito alluvial fan subbasin. Because groundwater levels would not exceed historical lows, the potential for subsidence is considered low. Similarly, the potential for impacts to water quality due to saltwater intrusion, which is a function of long-term alteration in groundwater gradients due to drawdown, is considered low. With the low potential for these impacts to occur due to the emergency definition of the project, and with the absence of an alternate water supply source in the event of SFPUC outage, the reliance on local groundwater to protect public safety in the event of an emergency outage represents an appropriate use for local groundwater supplies.

The proposed projects contribution to groundwater pumpage would be limited to 1,500 acre feet, and would require the City to allow for recovery of groundwater levels prior to reinitiating pumpage. Therefore, the City's contribution to potential cumulative groundwater impacts relating to regional drawdown of groundwater levels is not considered cumulatively considerable.

Mitigation: None required.

Impact 4.6: Concurrent construction of projects could result in cumulative long-term impacts to protected trees and other vegetation.

As described in Section 3.6, Biological Resources, the proposed project would require removal or pruning of trees and shrubs protected under the City of Palo Alto Municipal Code (Title 8, Chapter 8.04, *Street Trees, Shrubs, and Plants* and Title 8, Chapter 8.10, *Tree Preservation and Management Regulations*). Project implementation could result in the removal of protected trees. Project construction may also result in damage to tree roots. As stated in Section 3.6, Biological Resources, compliance with Title 8 of the City of Palo Alto Municipal Code would ensure that potential project impacts on protected trees and vegetation are less than significant by ensuring proper identification, protection, and replacement, where necessary, of trees and other vegetation protected under the Code.

Other projects in the area, as shown in Table 4-1, may require removal or pruning of protected trees and shrubs. These projects have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to minimize impacts to protected trees and shrubs. With implementation of mitigation measures from other projects and compliance with Title 8 of the City of Palo Alto Municipal Code, as described in Section 3.6, Biological Resources, the potential cumulative impacts associated with the proposed project would be considered less than significant.

Mitigation: Implement Mitigation Measures 3.6-2a through 3.6-2d.

Impact 4.7: Concurrent construction of projects could result in cumulative long-term impacts to cultural resources.

As described in Section 3.7, Cultural Resources, historical and archaeological sites are known to occur within the Area of Potential Affect (APE) for the Palo Alto Emergency Water Supply and Storage Project. Construction associated with the proposed facilities may cause adverse impacts to known and unknown historical, archaeological, or paleontological resources. Potential impacts cultural resources that may occur within construction footprints would be reduced to the degree feasible with implementation of Mitigation Measures 3.7-1a, 3.7-1b, 3.7-2a, 3.7-2b, and 3.7-3, which include data collection and recordation in the event of a find. Other projects that may

contribute to cultural resource impacts include a number of projects listed in Table 4-1. These projects have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize disturbance of cultural resources.

Due to the potential for impacts to known and unknown cultural resources, construction of the proposed project could contribute to the cumulative loss of cultural resources within Santa Clara County. However, the inclusion of mitigation measures in Section 3.7, Cultural Resources, which require cultural resource monitoring in potentially sensitive areas and data collection and recordation of any finds, the contribution of the proposed project to cultural resource impacts is not considered cumulatively considerable.

Mitigation Measures

Measure 4.7: Implement Mitigation Measures 3.7-1a, 3.7-1b, 3.7-2, and 3.7-3.

Significance after Mitigation: Less than Significant.

Impact 4.8: Concurrent construction of projects could result in cumulative long-term noise impacts.

As described in **Section 3.10, Noise and Vibration**, operational noise for the Palo Alto Emergency Water Supply and Storage Project would include infrequent use of pumps and emergency generators. Potential noise impacts would be reduced to the degree feasible with implementation of Mitigation Measures 3.10-3a through 3.10-3c, which include sound-attenuated housing, noise surveys, and exhaust flow silencer. Other projects that may contribute to long-term noise impacts include the BART extension into Santa Clara County, new development at Stanford University, and residential, mixed use, and commercial development (Table 4-1). These projects have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize noise impacts.

With implementation of mitigation measures for projects listed in Table 4-1 and the mitigation measures described in **Section 3.10, Noise and Vibration**, the potential cumulative impacts associated with the proposed project would be considered less than significant.

Mitigation Measures

Measure 4.8: Implement Mitigation Measures 3.10-3a through 3.10-3c.

Significance after Mitigation: Less than Significant.

Impact 4.9: Concurrent construction of projects could result in a cumulative long-term increase in power usage.

As described in Section 3.12, Public Services and Utilities, construction of the wells, pump station and reservoir will result in a commitment of natural resources through direct consumption of fossil fuels and use of materials. Potential impacts would be reduced to the degree feasible with implementation of Mitigation Measure 3.12-3, which requires coordination with the City of Palo Alto Utilities (CPAU) regarding facility design, anticipated energy demands, and the use of renewable energy sources. Other projects that may contribute to long-term increases in power usage include BART extension into Santa Clara County, new development at Stanford University, Water System Portable Emergency Generators, traffic signals, and residential, mixed use, and commercial development (Table 4-1). These projects have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize power usage impacts.

With implementation of mitigation measures for projects listed in Table 4-1 and the mitigation measures described in Section 3.12, Public Services and Utilities, the potential cumulative impacts associated with the proposed project would be considered less than significant.

Mitigation Measures

Measure 4.9: Implement Mitigation Measure 3.12-3.

Significance after Mitigation: Less than Significant.

References – Cumulative Impacts

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