CITY OF EAST PALO ALTO
PAD D STANDBY WELL

Draft Environmental Impact Report

Prepared for
East Palo Alto

August 2020

ESA

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TABLE OF CONTENTS

City of East Palo Alto
Pad D Standby Well
Draft EIR

Page

List of Figures

List of Tables

CHAPTER 1
Project Summary

1.1 Project Synopsis

The City currently relies on the San Francisco Public Utilities Commission (SFPUC) for its potable water supplies. In July 2016, the City of East Palo Alto (City) adopted an ordinance, titled "An uncodified ordinance of the City of East Palo Alto temporarily prohibiting new or expanded water service connections within the service territory of the City's water system" (hereinafter referred to as "Water Moratorium"), because the City's historical demand exceeded or has been very close to its contractual allocation of SFPUC water in recent years.

In September 15, 2016, the City issued a Notice of Preparation (NOP) of an Environmental Impact Report (EIR), that described a proposed production well capable of producing between 500 and 750 acre-feet per year (AFY). The Initial Study attached to the NOP found that the proposed project would have potentially significant effects in the areas of hydrology and water quality, biological resources, and geology and soils. It also found that the project's effects on other environmental resource areas either would not be significant or would be less-than-significant with mitigation, or that the project would have no impact.

In 2017 and 2018, following the issuance of the NOP, the City successfully secured up to 1.5 million gallons per day (MGD) of additional supplies from the SFPUC through cooperative approval of Water Rights Transfer Agreements with the cities of Mountain View and Palo Alto respectively (City of East Palo Alto Public Works Department, 2020)[1], resulting in an increase in the amount of East Palo Alto's Individual Supply Guarantee[2] (ISG) to a total of 3.463 MGD. The City also rehabilitated the Gloria Way Well, consistent with the City's adopted 2015 Urban Water Management Plan.

On July 19, 2018, the City's Water Moratorium expired and there is no longer a moratorium on new or expanded water service connections within the City's water system service area. But, in addition to securing additional supplies to address the supply conditions that gave rise to the adoption of the Water Moratorium, the City must also plan for emergency disruption of SFPUC supplies. Because the City's municipal water supply system does not have any storage, any

[1] City of East Palo Alto Public Works Department, Public Works and Transportation Commission Agenda Report, dated 15 January 2020 (https://www.ci.east-palo-alto.ca.us/AgendaCenter/ViewFile/Agenda/_01152020-1585)

[2] The SFPUC provides water to the City through what it is called an Individual Supply Guarantee or ISG. The ISG is derived from a larger allocation formula developed through the Bay Area Water Supply and Conservation Agency (BAWSCA) wholesale water supply agreement with the SFPUC.

interruption in SFPUC supplies could leave the City without a potable water supply source, except for the City's recently re-activated Gloria Way well.

The City now proposes to construct a new municipal standby well -- the Pad D Well -- to secure a source of potable water supplies in the event of an emergency. This EIR therefore analyzes the potential effects of the Pad D Municipal Standby Well project. The proposed project facilities include, but are not limited to, the well and well pump, a chemical amendment system, a hydropneumatic/surge tank with connection for tank filling, pipe connections to the City's existing water distribution system, a potential future iron and manganese treatment system (with backwash holding tank, backwash holding tank decant water pumps, and water blending with a higher quality water source) or an emergency water storage tank.

Implementation of the Pad D Municipal Standby Well project would provide up to 33 AFY of emergency potable water supplies, thereby helping the City to address emergency water supply conditions.

The proposed project is being evaluated in accordance with the California Environmental Quality Act (CEQA) to identify the physical environmental impacts of the project. The City is the CEQA Lead Agency responsible for preparing this EIR in compliance with CEQA. This EIR is being prepared for the public and decision-makers to disclose the potential physical impacts of the project so that an informed judgement can be made about the project's environmental consequences.

1.2 Overview of East Palo Alto Water Supply

The City's distribution system is comprised of a network of 1.5-inch to 12-inch-diameter pipes. The City currently relies on the SFPUC for its potable water supplies. In 2016, the City imposed a moratorium on new or expanded water services connections due to insufficient water supply because the City's historical demand has exceeded or been very close to its contractual allocation of SFPUC water in recent years (e.g., demand exceeded the City's ISG of 1.963 MGD in 2013, 2008, and 2007 and was greater than 95% of the City's ISG in 2012, 2009, and 2006).

To remedy this supply shortage, the City successfully secured up to 1.5 MGD of additional supplies from the SFPUC through cooperative approval of Water Rights Transfer Agreements with the cities of Mountain View and Palo Alto in 2017 and 2018 respectively (City of East Palo Alto Public Works Department, 2020), resulting in an increase in the amount of East Palo Alto's ISG to a total of 3.463 MGD. The City has taken other actions and invested significant resources in diversifying its supply, including the rehabilitation of the Gloria Way Well, consistent with the City's adopted 2015 Urban Water Management Plan; drilling a test well at Pad D; adopting a Groundwater Management Plan in 2015; adopting surcharges for water supply and emergency storage investments and inefficient water meter replacement; and securing and allocating more than $3 million in outside funding to groundwater well projects.

1.3 Summary of Project Impacts and Mitigation Measures

The Initial Study that was issued on September 15, 2016, and attached to the NOP, found that the originally proposed production well project would have potentially significant effects in the areas of hydrology and water quality, biological resources, and geology and soils. It also found that the project's effects on other environmental resource areas either would not be significant or would be less-than-significant with mitigation, or that the project would have no impact.

This EIR analyzes the potential effects of the Pad D Municipal Standby Well project. **Table 1-1** (found at the end of this chapter) summarizes all impacts identified for the proposed project addressed in the environmental review for this EIR, whether their level of significance was found to be no impact, less-than-significant impact, or significant impact. For any impacts found to be significant, corresponding mitigation measures are included and the level of significance after mitigation is indicated.

The Initial Study identified resource topics that were determined not to apply to the proposed project and topics where the project would have no impact, less-than-significant impact, or less-than-significant with mitigation. For any impacts identified as significant in the Initial Study, corresponding mitigation measures are included that would reduce these impacts to a less-than-significant level. These topics, summarized in **Table 1-2** (found at the end of this chapter), are not addressed in this EIR.

Since the release of the NOP and Initial Study for the proposed project in 2016, additional updates codifying recent statute, regulations, and case law were incorporated into the CEQA Guidelines Appendix G Environmental Checklist Form, through text revisions adopted by the Natural Resources Agency and approved by the Office of Administrative Law as of December 28, 2018. The updates contained varying degrees of language changes across existing resource areas' impact questions, and they added sections for wildfire and energy to the checklist. Per CEQA Guidelines Section 15007, the 2018 amendments to the CEQA Guidelines are prospective only and, "new requirements in amendments will apply to steps in the CEQA process not yet undertaken by the date when agencies must comply with the amendments." Because the NOP and Initial Study were released prior to the effective date of the amendments, changes to Appendix G text for resource areas addressed only in the Initial Study (where all impacts could be mitigated to a less-than-significant level) will not be revisited in this EIR. However, the 2018 amendments for resource areas discussed in this EIR (i.e. hydrology and water quality, biological resources, and geology and soils) have been incorporated in the analysis herein.

Further, the new resource sections added by the 2018 amendments (wildfire and energy) do not apply to the proposed Project. Impacts associated with wildfire checklist questions are not relevant because the footprint of the proposed Project is limited to a flat, paved, unoccupied City-owned parcel outside of state responsibility areas or lands classified as very high fire hazard severity zones. Impacts associated with energy do not apply because the purpose of the proposed project is to secure a limited source of potable water supplies in the event of an emergency;

therefore, consumption of energy resources for the project would not be considered wasteful or inefficient and would not conflict with state or local energy plans.

As discussed in Chapter 5, Section 5.1, Growth-Inducing Impacts, the proposed project would not directly or indirectly induce population growth or the construction of housing.

1.4 Summary of Project Alternatives

This section describes the project alternatives that were selected and analyzed in accordance with CEQA Guidelines Section 15126.6(a). The alternatives to the proposed project selected for detailed analysis in this EIR are:

- Alternative 1: No Project Alternative
- Alternative 2: Bay/University Site Alternative

Table 1-3 (found at the end of this chapter) provides a brief description of these alternatives and highlights how they differ from the proposed project. Since the alternatives are conceptual, the evaluation is based on the available information and reasonable assumptions about how each alternative would be implemented.

Table 1-3 also summarizes the environmental impacts of the selected alternatives compared to those of the proposed project. This table presents the significant impacts of the proposed project as well as less-than-significant impacts whose severity would be different under the project alternatives than under the proposed project. **Table 1-3** does not include less-than-significant impacts of the proposed project that would have the same significance determination and/or impact severity as those of the project alternatives.

1.4.1 Alternative 1: No Project Alternative

In the event that the City of East Palo Alto does not approve the Pad D Standby Well project, the proposed well facilities and associated above-grade pumping, storage, chemical amendment, and (potential future) treatment system infrastructure and distribution pipelines would not be constructed. The existing Pad D test well would either remain in place as part of the City's ongoing groundwater monitoring plans or would be decommissioned as a monitoring well in accordance with the well abandonment and destruction requirements of the California Water Well Standards promulgated by the California Department of Water Resources and enforced by the San Mateo County Environmental Health Services Division. The No Project Alternative would not meet any of the project objectives.

Implementation of the No Project Alternative would result in continuation of current conditions and would therefore avoid all construction-related impacts of the project because no well facilities and distribution pipelines would be constructed. It would avoid any long-term operational impacts related to changes in groundwater elevation, potential effects on other wells, and potential subsidence. Under the No Project Alternative, there would be no potential to cause wind-blown dust that could generate particulate matter and violate air quality standards (Impact

AIR-b); no impact on common nesting birds from construction activities (Impact BIO-a); no potential to encounter significant archaeological resources or disturb human remains (Impact CU-b,d); no potential to encounter unknown hazardous contamination or accidentally release hazardous materials that could affect the public or water quality (Impacts HZ-b and HY-a); there would be no road construction that could result in delays for emergency vehicles or interfere with an adopted emergency response plan or evacuation plan (Impact HZ-g); no ground disturbance that could increase soil erosion (Impact HY-a); no nighttime construction to exceed standards of the Noise Ordinance (Impact NOI-a,d); and there would be no disruptions to traffic and transportation that could cause a conflict with local traffic policies, increase traffic safety hazards, cause inadequate emergency vehicle access, or interfere with transit, bicycle, or pedestrian facilities (Impacts TR-a,d,e,f).

1.4.2 Alternative 2: Bay/University Site

Under Alternative 2, the proposed standby well would be constructed as described but at a different location. The well at the Bay/University site would pump groundwater into the existing distribution system in the event of an emergency interruption of Hetch Hetchy water from the SFPUC.

This alternative would include the same physical infrastructure as the proposed project at the Pad D Well site, including pumps and pipes, and like the proposed project at Pad D, would operate only during an emergency event and for not more than 5 consecutive days or 15 days total in any given year. The proposed project would produce up to 33 AFY.

The intent and main benefit of Alternative 2 is to decrease the potential for adverse effects associated with nesting birds and noise during construction, because of there being fewer trees and residences at the Bay/University site compared to the Pad D site.

As shown in **Table 1-3**, Alternative 2 would have the same potential construction impacts as the proposed project related to the violation of air quality standards (Impact AIR-b); the potential to encounter significant archaeological resources or disturb human remains (Impact CU-b, d); the potential to encounter unknown hazardous contamination or accidentally release hazardous materials that could affect public water quality (Impacts HZ-b and HY-a); the potential for construction to result in delays for emergency vehicles or interfere with an adopted emergency response plan or evacuation plan (Impact HZ-g); the potential for ground disturbance to increase soil erosion (Impact HY-a); the potential for nighttime construction to exceed standards of the Noise Ordinance (Impact NOI-a, d); and the potential to disrupt traffic and transportation which could conflict with local traffic policies, increase traffic safety hazards, cause inadequate emergency vehicle access, or interfere with transit, bicycle, or pedestrian facilities (Impacts TR-a,d,e,f).

From a construction impact standpoint, the impact on common nesting birds (Impact BIO-a) could be reduced or eliminated because of the fewer number of tress at the Bay/University site, and the exposure of persons to noise levels in excess of standards established in the local general plan or noise ordinance (NOI-a) could be reduced because of fewer nearby sensitive receptors (residences), compared to Pad D. However, the potential for lowered groundwater elevations and

the creation of a temporary cone of depression during operations such that other groundwater wells would be adversely affected (Impact 4.2-2) such that they cannot operate as designed, would be greater at the Bay/University site because of its proximity to the existing and rehabilitated Gloria Way Well Project. Furthermore, the Bay/University site is located close enough to the San Francisco Bay that future sea level rise and the resultant sea water intrusion could limit the feasibility of this well location over time.

1.4.3 Environmentally Superior Alternative

The No Project Alternative would eliminate all of the potential construction-related impacts of the Proposed Project. While the Proposed Project and the Bay/University Site Alternative would meet all of the project objectives in the near term, the No Project Alternative would not. Under the No Project Alternative there would be no source of alternative water supply following an earthquake or other local or regional emergency event that impairs the water supply from SFPUC's Hetch Hetchy system. The Bay/University Site Alternative would reduce the potential construction-related impact on nesting birds and noise compared to the Proposed Project, but pumping at the Bay/University site may affect groundwater levels that could affect other nearby wells. Because the Bay/University site is closer to San Francisco Bay than the Proposed Project, it becomes more vulnerable to rising sea levels and seawater intrusion which could jeopardize the feasibility of this well to meet the project objectives in the longer term.

Therefore, the Proposed Project is considered to be the environmentally superior alternative among the project alternatives (other than the No Project Alternative). While the Bay/University site would reduce the severity of a construction-related impact, it could result in a potential operational impact (impact to adjacent wells) that the Proposed Project would not. The Proposed Project would eliminate the potential for long-term impacts on local and regional groundwater and other wells while retaining the construction-related impacts and is therefore, considered to be the environmentally superior alternative.

1.5 Areas of Known Controversy and Issues to be Resolved

In accordance with Sections 15063 and 15082 of the *CEQA Guidelines*, the City of East Palo Alto sent a Notice of Preparation (NOP) to responsible agencies, trustee agencies, and other interested entities and individuals to begin the formal CEQA scoping process for the Pad D Well project. A more detailed description of the NOP process and a summarized list of concerns that were noted in the public comments on the NOP and at the public scoping meetings are provided in Chapter 2, Introduction and Background. However, there are no specific areas of known controversy or issues to be resolved.

TABLE 1-1
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE EIR

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hydrology and Water Quality			
Impact 4.2-1: Groundwater pumping at the Pad D Well could result in physical damage to nearby municipal/public production wells caused by lowering static water levels below the top of the well screen and reducing the nearby the ability of the well to maintain intended rates of production	Less than Significant	None required	
Impact 4.2-2: Groundwater pumping at the Pad D Well could lower groundwater levels in a nearby private/domestic groundwater supply well(s) such that there would be a substantial reduction in well yield, or physical damage due to exposure of well screens and well pumps.	Less than Significant	None required	
Impact 4.2-3: Groundwater pumping at the Pad D Well could capture stream flow from San Francisquito Creek channel or divert shallow groundwater that would otherwise recharge the creek, causing a decline in stream level and flow.	Less than Significant	None required	
Impact 4.2-4: Groundwater pumping at the Pad D Well could alter groundwater patterns thereby causing saline water intrusion and exacerbating the migration of groundwater contaminates. This could violate water quality standards or otherwise degrade water quality.	Less than Significant	None required	
Impact 4.2-C: Cumulative impacts related to Groundwater Resources.	Less than Significant	None required	

TABLE 1-1 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE EIR

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Biological Resources			
Impact 4.3-1: Groundwater pumping at the Pad D Well could capture stream flow from San Francisquito Creek channel or divert shallow groundwater that would otherwise recharge the creek, causing a decline in stream level and flow, and associated effects on biological resources.	Less than Significant	None required	
Impact 4.3-C: Cumulative impacts related to Biological Resources.	Less than Significant	None required	
Geology and Soils			
Impact 4.4-1: Groundwater pumping at the Pad D Well could lower localized water levels below the historical lows thereby initiating compaction of the fine-grained sediments and leading to irreversible ground subsidence, which could cause structural instability for utilities and foundations.	Less than Significant	None required	
Impact 4.4-C: Cumulative impacts related to Geology and Soils.	Less than Significant	None required	

TABLE 1-2
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
Impact AE-a: The proposed project would not have a substantial adverse effect on a scenic vista.	No Impact	None required	
Impact AE-b: The proposed project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact	None required	
Impact AE-c: The proposed project would not degrade existing visual character or quality of the site and its surroundings.	Less than Significant	None required	
Impact AE-d: The proposed project would not result in a substantial source of light and glare.	Less than Significant	None required	
Impact AE-C: The proposed project would not have a significant cumulative impact on aesthetics.	Less than Significant	None required	
Agriculture and Forestry Resources			
Impact AG-a: The proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.	No Impact	None required	
Impact AG-b: The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.	No Impact	None required	
Impact AG-c: The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	No Impact	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Agriculture and Forestry Resources (cont.)			
Impact AG-d: The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.	No Impact	None required	
Impact AG-e: The proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.	No Impact	None required	
Air Quality			
Impact AIR-a: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	None required	
Impact AIR-b: The proposed project would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Significant	**Mitigation Measure AIR-1: Dust Control Plan.** The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All streets, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points.	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Air Quality (cont.)			
Impact AIR-b (cont.)		7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 8. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	
Impact AIR-c: The proposed project could result in cumulative air quality impacts associated with criteria pollutant and precursor emissions and health risks, but the project's contribution would not be cumulatively considerable.	Significant	**Mitigation Measure AIR-1: Dust Control Plan.** The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All streets, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 8. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	Less than Significant
Impact AIR-d: The proposed project would not expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Air Quality (cont.)			
Impact AIR-e: The proposed project would not create objectionable odors affecting a substantial number of people.	Less than Significant	None required	
Biological Resources			
Impact BIO-a: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on common nesting birds.	Significant	**Mitigation Measure BIO-1: Measures to Minimize Disturbance to Nesting Birds.** As part of construction contractor specifications, the City of East Palo Alto shall require the contractor(s) to avoid disturbing bird nests during construction. If site clearing and preparation is scheduled to occur during the nonbreeding season (September 1 through January 31), no further mitigation is required. If site clearing and preparation, including vegetation removal, is scheduled to occur during the breeding season (February 1 through August 31), the following measures shall be implemented to avoid potential adverse effects to nesting birds: • A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within 250 feet of the construction disturbance area. If no active nests are found during the preconstruction surveys, no further mitigation is required. Trees and shrubs within the construction footprint that have been determined to be unoccupied by special-status birds or that are located outside the no-disturbance buffer for active nests may be removed, provided their removal is authorized by Project approval. • If active nests are found during preconstruction surveys, the qualified biologist shall coordinate with the California Department of Fish and Wildlife and establish a no-disturbance buffer around the nesting location(s) to avoid disturbance or destruction of the nest site to avoid disturbance or destruction of the nest until after the breeding season or until after the qualified wildlife biologist determines the young have fledged (usually late June through mid-July). The extent of the buffer shall be determined by the wildlife biologist based on the species' sensitivity to disturbance (which can vary among species); the level of noise or construction disturbance; line of sight between the nest and disturbance; ambient noise levels; and consideration of other topographical or artificial barriers. Any nests initiated during construction are presumed to be unaffected and no buffer is necessary.	Less than Significant
Impact BIO-b: The proposed project would not affect the San Francisquito Creek corridor, coastal salt marshes, or open water/tidal sloughs.	No Impact	None required	
BIO-c: The proposed project would not directly affect any wetlands and would not be expected to indirectly affect wetlands located over 0.5 mile from the site.	No Impact	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Biological Resources (cont.)			
Impact BIO-d: The proposed project is not part of an established native resident or migratory wildlife corridor.	No Impact	None required	
Impact BIO-e: The proposed project would not conflict with any local policies or ordinances intended to protect biological resources.	No Impact	None required	
Impact BIO-f: The proposed project would not conflict with the provisions of a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	No Impact	None required	
Impact BIO-C: The proposed project would not result in cumulatively significant impacts on biological resources.	Less than Significant	None required	
Cultural Resources			
Impact CR-a: The proposed project would not cause a substantial adverse change in the significance of a historical resources as defined in §15064.5.	No Impact	None required	
Impact CR-b: The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	Significant	**Mitigation Measure CR-1: Inadvertent Discovery of Archaeological Resources.** If prehistoric or historic-era archaeological resources are encountered, all construction activities within 100 feet shall halt and the City shall be notified. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the City. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Cultural Resources (cont.)			
Impact CR-b (cont.)		the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.	
Impact CR-c: The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature.	Less than Significant	None required	
Impact CR-d: The proposed project could disturb human remains, including those interred outside or formal cemeteries.	Significant	**Mitigation Measure CR-2: Inadvertent Discovery of Human Remains.** In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the San Mateo County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the City for the appropriate means of treating the human remains and any grave goods.	Less than Significant
Impact CR-e: The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in §21074.	No Impact	None required	
Impact CR-C: The proposed project would not contribute to cumulative impact to cultural resources.	No Impact	None required	
Geology and Soils			
Impact GEO-a: The proposed project would not expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, or landslides.	Less than Significant	None required	
Impact GEO-b: The proposed project would not result in soil erosion or the loss of topsoil.	Less than Significant	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Geology and Soils (cont.)			
Impact GEO-c: The proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Less than Significant	None required	
Impact GEO-d: The proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	No Impact	None required	
Impact GEO-e: The proposed project does not involve the use of septic tanks or alternative wastewater disposal systems.	No Impact	None required	
Impact GEO-C: The proposed project would not contribute to cumulative impacts related to geological resources during construction.	Less than Significant	None required	
Greenhouse Gas Emissions			
Impact GHG-a: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment.	Less than Significant	None required	
Impact GHG-b: The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than Significant	None required	
Hazards and Hazardous Materials			
Impact HZ-a: The proposed project would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials.	Less than Significant	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials (cont.)			
Impact HZ-b: The proposed project could encounter unknown contaminants during construction.	Significant	**Mitigation Measure HZ-1: Hazardous Materials Handling and Disposal.** Contractor specifications shall include procedures for handling and disposal of suspected contaminated soils. In the event that suspected contaminated soils are observed during construction, the contractor shall segregate these materials from other soils and notify San Mateo County Environmental Health Services Division (SMCEHSD). The suspected soils shall be placed on visqueen or equivalent impervious material and covered for protection. The contractor shall then coordinate with the SMCEHSD for the safe handling, sampling, and disposal of the suspected materials in accordance with state regulations. **Mitigation Measure HYD-1: Construction Best Management Practices.** The City shall incorporate into contractor specifications the requirement that, in addition to the erosion control plan, the construction contractor(s) implement construction Best Management Practices (BMPs) to minimize soil erosion and downstream sedimentation of receiving waterbodies, and the accidental release of hazardous construction materials during construction. The following BMPs shall be required: ***Sediment Control Practices*** • Install silt fences and fiber rolls downgradient of disturbed areas • Install temporary storm drain inlet protection ***Water Quality Best Management Practices*** • Place drip pans under construction vehicles and all parked equipment • Check construction equipment for leaks regularly • Refuel vehicles and equipment at least 100 feet from storm drains to minimize the risk of run-on, runoff, and spills that could affect water bodies • Conduct fueling in paved and curbed areas to contain spills if this is possible; if not, refuel over drip pans or absorptive mats • Cover all storm drain inlets when paving or applying seals or similar materials to prevent the offsite discharge of these materials ***Waste Management and Hazardous Materials Pollution Control*** • Require secondary containment of hazardous construction chemicals to prevent the accidental release of these chemicals to the stormwater drainage system • Remove trash and construction debris from the project site at regular intervals • Store all hazardous materials in an area protected from rainfall and stormwater run-on and prevent the offsite discharge of leaks or spills • Train construction personnel in proper material delivery, handling, storage, cleanup, and disposal procedures • Document compliance with storage and handling requirements for hazardous materials	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials (cont.)			
Impact HZ-c: The proposed project would not emit hazardous emissions for handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than Significant	None required	
Impact HZ-d: The proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment.	No Impact	None required	
Impact HZ-e: The proposed project would not result in impacts related to airport safety hazards.	No Impact	None required	
Impact HZ-f: The proposed project would not result in impacts related to private airstrip safety hazards.	No Impact	None required	
Impact HZ-g: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Significant	**Mitigation Measure TR-1: Traffic Control Plan.** The construction contractor(s) shall be required to prepare and implement a traffic control plan to manage traffic flow around the construction zone, minimize construction-related traffic along Clarke Avenue and other neighborhood streets, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with jurisdictional agencies (e.g., San Mateo County and Caltrans), as appropriate. As applicable, the traffic control plan shall conform to the California Manual on Uniform Traffic Control Devices, Part 6 (Temporary Traffic Control) (Caltrans, 2012). At a minimum, the traffic control plan shall include the following elements: • A circulation and detour plan to minimize circulation impacts on local roadways, bicycle lanes, and sideways when construction activities occur within road rights-of-way and during lane closures. Flaggers and/or signage shall be used to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone. • Designated truck routes to minimize construction truck traffic on Clarke Avenue and other local roadways to the extent possible. • The requirement that construction truck-related trips be scheduled outside of peak commute hours to the extent possible. • The requirement that construction contractors limit the duration of lane closures to the extent possible. •	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials (cont.)			
Impact HZ-g (cont.)		• Roadside safety protocols, including posting advance "Road Work Ahead" warning and speed control signs (including those informing drivers of State-legislated double fines for speed infractions in a construction zone), to provide safe traffic flow through the construction zone. • The requirement that the City, or its construction contractor(s), provide advance notification to public transportation providers (e.g., SamTrans), local police stations, fire stations, and emergency service providers of the timing, location, and duration of construction activities, detours, and lane closures, as applicable. • The requirement that construction contractors repair and restore affected roadway rights-of way and sidewalks to their original condition after construction is completed.	
Impact HZ-h: The proposed project would not 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.	Less than Significant	None required	
Impact HZ-C: The proposed project, in combination with the construction of the POC project, could contribute to cumulative effects related to the accidental release of hazardous construction chemicals in the environment during construction.	Significant	**Mitigation Measure HZ-1: Hazardous Materials Handling and Disposal.** Contractor specifications shall include procedures for handling and disposal of suspected contaminated soils. In the event that suspected contaminated soils are observed during construction, the contractor shall segregate these materials from other soils and notify San Mateo County Environmental Health Services Division (SMCEHSD). The suspected soils shall be placed on visqueen or equivalent impervious material and covered for protection. The contractor shall then coordinate with the SMCEHSD for the safe handling, sampling, and disposal of the suspected materials in accordance with state regulations. **Mitigation Measure HYD-1: Construction Best Management Practices.** The City shall incorporate into contractor specifications the requirement that, in addition to the erosion control plan, the construction contractor(s) implement construction Best Management Practices (BMPs) to minimize soil erosion and downstream sedimentation of receiving waterbodies, and the accidental release of hazardous construction materials during construction. The following BMPs shall be required: ***Sediment Control Practices*** • Install silt fences and fiber rolls downgradient of disturbed areas • Install temporary storm drain inlet protection ***Water Quality Best Management Practices*** • Place drip pans under construction vehicles and all parked equipment • Check construction equipment for leaks regularly •	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials (cont.)			
Impact HZ-C (cont.)		• Refuel vehicles and equipment at least 100 feet from storm drains to minimize the risk of run-on, runoff, and spills that could affect water bodies • Conduct fueling in paved and curbed areas to contain spills if this is possible; if not, refuel over drip pans or absorptive mats • Cover all storm drain inlets when paving or applying seals or similar materials to prevent the offsite discharge of these materials ***Waste Management and Hazardous Materials Pollution Control*** • Require secondary containment of hazardous construction chemicals to prevent the accidental release of these chemicals to the stormwater drainage system • Remove trash and construction debris from the project site at regular intervals • Store all hazardous materials in an area protected from rainfall and stormwater run-on and prevent the offsite discharge of leaks or spills • Train construction personnel in proper material delivery, handling, storage, cleanup, and disposal procedures • Document compliance with storage and handling requirements for hazardous materials	
Impact HY-a: The proposed project would violate water quality standards or waste discharge requirements.	Significant	**Mitigation Measure HYD-1: Construction Best Management Practices.** The City shall incorporate into contractor specifications the requirement that, in addition to the erosion control plan, the construction contractor(s) implement construction Best Management Practices (BMPs) to minimize soil erosion and downstream sedimentation of receiving waterbodies, and the accidental release of hazardous construction materials during construction. The following BMPs shall be required: ***Sediment Control Practices*** • Install silt fences and fiber rolls downgradient of disturbed areas • Install temporary storm drain inlet protection ***Water Quality Best Management Practices*** • Place drip pans under construction vehicles and all parked equipment • Check construction equipment for leaks regularly • Refuel vehicles and equipment at least 100 feet from storm drains to minimize the risk of run-on, runoff, and spills that could affect water bodies • Conduct fueling in paved and curbed areas to contain spills if this is possible; if not, refuel over drip pans or absorptive mats •	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials (cont.)			
Impact HY-a (cont.)		• Cover all storm drain inlets when paving or applying seals or similar materials to prevent the offsite discharge of these materials ***Waste Management and Hazardous Materials Pollution Control*** • Require secondary containment of hazardous construction chemicals to prevent the accidental release of these chemicals to the stormwater drainage system • Remove trash and construction debris from the project site at regular intervals • Store all hazardous materials in an area protected from rainfall and stormwater run-on and prevent the offsite discharge of leaks or spills • Train construction personnel in proper material delivery, handling, storage, cleanup, and disposal procedures • Document compliance with storage and handling requirements for hazardous materials	
Impact HY-c: The proposed project would not substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site.	Less than Significant	None required	
Impact HY-d: The proposed project would not substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.	Less than Significant	None required	
Impact HY-e: The proposed project would not 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.	Less than Significant	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials (cont.)			
Impact HY-g: The proposed project would not 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.	No Impact	None required	
Impact HY-h: The proposed project would not Place within a 100-year flood hazard area structures that would impede or redirect flood flows.	No Impact	None required	
Impact HY-i: The proposed project would not Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	No Impact	None required	
Impact HY-j: The proposed project would not Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.	No Impact	None required	
Impact HY-C: The proposed project would not contribute cumulative effects to hydrology and water quality.	Less than Significant	None required	
Land Use Planning			
Impact LU-a: The proposed project would not physically divide an established community.	No Impact	None required	
Impact LU-b: The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.	No Impact	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Land Use Planning (cont.)			
Impact LU-c: The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan.	No Impact	None required	
Mineral Resources			
Impact MI-a: The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	No Impact	None required	
Impact MI-b: The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	No Impact	None required	
Noise			
Impact NOI-a: The proposed project would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Significant	**Mitigation Measure NOI-1: Nighttime Construction Noise Control.** For nighttime construction work (8:00 p.m. to 7:00 a.m.), the project applicant or its construction contractor(s) shall identify feasible noise controls for implementation during well drilling development activities. The construction contractor(s) shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Drill rigs within 500 feet of noise-sensitive receptors shall be equipped with noise-reducing engine housings or other noise-reducing technology, and the line of sight between the drill rig and nearby sensitive receptors blocked by acoustic barriers and/or enclosures with a goal of reducing noise levels resulting from well drilling and development activities to 60 dBA, L_{eq} or less at a distance of 100 feet from the construction work area. Barrier blankets are available with a sound transmission class rating of 32, providing 16 to 40 dBA of sound transmission loss, depending on the frequency of the noise source (ENC, 2014)3, which would be sufficient to attain this performance standard. **Mitigation Measure NOI-2: Neighborhood Notice.** Although notification as a mitigation does not result in lowered construction noise levels, early communication can result in a lessening the adversity of the impact at a given receptor by allowing them to prepare for pending construction activities. Residents and other sensitive receptors within 300 feet of a nighttime construction area shall	Less than Significant

3 Environmental Noise Control (ENC), 2014. Product Specification Sheet, ENC STC-32 Sound Control Panel System, 2014.

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Noise (cont.)			
Impact NOI-a (cont.)		be notified of the construction location, nature of activities, and schedule, in writing, at least 14 days prior to the commencement of construction activities. The project applicant or the contractor(s) shall designate a construction disturbance coordinator who would be responsible for responding to construction complaints. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the construction disturbance coordinator shall be conspicuously placed on construction site fences and included in the notice. Prior to distributing the notice to nearby residences, the project applicant the contractor(s) shall first submit the notice to the city planning and services manager for review and approval.	
Impact NOI-b: The proposed project would not result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.	Less than Significant	None required	
Impact NOI-c: The proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than Significant	None required	
Impact NOI-d: The proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	Significant	**Mitigation Measure NOI-1: Nighttime Construction Noise Control.** For nighttime construction work (8:00 p.m. to 7:00 a.m.), the project applicant or its construction contractor(s) shall identify feasible noise controls for implementation during well drilling development activities. The construction contractor(s) shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Drill rigs within 500 feet of noise-sensitive receptors shall be equipped with noise-reducing engine housings or other noise-reducing technology, and the line of sight between the drill rig and nearby sensitive receptors blocked by acoustic barriers and/or enclosures with a goal of reducing noise levels resulting from well drilling and development activities to 60 dBA, L_{eq} or less at a distance of 100 feet from the construction work area. Barrier blankets are available with a sound transmission class rating of 32, providing 16 to 40 dBA of sound transmission loss, depending on the frequency of the noise source (ENC, 2014)4, which would be sufficient to attain this performance standard.	Less than Significant

4 Environmental Noise Control (ENC), 2014. Product Specification Sheet, ENC STC-32 Sound Control Panel System, 2014.

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Noise (cont.)			
Impact NOI-e: The proposed project is not located within an Airport Safety Zone, Noise Reduction Area, or an Airport Influence Area depicted in the CLUP, therefore it would not expose people residing or working in the area to excessive noise levels.	No Impact	None required	
Impact NOI-f: The proposed project is not located in the vicinity of a private airstrip; therefore, it would not expose people residing or working in the project area to excessive noise levels.	No Impact	None required	
Impact NOI-C: The proposed project would not contribute to cumulative noise impacts during construction or operation.	No Impact	None required	
Population and Housing			
Impact POP-a: The proposed project would not directly involve the development of new housing nor directly induce growth by establishing substantial permanent employment opportunities that could stimulate population growth.	Less than Significant	None required	
Impact POP-b: The proposed project would not displace substantial numbers of existing housing units, and therefore would not necessitate the construction of replacement housing elsewhere.	No Impact	None required	
Impact POP-c: The proposed project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.	No Impact	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Population and Housing (cont.)			
Impact POP-C: The proposed project would not contribute to cumulative impacts related to population and housing.	No Impact	None required	
Public Services			
Impact PS-a: The proposed project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.	No Impact	None required	
Recreation			
Impact REC-a: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	No Impact	None required	
Impact REC-b: The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	No Impact	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Transportation and Traffic			
Impact TR-a: The proposed project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.	Significant	**Mitigation Measure TR-1: Traffic Control Plan.** The construction contractor(s) shall be required to prepare and implement a traffic control plan to manage traffic flow around the construction zone, minimize construction-related traffic along Clarke Avenue and other neighborhood streets, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with jurisdictional agencies (e.g., San Mateo County and Caltrans), as appropriate. As applicable, the traffic control plan shall conform to the California Manual on Uniform Traffic Control Devices, Part 6 (Temporary Traffic Control) (Caltrans, 2012). At a minimum, the traffic control plan shall include the following elements: • A circulation and detour plan to minimize circulation impacts on local roadways, bicycle lanes, and sideways when construction activities occur within road rights-of-way and during lane closures. Flaggers and/or signage shall be used to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone. • Designated truck routes to minimize construction truck traffic on Clarke Avenue and other local roadways to the extent possible. • The requirement that construction truck-related trips be scheduled outside of peak commute hours to the extent possible. • The requirement that construction contractors limit the duration of lane closures to the extent possible. • Roadside safety protocols, including posting advance “Road Work Ahead” warning and speed control signs (including those informing drivers of State-legislated double fines for speed infractions in a construction zone), to provide safe traffic flow through the construction zone. • The requirement that the City, or its construction contractor(s), provide advance notification to public transportation providers (e.g., SamTrans), local police stations, fire stations, and emergency service providers of the timing, location, and duration of construction activities, detours, and lane closures, as applicable. • The requirement that construction contractors repair and restore affected roadway rights-of way and sidewalks to their original condition after construction is completed.	Less than Significant
Impact TR-b: The proposed project would not conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	Less than Significant	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
Impact TR-c: The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	No Impact	None required	
Impact TR-d: The proposed project would substantially increase hazards due to a design feature or incompatible uses.	Significant	**Mitigation Measure TR-1: Traffic Control Plan.** The construction contractor(s) shall be required to prepare and implement a traffic control plan to manage traffic flow around the construction zone, minimize construction-related traffic along Clarke Avenue and other neighborhood streets, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with jurisdictional agencies (e.g., San Mateo County and Caltrans), as appropriate. As applicable, the traffic control plan shall conform to the California Manual on Uniform Traffic Control Devices, Part 6 (Temporary Traffic Control) (Caltrans, 2012). At a minimum, the traffic control plan shall include the following elements: • A circulation and detour plan to minimize circulation impacts on local roadways, bicycle lanes, and sideways when construction activities occur within road rights-of-way and during lane closures. Flaggers and/or signage shall be used to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone. • Designated truck routes to minimize construction truck traffic on Clarke Avenue and other local roadways to the extent possible. • The requirement that construction truck-related trips be scheduled outside of peak commute hours to the extent possible. • The requirement that construction contractors limit the duration of lane closures to the extent possible. • Roadside safety protocols, including posting advance “Road Work Ahead” warning and speed control signs (including those informing drivers of State-legislated double fines for speed infractions in a construction zone), to provide safe traffic flow through the construction zone. • The requirement that the City, or its construction contractor(s), provide advance notification to public transportation providers (e.g., SamTrans), local police stations, fire stations, and emergency service providers of the timing, location, and duration of construction activities, detours, and lane closures, as applicable. • The requirement that construction contractors repair and restore affected roadway rights-of way and sidewalks to their original condition after construction is completed.	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
Impact TR-e: The proposed project would result in inadequate emergency access.	Significant	**Mitigation Measure TR-1: Traffic Control Plan.** The construction contractor(s) shall be required to prepare and implement a traffic control plan to manage traffic flow around the construction zone, minimize construction-related traffic along Clarke Avenue and other neighborhood streets, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with jurisdictional agencies (e.g., San Mateo County and Caltrans), as appropriate. As applicable, the traffic control plan shall conform to the California Manual on Uniform Traffic Control Devices, Part 6 (Temporary Traffic Control) (Caltrans, 2012). At a minimum, the traffic control plan shall include the following elements: • A circulation and detour plan to minimize circulation impacts on local roadways, bicycle lanes, and sideways when construction activities occur within road rights-of-way and during lane closures. Flaggers and/or signage shall be used to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone. • Designated truck routes to minimize construction truck traffic on Clarke Avenue and other local roadways to the extent possible. • The requirement that construction truck-related trips be scheduled outside of peak commute hours to the extent possible. • The requirement that construction contractors limit the duration of lane closures to the extent possible. • Roadside safety protocols, including posting advance “Road Work Ahead” warning and speed control signs (including those informing drivers of State-legislated double fines for speed infractions in a construction zone), to provide safe traffic flow through the construction zone. • The requirement that the City, or its construction contractor(s), provide advance notification to public transportation providers (e.g., SamTrans), local police stations, fire stations, and emergency service providers of the timing, location, and duration of construction activities, detours, and lane closures, as applicable. • The requirement that construction contractors repair and restore affected roadway rights-of way and sidewalks to their original condition after construction is completed.	Less than Significant

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
Impact TR-f: The proposed project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Significant	**Mitigation Measure TR-1: Traffic Control Plan.** The construction contractor(s) shall be required to prepare and implement a traffic control plan to manage traffic flow around the construction zone, minimize construction-related traffic along Clarke Avenue and other neighborhood streets, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with jurisdictional agencies (e.g., San Mateo County and Caltrans), as appropriate. As applicable, the traffic control plan shall conform to the California Manual on Uniform Traffic Control Devices, Part 6 (Temporary Traffic Control) (Caltrans, 2012). At a minimum, the traffic control plan shall include the following elements: • A circulation and detour plan to minimize circulation impacts on local roadways, bicycle lanes, and sideways when construction activities occur within road rights-of-way and during lane closures. Flaggers and/or signage shall be used to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone. • Designated truck routes to minimize construction truck traffic on Clarke Avenue and other local roadways to the extent possible. • The requirement that construction truck-related trips be scheduled outside of peak commute hours to the extent possible. • The requirement that construction contractors limit the duration of lane closures to the extent possible. • Roadside safety protocols, including posting advance “Road Work Ahead” warning and speed control signs (including those informing drivers of State-legislated double fines for speed infractions in a construction zone), to provide safe traffic flow through the construction zone. • The requirement that the City, or its construction contractor(s), provide advance notification to public transportation providers (e.g., SamTrans), local police stations, fire stations, and emergency service providers of the timing, location, and duration of construction activities, detours, and lane closures, as applicable. • The requirement that construction contractors repair and restore affected roadway rights-of way and sidewalks to their original condition after construction is completed.	Less than Significant
Impact TR-C: The proposed project would not contribute to substantial cumulative impacts related to transportation and traffic.	Less than Significant	None required	
Utilities and Service Systems			
Impact UT-a: The proposed project would not conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board.	No Impact	None required	

TABLE 1-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT – DISCLOSED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Prior to Mitigation	Improvement/ Mitigation Measure(s)	Level of Significance After Mitigation
Utilities and Service Systems (cont.)			
Impact UT-b: The proposed project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	No Impact	None required	
Impact UT-c: The proposed project would not require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.	No Impact	None required	
Impact UT-d: The proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.	No Impact	None required	
Impact UT-e: The proposed project would not result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than Significant	None required	
Impact UT-f: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than Significant	None required	
Impact UT-g: The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	Less than Significant	None required	
Impact UT-C: The proposed project would not contribute to cumulative effects related to utilities and service systems.	Less than Significant	None required	

TABLE 1-3
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
Impact AIR-b: The project would violate air quality standards or contribute substantially to an existing or projected air quality violation. (Less than Significant with Mitigation)	Project related construction activities at the project site may cause wind-blown dust that could generate particulate matter into the atmosphere. Fugitive dust includes not only PM10 and PM2.5 but also larger particles that can represent a nuisance impact. For mitigation of fugitive dust emissions, the BAAQMD recommends using specific best management practices (BMPs), which has been a practical and effective approach to control fugitive dust emissions. The guidelines note that individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent and conclude that projects that implement construction BMPs would reduce fugitive dust emissions to a less than significant level.	**No Impact** There would be no construction that would cause wind-blown dust that could generate atmospheric particulate matter.	**Less than Significant with Mitigation** Construction activities for this alternative would be the same as those described in the proposed project, and the potential for construction-related wind-blown fugitive dust or other changes to atmospheric particulate matter would be unchanged.
BIO-a: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant with Mitigation)	All bird nesting activity is protected under California Fish and Game Code and the Migratory Bird Treaty Act. Construction noise and human disturbance could cause nest abandonment, death of the young, or loss of reproductive potential at active nests within or adjacent to the project site, a potentially significant impact.	**No Impact.** There would be no construction noise that could impact common nesting birds.	**Less than Significant with Mitigation** Construction activities at the Bay/University Site would be similar to those described for the proposed project, and the effects from construction noise and human disturbance on nesting birds, would be **lessened** due to the presence of fewer trees.
CU-b: The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5. (Less than Significant with Mitigation)	The proposed depth of disturbance ranges from less than 4 feet for support facilities and pipelines to 575 feet for the well installation. The potential for exposing significant archaeological materials not exposed previously appears low within both the horizontal and vertical APE. While unlikely, the inadvertent discovery of archaeological resources cannot be entirely discounted. Disturbance to an archaeological resource would be a significant impact.	**No Impact** There would be no construction that would inadvertently expose significant archaeological materials**.**	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for inadvertent exposure of significant archaeological materials would be unchanged.

TABLE 1-3 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
CU-d: The project could disturb human remains, including those interred outside of a formal cemetery. (Less than Significant with Mitigation)	There is no indication from the archival research that any part of the project area has been used for human burial purposes in the recent or distant past. Therefore, it is unlikely that human remains would be encountered during construction of the project. However, the possibility of inadvertent discovery cannot be entirely discounted, and would result in a potentially significant impact.	**No Impact** There would be no construction that would inadvertently disturb human remains.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for inadvertent disturbance of human remains would be unchanged.
HZ-b: The project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)	Although the potential for encountering hazardous materials is low, the possibility exists for unknown contamination to be encountered during construction, a potentially significant impact. Storage and use of hazardous materials at construction sites and staging areas could result in the accidental release of small quantities of hazardous materials which could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies. The potential for an accidental hazardous materials release during construction to affect the public or the environment represents a potentially significant impact.	**No Impact** There would be no construction activities that would encounter unknown hazardous materials, or that would result in the accidental release of hazardous materials.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential to encounter unknown hazardous materials or to result in the accidental release of hazardous materials would be unchanged.
Impact HZ-g: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant with Mitigation)	Installation of pipeline connections within the roadways immediately adjacent to the project site are anticipated to result in temporary single-lane closures along portions of Clarke Avenue. Temporary reductions in travel lanes and road capacity on Clarke Avenue to accommodate the construction zone could result in delays for emergency vehicles in the vicinity of the Pad D Well site.	**No Impact** There would be no pipeline installation, and therefore no temporary single-lane closures or reduction in road capacity that would result in delays for emergency vehicles or interfere with an adopted emergency response or evacuation plan.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential to result in delays for emergency vehicles or interfere with an adopted emergency response or evacuation plan would be unchanged.

TABLE 1-3 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
Impact HY-a: The proposed project would violate water quality standards or waste discharge requirements. (Less than Significant with Mitigation)	Although the proposed improvements would be sited on relatively level ground, construction activities, if not properly managed, could increase soil erosion and adversely affect water quality in downstream receiving water bodies. Construction activities would require the use of certain potentially hazardous materials such as fuels, oils, solvents, lead solder, and glues. Storage and use of hazardous materials at construction sites and staging areas could result in the accidental release of small quantities of hazardous materials which could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies. The potential for an accidental hazardous materials release during construction to affect the public or the environment represents a potentially significant impact.	**No Impact** There would be no construction activities that would result in ground disturbance that would increase soil erosion and adversely affect water quality. No hazardous materials would be used that could result in an accidental release which could degrade water quality.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for soil disturbance and erosion would be unchanged. The potential for accidental releases of hazardous materials or other accidental effects on water quality would remain unchanged.
NOI-a: The proposed project would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant with Mitigation)	Nighttime drilling would exceed the applicable noise standard of 65 dBA (the ambient noise level) of the ordinance and be a potentially significant construction noise impact.	**No Impact** There would be no nighttime drilling or construction noise impacts.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for the generation of noise impacts would remain unchanged. However, impacts on sensitive receptors would be **reduced** because of the lack of nearby residences at the Bay/University site, compared to the proposed project.
NOI-d: The proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant with Mitigation)	Construction-related noise would exceed noise standards, which are based on increases above ambient noise levels, during nighttime hours.	**No Impact** There would be no construction noise impacts.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for temporary or periodic increase in ambient nighttime noise levels would be unchanged. However, impacts on sensitive receptors would be **reduced** because of the lack of nearby residences at the Bay/University site, compared to the proposed project.
TR-a: The proposed project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. (Less than Significant with Mitigation)	Increased vehicular traffic, potential increases in safety hazards, and temporary delays on Clarke Avenue could conflict with the existing circulation system (including vehicles and non-motorized modes of transportation), a potentially significant impact.	**No Impact** There would be no construction-related traffic increases, delays, or safety hazards.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related traffic increases, delays, or safety hazards would be unchanged.

TABLE 1-3 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
TR-d: The proposed project would substantially increase hazards due to a design feature or incompatible uses. (Less than Significant with Mitigation)	The percent increase in daily traffic volumes resulting from construction traffic generated by construction activities would not be substantial relative to the background traffic volumes on roads used to access the project site; however, haul trucks and delivery trucks could increase safety hazards and conflict with other travel modes along affected roadways. Adverse effects related to traffic safety and conflicts with other users of the affected roadways (e.g., vehicles, bicyclists, and pedestrians) during Project construction would be considered potentially significant.	**No Impact** There would be no construction-related traffic increases or adverse effects related to traffic safety.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related traffic increases or related adverse effects would be unchanged.
TR-e: The proposed project would result in inadequate emergency access. (Less than Significant with Mitigation)	Construction activities would require single-lane closures for up to one week at a time as described above. Although traffic would be able to move in both directions around these short-term closures, construction activities along affected roadways could result in additional impaired access to land uses (nearby residences) and cross streets (private driveways, public roadways) along Clarke Avenue for both general and emergency vehicles in the vicinity of the project site. Although access along affected roadways would be maintained for construction vehicles, local residents, and emergency vehicles during construction, in the event of an emergency, impedance or slowing of access by emergency vehicles could pose a safety hazard and is considered a potentially significant impact.	**No Impact** There would be no construction activities that would result in inadequate emergency access.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related effects on emergency access would be unchanged.
TR-f: The proposed project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant with Mitigation)	Most Project-related construction activities would not interfere with, nor disrupt access to, alternative modes of transportation. However, construction activities occurring within or requiring partial closures of Clarke Avenue could adversely affect access to, or decrease the performance of, alternative transportation facilities, including sidewalks, bicycle lanes, and bus stops.	**No Impact** There would be no construction-related impacts to public transit, bicycle, or pedestrian facilities.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related impacts on public transit, bicycle, or pedestrian facilities would be unchanged.

References – Project Summary

City of East Palo Alto, 2016. *2015 Urban Water Management Plan for the City of East Palo Alto*. Prepared by Erler & Kalinowski, Inc., June 2016.

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CHAPTER 2
Introduction and Background

2.1 Introduction

The City of East Palo Alto (City) proposes to construct a new municipal standby well -- the Pad D Well -- to secure a source of potable water supplies in the event of an emergency. As a standby source, the well can be used only for short-term emergencies of five consecutive days or less, and for less than a total of fifteen calendar days a year (California Code of Regulations, Title 22, Chapter 15, §64414.(c)), resulting in a supply not to exceed 33 acre-feet per year. The proposed project facilities include, but are not limited to, a well and well pump, a chemical amendment system, a hydropneumatic tank and a pipe connection to the City's existing water distribution system. See Chapter 3, Project Description.

2.2 Background

The City of East Palo Alto's potable water service area population is approximately 22,900, which is approximately 80 percent of the total City-wide population. The service area encompasses most of the City and a portion of Menlo Park east of Highway 101. The remaining population is served by the Palo Alto Park Mutual Water Company[1] and O'Connor Tract Cooperative Water Company (City of East Palo Alto, 2016a).[2]

The City's distribution system is comprised of a network of 1.5-inch to 12-inch-diameter pipes. The City currently relies on the San Francisco Public Utilities Commission (SFPUC) for its potable water supplies. In 2016, the City imposed a moratorium on new or expanded water services connections due to insufficient water supply because the City's historical demand has exceeded or been very close to its contractual allocation of SFPUC water in recent years (e.g., demand exceeded the City's Individual Supply Guarantee[3], or "ISG" of 1.963 MGD in 2013, 2008, and 2007 and was greater than 95% of the City's ISG in 2012, 2009, and 2006). Consequently, in July 2016, the City adopted an ordinance titled "An uncodified ordinance of the City of East Palo Alto temporarily prohibiting new or expanded water service connections within the service territory of the City's

1 Palo Alto Park Mutual Water Company operates five groundwater wells in the City of East Palo Alto to serve 650 residences (Todd Engineers, 2012).

2 O'Connor Tract Cooperative Mutual Water Company operates two groundwater production wells located in the City of Menlo Park and serves approximately 300 residences (Todd Engineers, 2012).

3 The SFPUC provides water to the City through what it is called an Individual Supply Guarantee or ISG. The ISG is derived from a larger allocation formula developed through the Bay Area Water Supply and Conservation Agency (BAWSCA) wholesale water supply agreement with the SFPUC.

water system" (hereinafter referred to as "Water Moratorium"). To remedy the Water Moratorium, the City successfully secured up to 1.5 MGD of additional supplies from the SFPUC through cooperative approval of Water Rights Transfer Agreements with the cities of Mountain View and Palo Alto in 2017 and 2018 respectively (City of East Palo Alto, 2020), resulting in an increase in the amount of East Palo Alto's ISG to a total of 3.463 MGD, and; the City rehabilitated the Gloria Way Well, consistent with the City's adopted 2015 Urban Water Management Plan.

The City-owned Gloria Way Well is an existing groundwater production well, located in the San Mateo Plain Groundwater Subbasin, which is part of the Santa Clara Valley Groundwater Basin. The Gloria Way Well was constructed in 1979 and put into operation in 1981 to supplement the City's domestic water supplies. In 1989, the Gloria Way Well was removed from domestic service and disconnected from the domestic distribution system due to complaints regarding taste and odor associated with elevated levels of iron and manganese in the produced groundwater, both of which exceeded secondary drinking water standards (aesthetic standards).

The City constructed an iron and manganese treatment system and blending facility at the Gloria Way Well and brought the well back online in late 2017. Water produced at the Gloria Way Well is blended with SFPUC water prior to being distributed to customers. The rehabilitated Gloria Way Well provides between 200 to 450 AFY of supplemental water supplies for the City (City of East Palo Alto, 2016a), depending on produced water quality, storage infrastructure, timing of demands, and other operational constraints.

On July 19, 2018, the City's Water Moratorium expired and there is no longer a moratorium on new or expanded water service connections within the City's water system service area. But, in addition to securing additional supplies to address the supply conditions that gave rise to the adoption of the Water Moratorium, the City must also plan for emergency disruption of SFPUC supplies. Because the City's municipal water supply system does not have any storage, any interruption in SFPUC supplies could leave the City without potable water. Additionally, hydraulic modeling performed as part of the City's Water System Master Plan (City of East Palo Alto, 2010) has shown that the City's distribution system has difficulty providing the necessary fire flow rates while maintaining minimum residual pressures (20 psi) throughout the system. Generally, the southern portions of the City located furthest from the SFPUC interties experience lower system pressures than the northern portions of the City. In a catastrophic event resulting in a disruption of SFPUC supplies, the City would be without potable water for human consumption and emergency uses (e.g., fire suppression).

Implementation of the Pad D Standby Well Project would provide up to 33 AFY of additional potable water supplies, thereby helping the City to address a short-term water supply emergency.

2.3 Purpose of this Environmental Impact Report

The City of East Palo Alto (City) is the lead agency responsible for implementing the requirements of the California Environmental Quality Act (CEQA) for all projects located within the City and sponsored by City departments. CEQA requires the preparation of an Environmental

Impact Report (EIR) when a proposal could significantly affect the physical environment. Through the preparation of an Initial Study, which considered development of a production well for long term water supplies, the East Palo Alto Community and Economic Development Department (CEDD) determined that the Pad D Municipal Groundwater Well Project could cause significant environmental impacts, and that the preparation of an EIR was required for the project to comply with CEQA. Since that time, however, the City has secured additional long term water supplies and this project has been reconfigured as a standby well, not a production well. This EIR therefore, addresses the potential impacts of the Pad D Standby Well Project.

The City has prepared this EIR to provide the public and the responsible and trustee agencies reviewing the project with information about the project's potential effects on the environment. This EIR describes the potential environmental impacts resulting from implementation of the Pad D Standby Well Project, identifies mitigation measures for reducing impacts to a less-than-significant level where feasible, and evaluates alternatives to the proposed project.

2.4 Environmental Review Process

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, the CEDD sent a Notice of Preparation (NOP) of an EIR on September 15, 2016 to interested entities, public agencies, individuals, and landowners/occupants located in the vicinity of the proposed project facilities to begin the formal CEQA scoping process for the project. A scoping meeting was held on October 6, 2016 at the City of East Palo Alto City Hall. Following the NOP scoping period, the CEDD solicited feedback from the public on the scope of the EIR. The scoping period began on September 15, 2016 and ended on October 17, 2016.

The scoping process provided an opportunity for governmental agencies and the public to comment on the issues to be covered in the EIR and on the scope of the EIR analysis. The primary environmental concerns raised during the scoping period are summarized in **Table 2-1**, which also cross-references comments to the applicable EIR sections.

2.5 Organization of the EIR

This EIR is organized into seven chapters, as discussed below:

- **Chapter 1, Project Summary.** This chapter summarizes the proposed project, identifies significant environmental impacts and mitigation measures, and describes the alternatives considered in this EIR. It also identifies areas of controversy and issues to be resolved.
- **Chapter 2, Introduction and Background.** This chapter provides project background information and describes the purpose and organization of the EIR, as well as the environmental review process.
- **Chapter 3, Project Description.** This chapter describes the proposed project (including project objectives), summarizes project components, and provides information about project construction. The chapter also lists required permits and approvals.

- **Chapter 4, Environmental Analysis.** This chapter is subdivided into sections for each environmental resource topic. Each section describes the environmental and regulatory setting, the criteria used to determine impact significance, and the approach to the analysis for that resource topic. It then presents analyses of potential environmental impacts as well as the project-specific mitigation measures that have been developed to address significant and potentially significant impacts. Each section also includes an evaluation of cumulative impacts with respect to that resource topic.
- **Chapter 5, Other CEQA Issues.** This chapter discusses growth-inducing effects, summarizes the cumulative impacts, identifies the significant environmental effects that cannot be avoided if the proposed project is implemented, environmental effects found not to be significant, and describes the known areas of controversy.
- **Chapter 6, Alternatives.** This chapter describes the alternatives to the proposed project and compares their impacts to those of the proposed project.
- **Chapter 7, List of Preparers.** This chapter lists the lead agency, project sponsor, and authors of this EIR.

2.6 EIR Public Participation

The CEQA Guidelines encourage public participation in the planning and environmental review processes. CEDD will provide opportunities for the public to present comments and concerns regarding the CEQA process for this project. These opportunities will occur during a public review and comment period, August 31, 2020 through October 16, 2020, and a public meeting before the Planning Commission on October 12, 2020. The Draft EIR is available for public review and comment on the Public Works Department's Capital Improvement Projects in Progress web page (https://eastpaloalto.teammunicode.com/publicworks/project/pad-d-new-municipal-water-well). Copies are also available at the City of East Palo Alto's Community and Economic Development Department located at 1960 Tate Street.

References – Introduction and Background

City of East Palo Alto, 2016. *2015 Urban Water Management Plan for the City of East Palo Alto*. Prepared by Erler & Kalinowski, Inc., June, 2016.

City of East Palo Alto Public Works Department, Public Works and Transportation Commission Agenda Report, dated 15 January 2020 (https://www.ci.east-palo-alto.ca.us/AgendaCenter/ViewFile/Agenda/01152020-1585)

TABLE 2-1
SUMMARY OF SCOPING COMMENTS

Commenter	Summary of Comment	Considered in the Initial Study/EIR
Perry and Chantal Frederick (October 12, 2016)	Requests verification that the project will not generate audible noise, vibrations, or gases or fumes.	• Initial Study, Air Quality Impacts AIR-b and AIR-e • Initial Study, Hazards and Hazardous Materials Impact HAZ-a • Initial Study, Noise Impacts NOI-a, NOI-b, and NOI-d
	Expresses concern about aesthetics and height of the above ground components and requests a rendering showing the POC project combined with the Pad D Well Project.	• Initial Study, Aesthetics Impacts AE-c
	Requests information about the duration and frequency of backup diesel generator testing.	• Initial Study, Section 1.6 Operations and Maintenance
Katherine J.P. Loudd (Palo Alto Park Mutual Water Company) (October 6, 2016)	Requests that the EIR identify all PAPMWC wells	• Section 4.2, Hydrology and Water Quality
	Requests that the EIR discuss the Project's effect on aquifer drawdown.	• Section 4.2, Hydrology and Water Quality
	Requests that the City implement a groundwater monitoring program and mitigate adverse effects.	• Section 4.2, Hydrology and Water Quality
Meg Monroe (City of Palo Alto) (October 3, 2016)	Requests information regarding draw down of the aquifer and the distances of draw down from the well site.	• Section 4.2, Hydrology and Water Quality
	Requests information regarding any projected groundwater flow direction changes.	• Section 4.2, Hydrology and Water Quality
Dixie-Lee S. Spect-Schulz	Requests that drought/tolerant foliage/trees be planted at the project site to facilitate aesthetic effects.	• Chapter 3, Project Description • Initial Study, Aesthetics Impacts
	Concerned about operational noise and safety/health concerns about off-gassing of chemicals.	• Initial Study, Noise Impacts NOI-a and NOI-d • Initial Study, Air Quality Impacts AIR-b and AIR-e • Initial Study, Hazards and Hazardous Materials Impact HAZ-a
John Briscoe (Briscoe Ivester & Bazel, LLP.) (October 14, 2016)	Requests that subsidence and associated mitigation measures are carefully analyzed in the EIR.	• Section 4.4, Geology and Soils
Steven D. Inn (Alameda County Water District) (October 17, 2016)	Requests that the EIR evaluate the existing and future potential impacts of Pad D Well pumping on the Niles Cone Groundwater Basin, including the effects of dry years and wetter periods.	• Section 4.2, Hydrology and Water Quality
Homa Fard (October 17, 2016)	Agrees with concerns and ideas in Dixie-Lee S. Spect-Schulz letter.	• See summary of Dixie-Lee S. Spect-Schulz comments above.
Stan Jones (October 18, 2016)	Concerned about noise, vibrations, gases, and aesthetics.	• Initial Study, Air Quality Impacts AIR-b and AIR-e • Initial Study, Hazards and Hazardous Materials Impact HAZ-a • Initial Study, Noise Impacts NOI-a, NOI-b, and NOI-d • Initial Study, Aesthetics Impacts AE-c
Tim Hadlock (October 18, 2016)	Concerned about noise and aesthetics issues for the residential area.	• Initial Study, Noise Impacts NOI-a, NOI-b, and NOI-d • Initial Study, Aesthetics Impacts AE-c
	Concerned about chemical use and storage as a safety and environmental hazard.	• Initial Study, Hazards and Hazardous Materials Impact HAZ-a
	Concerned that Pad D Well facility could become a target for vandalism and loitering.	• Initial Study, Section 1.4.3 Proposed Improvements
	Concerned that Pad D Well would not provide adequate supply for the City's water needs.	• Chapter 3, Project Description

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CHAPTER 3
Project Description

3.1 Introduction

The City of East Palo Alto (City) proposes to construct a new standby well -- the Pad D Well -- to secure a source of potable water supplies in the event of an emergency. The proposed project facilities include, but are not limited to, the well and well pump, a chemical amendment system, a hydropneumatic/surge tank with connection for tank filling, pipe connections to the City's existing water distribution system, a potential future iron and manganese treatment system (with backwash holding tank, backwash holding tank decant water pumps, and water blending with a higher quality water source) or an emergency water storage tank.

The proposed project is being evaluated in accordance with the California Environmental Quality Act (CEQA) to identify the physical environmental impacts of the project. The City is the CEQA Lead Agency.

3.2 Background

The City currently relies on the San Francisco Public Utilities Commission (SFPUC) for the majority of its potable water supplies; the recently rehabilitated Gloria Way Well provides a limited groundwater supply. In a catastrophic event resulting in a disruption of SFPUC supplies, the City would be without an adequate potable water supply for human consumption and emergency uses (e.g., fire suppression). Implementation of the Pad D Standby Well Project would provide up to 33 acre-feet per year (AFY) of emergency potable water supplies, thereby helping the City to address short-term water supply emergencies.

3.3 Pad D Test Well

An existing test well is located in the northwest portion of the Pad D Well project site (see Section 3.4.2, Project Location, below). The test well was constructed in 2014 for the purposes of assessing local aquifer characteristics, water quality, and the potential yield of a municipal supply well at this site (EKI, 2014). The pilot borehole was drilled to a total depth of 600 feet below the ground surface (bgs). The test well was constructed from 6-inch diameter PVC casing to a total depth of 540 feet and includes five screened intervals totaling 125 feet. The analysis of test well samples for water quality parameters suggested that in the near term, treatment may not be needed to meet drinking water standards. However, because the quality of water produced may be altered over time, EKI recommended consideration of future water treatment and/or blending with other water sources. The design for the proposed project includes provisions for both future

potential blending of groundwater with imported water and the addition of future iron and manganese treatment components.

The preliminary results of a 24-hour aquifer pump test conducted at the test well indicate that a properly constructed and developed municipal supply well at this location should be capable of yielding between 350 and 500 gallons per minute (gpm). The test well and associated results are detailed in the *Report on Drilling, Construction, and Testing of the Pad D Test Well* (EKI, 2014).

3.4 Proposed Project

3.4.1 Project Objectives

The specific objectives of the proposed project are to:

- Provide backup potable water supplies in the event that deliveries from the SFPUC are interrupted during an emergency.
- Improve hydraulic conditions in the distribution system during the emergency.

The City of East Palo Alto proposes to meet these objectives by constructing a municipal standby groundwater supply well with an instantaneous pumping capacity of between approximately 350 and 500 gpm. The extent to which the City would be able to utilize groundwater from the proposed Pad D Well is limited by California Code of Regulations, Title 22, Chapter 15, Section 64414 paragraph (c), which states, "A standby source shall be used only for short-term emergencies of five consecutive days or less, and for less than a total of fifteen calendar days a year." For purposes of this analysis, it is assumed that the City could potentially produce and utilize up to 33 AFY of emergency supplies from the proposed Pad D Well.

3.4.2 Project Location

The Pad D Well project site is located at APN 063-511-580. The project site[1] includes a 0.2-acre graveled area within a 0.46-acre parcel located at the northwest corner of East Bayshore Road and Clarke Avenue in the City of East Palo Alto, San Mateo County, California (see **Figure 3-1**), as well as the temporary use of adjacent parking spaces during construction. The entire site is owned by the City of East Palo Alto and is the landing of the City's recently constructed U.S. Highway 101 Bicycle and Pedestrian Overcrossing (POC). The POC is described in more detail in Section 3.5, below. The project site is gravel covered, and is located within the area defined by the POC's "U-turn" as the elevated section transitions from overhead to ground level. The existing test well (described above) was constructed within this area. A commercial sign for the adjacent commercial development is located at the southern end of the parcel but outside of the project site. The project site is bordered by a commercial parking lot to the north and city streets on all other sides. Ornamental trees and hedging border the site along East Bayshore Road.

[1] "Project site" refers to the area which encompasses the footprints of the permanent facilities.

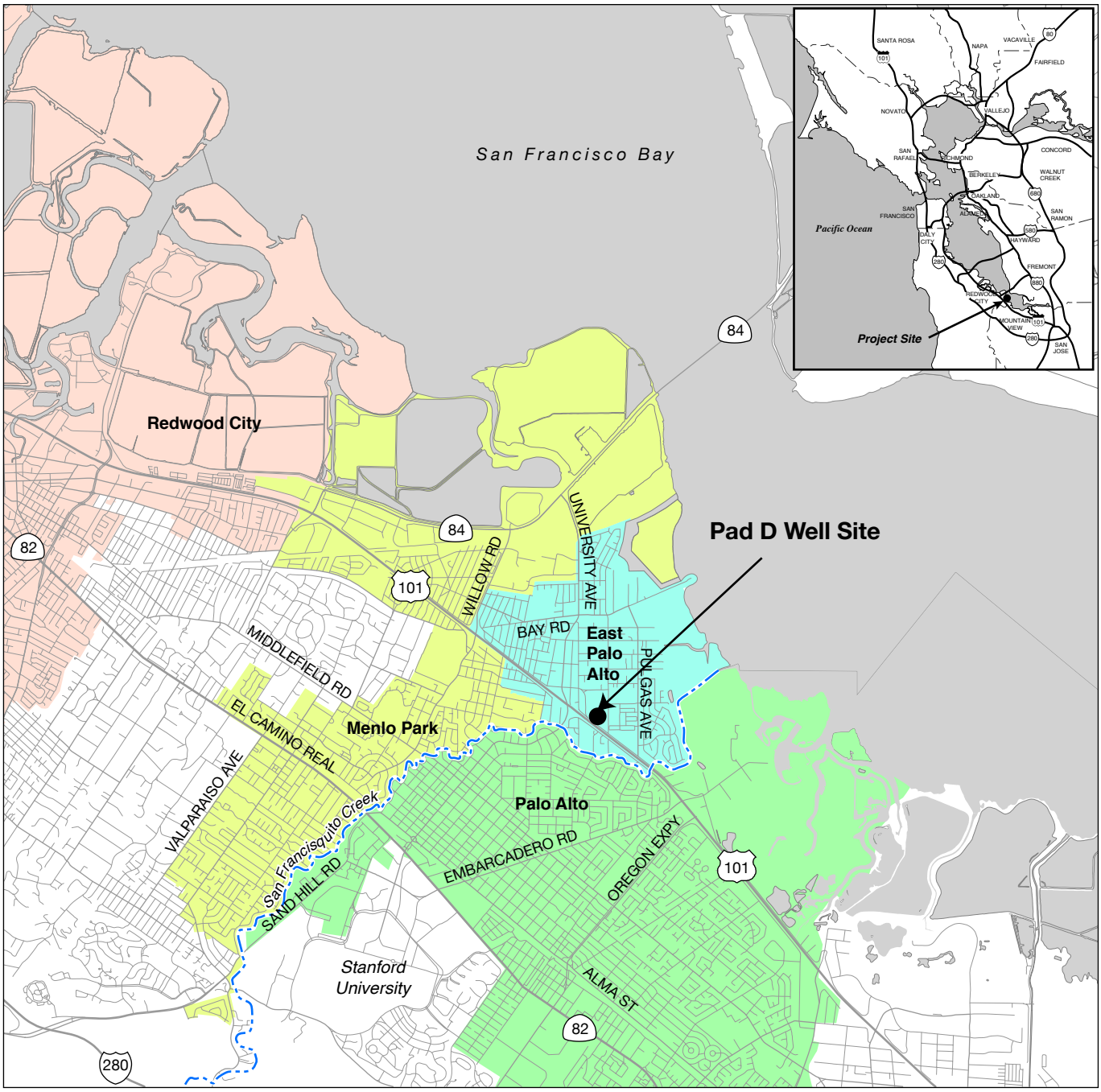
Site Address:	1781 E. Bayshore Road East Palo Alto, CA 94303
Assessor's Parcel No.:	063-511-580
Section/Township/Range:	S25 / T5S / R3W
Latitude/Longitude:	37° 27'27.17"N / 122° 08'05.16"W

3.4.3 Proposed Improvements

As part of the Pad D Standby Well Project, the existing fencing would be eliminated to accommodate the project facilities and improvements bulleted below. A preliminary site plan is shown in **Figure 3-2**. In general, the structures described below would be installed on concrete pads.

- **Permanent groundwater well (Pad D Well).** The Pad D Well would have an instantaneous pumping capacity of approximately 350 to 500 gpm and would provide up to 33 AFY of emergency water supplies. The well would be drilled to a depth of approximately 575 feet[2] and would be constructed with an approximately 14-inch-diameter well casing and screen. The well would have up to five screened intervals to draw water from multiple aquifer layers. The depths of the screened intervals may be refined during final design after review of the geophysical and lithologic logs obtained during drilling of the Pad D Well pilot borehole, but preliminary design indicates the well would be screened between approximately 250 to 270 feet bgs, 315 to 350 feet bgs, 375 to 390 feet bgs, 435 to 465 feet bgs, and 505 to 525 feet bgs. Four of these intervals (i.e., all but the shallowest) correspond with screened intervals of the Pad D test well that were found to have good water quality and productivity. The existing Pad D test well would be converted to a monitoring well (no production). The proposed standby well would be equipped with a submersible (belowground) 60-horsepower vertical turbine pump.
- **Electrical panel.** The electrical controls for well operations and chemical amendment would be enclosed in an aboveground metal enclosure approximately 4.5 feet wide, 16 feet long, and 13 feet tall.
- **Chemical amendments.** Standard chemical amendments (i.e., chloramination for disinfection) would be added to the groundwater produced at the Pad D Well to make it compatible with the SFPUC water in the distribution system. The chemical storage and feed systems would be located aboveground on a raised concrete pad. A concrete masonry unit (CMU) wall approximately 10-feet tall by 50-feet long by 10-feet wide around three sides of the storage to provide screening and separation of the chemical storage area. The chemical storage area would be covered by an overhead canopy that would be approximately 14-feet tall. The facility would have secondary containment curbs to contain inadvertent spills of hazardous chemicals.

[2] The ultimate drilled depth, cased depth, and screened interval depths of the well depends on geologic conditions encountered during pilot borehole drilling.



City of East Palo Alto
City of Menlo Park
City of Palo Alto
Redwood City

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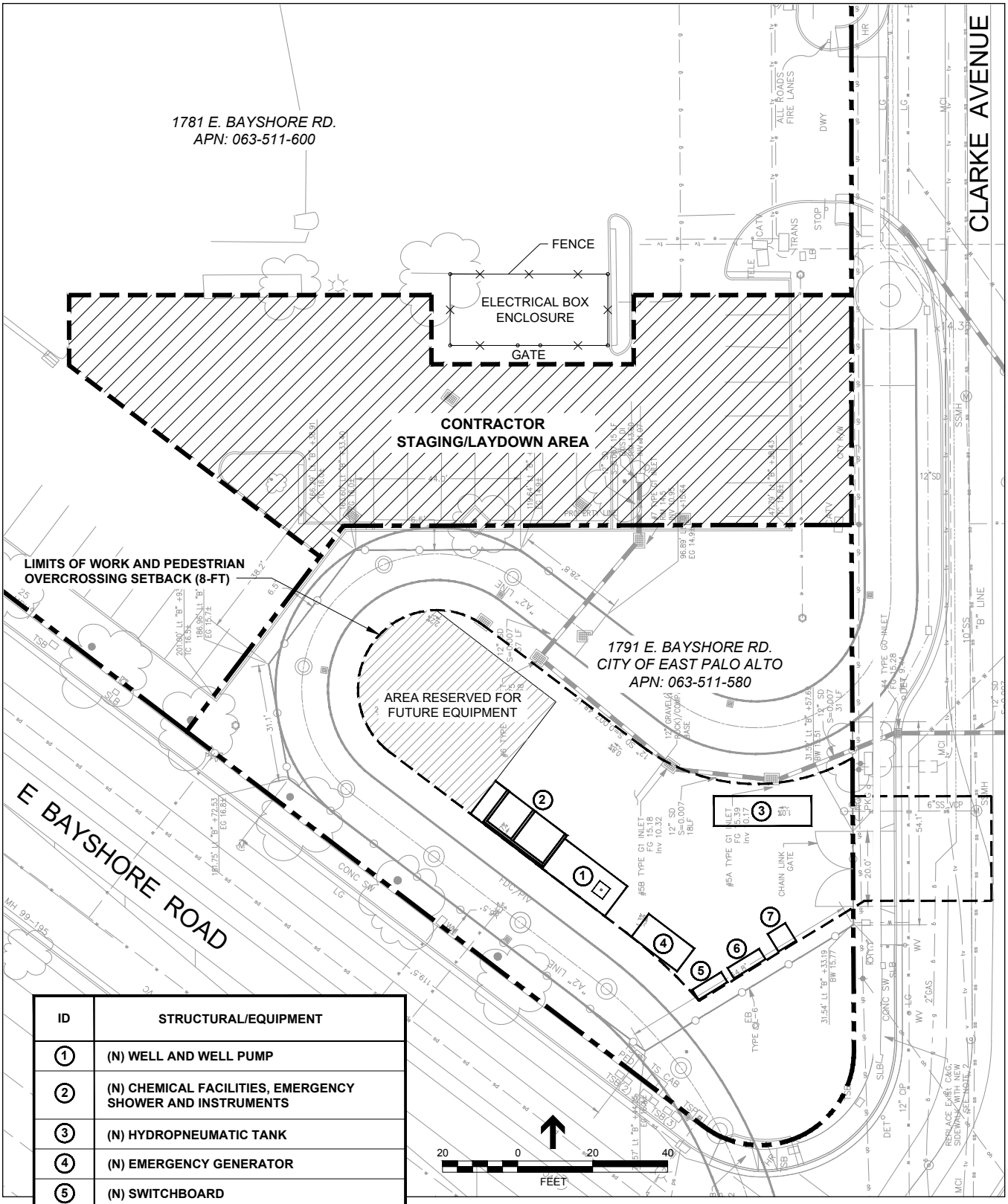
Mile

SOURCE: ESA, 2016

City of East Palo Alto Pad D Standby Well . 150591

Figure 3-1
Project Location Map



ID	STRUCTURAL/EQUIPMENT
1	(N) WELL AND WELL PUMP
2	(N) CHEMICAL FACILITIES, EMERGENCY SHOWER AND INSTRUMENTS
3	(N) HYDROPNEUMATIC TANK
4	(N) EMERGENCY GENERATOR
5	(N) SWITCHBOARD
6	(N) MOTOR CONTROL CENTER
7	(N) TRANSFORMER PAD

SOURCE: EKI, 2020

Figure 3-2
Preliminary Site Layout

- **Hydropneumatic Pressure tank.** An hydropneumatic pressure tank would modulate flows from the Pad D Well to the City's pressurized water supply distribution system. Pressure tanks are used to provide short-term pressure in the distribution system and eliminate the need for rapid on/off cycling of the well pump which can reduce the longevity of the booster pumps. The horizontal pressure tank would be an aboveground approximately 6-foot-diameter, 20-foot-long cylindrical tank. The tank would have a capacity of 3,800 gallons.
- **Pipe connections to water and storm sewer.** Pipeline connections to the City's water distribution system would be needed to convey the emergency supply to the distribution system for delivery to customers. This pipe connection would entail installation of up to an approximately 100-foot-long pipeline to the existing water main along Clarke Avenue and connect to the existing 12-inch-diameter pipe. A sanitary sewer lateral for conveying sample water from the proposed instrumentation would be up to an approximately 100-foot-long, 6-inch diameter pipe. Onsite stormwater would be conveyed to the existing onsite storm catchment basins. The existing gravel cover would be maintained except where new concrete slabs would be installed to support the required equipment.
- **Emergency backup generator and fuel tank.** An emergency generator would be kept on-site for use as backup power in the event of a power outage. An emergency diesel-fueled generator and aboveground double-walled 150-gallon diesel fuel tank would be contained in a metal enclosure.
- **Electrical transformer.** A Pacific Gas & Electric Company (PG&E) transformer would be installed to accommodate the power needs of the project, providing approximately 500 kilovolt-amperes (kVA) of capacity.
- **Other site improvements.** Other miscellaneous improvements at the site include nighttime lighting and new chain-link security fencing, with privacy slats. The security fencing would encompass the perimeter of the 0.2-acre project site.
- **Future treatment system.** The project would reserve space and install stub-out connections for a future groundwater treatment system. While groundwater currently meets all primary and secondary drinking water standards, it is possible that groundwater quality could change, requiring treatment in the future. Based on water quality results from the Gloria Way well, future treatment systems at the Pad D Well site could involve a filtration system for iron and/or manganese (which would include vertical cylindrical filter vessels, a filter backwash holding tank, backwash holding tank, decant water return pumps, blending with a higher quality water source, and associated piping), or an emergency storage tank.

3.4.4 Project Construction

Construction Sequencing and Work Hours

Construction of the Pad D Standby Well project would occur in the following sequence: first the below-grade well construction activities would occur over a two-month period. Next, construction and installation of the aboveground facilities, installation of below-grade piping and pipeline connections, would occur over a four-month period. With the exception of selected portions of the below-grade construction (i.e., drilling of the borehole, installation of the well casing and screen, emplacement of the annular fill and seal materials, and hydraulic testing), which would require 24-hour construction over a 3-week period, all other construction activities would occur Monday through Saturday between 7:00 a.m. and 6:00 p.m. Lighting required during

nighttime construction periods would consist of typical construction site lighting and would be directed toward work areas and away from residences.

Construction Access and Staging

Construction access would occur via Clarke Avenue using an existing driveway on the southeast side of the project site that was constructed as part of the POC. Temporary construction fencing would be installed at the start of construction and replaced with permanent security fencing at completion of construction.

All constructed elements of the project will be contained within the limits of work shown on Figure 3-2. Additional area to the north of the POC will be used for equipment and materials staging during construction.

Below-Grade Well Construction Activities

As stated above, the below-grade well construction activities would occur over 2 months. This would include site preparation, well drilling and installation, well development, and hydraulic testing. Temporary construction fencing would be installed which, in conjunction with the existing fencing, would completely encircle the site.

Approximately 6 weeks would be required for construction during drilling of the well borehole, installation of the well casing and annular gravel pack material, and hydraulic testing of the well. Continuous activity is required during selected phases of construction to (a) prevent the borehole from collapsing, which could occur if the borehole were left unsupported before the well casings were installed, and (b) monitor the well during hydraulic testing. The borehole would be drilled using a truck-mounted reverse-circulation mud-rotary drilling rig. A drilling fluid would be used to cool the drill head and transport the cuttings up from the bottom of the borehole during drilling operations. The cut materials from the drilling process would be suctioned into the drill pipe and then discharged through the discharge pipe into disposal bins. A drilling fluid circulation tank ("mud tank") would be used to control drilling mud and fluids during well drilling. A forklift would be used to move cuttings from the mud tank to the disposal bins. Following drilling, the well casing and well screens would be installed. A gravel envelope would be placed around the well screen to prevent sediment from entering the water during pumping operations. The well casing would be grouted from the surface to near the top of the uppermost well screen. In addition, a conductor casing would be installed to provide a sanitary seal in accordance with the State Water Resources Control Board (SWRCB) Drinking Water Program requirements.

Above-grade Construction Activities

Above-grade construction would consist of grading and excavation of concrete pads; concrete mixing and pouring; installation of underground piping, pipeline connections and electrical conduit; installation of the above-grade infrastructure (electrical control panel, pressure tank, emergency generator, and canopies), and start-up testing. The canopies, metal enclosure boxes, and pressure tanks would be prefabricated and hauled to the site on flatbed trucks at the time of installation.

Installation of one pipeline connection to the existing water distribution system in Clarke Avenue and connection to the sanitary sewer system at Clarke Avenue would be accomplished using traditional open trench construction methods. The water connection would require up to 200 feet of new 6- to 8-inch-diameter pipe extending from the Pad D Well site to existing pipeline in the road right-of-way immediately in front of the site. The sanitary sewer connection on Clarke Avenue would require 130 feet of 4-inch to 6-inch diameter pipe. The construction contractor would excavate a 3-foot-wide and approximately 4-foot-deep trench, lay the new pipe in the trench, backfill the trench with non-expansive fill material, restore preconstruction contours, and revegetate and repave the alignment, as appropriate. All other facility improvements would require excavations of 4 feet deep or less.

Above-grade construction activities would require temporary single-lane closures along Clarke Avenue. Traffic on Clarke Avenue would be restricted to the northbound lane and the southbound left-turning lane for one week during installation of the pipeline connections.

Construction Spoils

Project construction activities would generate a total of approximately 230 cubic yards of construction waste requiring offsite disposal. Up to 80 cubic yards of drill cuttings would be generated during well drilling and construction and 150 cubic yards of construction debris and excavated materials would be generated during the above grade construction activities. All excess spoils would be hauled to an appropriately licensed disposal facility for disposal.

Construction Equipment and Workforce

All construction vehicles, equipment, and materials would be stored within the project area. Heavy equipment to be used during construction includes:

- Reverse-circulation mud-rotary drilling rig
- Drilling fluid circulation tank (“mud tank”)
- Flatbed trailer with drilling pipe
- Truck-mounted well development rig
- Concrete mixer
- Asphalt paver
- Water truck
- Rollers
- Pipe cutter
- Forklifts
- Front-end loaders
- Grader
- Excavator
- Backhoes
- Hydraulic crane
- Pick-up trucks
- Haul trucks
- Welding equipment

Given the space limitations at the Pad D Well site, most project components would be constructed individually with a relatively small crew of up to seven people working at any one time. Prefabricated structures would be delivered to the site for direct placement at the time of installation.

3.5 Relationship of the Pad D Well Project to the Highway 101 Pedestrian Overcrossing

The City's POC was analyzed under CEQA in a Draft Initial Study and Mitigated Negative Declaration (IS/MND) issued in February 2016 (City of East Palo Alto, 2016b) and the project was approved by the East Palo Alto Planning Commission on March 14, 2016. The POC consists of a Class I pedestrian/bicycle overcrossing structure over Highway 101 and provides a pedestrian and bicycle-accessible connection between the north and south sides of the highway. On the north side of Highway 101 the overcrossing ramp bridges East Bayshore Road and connects to the existing sidewalk on Clarke Avenue at the northeastern corner of the Pad D Well parcel (see **Figure 3-2**). Clarke Avenue from the intersection with East Bayshore Road to Tinsley Street (which includes the portion of Clarke Avenue that borders the Pad D Well site) is signed and marked as a Class III bike route (bikes sharing lanes with vehicles).

As part of the POC, 19 parking spaces were eliminated from the site, two of the existing Modesto ash trees (*Fraxinus velutina*) along Clarke Avenue and approximately 40 feet of the existing hedging were removed, a driveway was constructed that provides access to the Pad D project site, and the project site was graded.

3.6 Operations and Maintenance

It is anticipated that groundwater production from the Pad D Standby Well could reach 33 AFY, assuming a 500-gpm pumping rate at up to 24 hours per day for 15-days per year (although pumping would not occur for more than 5 consecutive days). Groundwater would be drawn from the San Mateo Plain Groundwater Subbasin, which is part of the Santa Clara Valley Groundwater Basin. Operation of the well would require facility operators to be onsite to manually turn on the well and treatment equipment, and to monitor performance. Treatment chemicals would be delivered about once a week in a vehicle that meets Department of Transportation licensing requirements for chemical transport. The emergency backup generator would be tested regularly as required by the manufacturer's specifications to ensure functionality. Depending on the actual generator supplied, the Air Quality Management District allows for between 20 and 50 hours per year of testing. The exact value would depend on the emergency generator supplied and the Air Quality Management District requirements in place when the Permit to Operate is applied for by the City.

Routine maintenance for the Pad D Standby Well is anticipated to include manual measurement of groundwater levels. These regular maintenance activities would be performed by City staff or Veolia Water. Periodic maintenance would require the removal of the pump and/or motor for service and physical or chemical well screen rehabilitation. These infrequent maintenance activities would be performed as needed by a professional well and pump service contractor. The well pump would need to be exercised at least once per year.

At the maximum pump rate of approximately 500 gpm and maximum annual groundwater production of approximately 33 AFY, and including power required for the well pump and supporting facilities, the total estimated annual power requirements under the maximum

production scenario are approximately 750,000 kilowatt hours or 750 megawatt hours per year. The Pad D Standby Well facilities would receive power from the nearby PG&E distribution system, with the addition of an electrical transformer, as described above in Section 3.4.3, Proposed Improvements.

3.7 Permits and Approvals Required for Implementation of the Pad D Standby Well Project

The proposed project would require local and state permits. Based on the current understanding of the project, the following is a list of the agencies and approvals likely to be required for the proposed project:

Federal

The project would not require any discretionary federal permits or approvals.

State

- SWRCB Drinking Water Division – Domestic Water System Permit Amendment

Local/Regional

- San Mateo County Environmental Health Department – Subsurface drilling permit
- San Mateo County Environmental Health Department – Hazardous Materials Business Plan for chemical handling and storage
- Bay Area Air Quality Management District – Permit to construct and Permit to operate emergency stationary diesel engine
- City of East Palo Alto– City Council certification of the Final Focused EIR
- East Palo Alto Sanitary District – Sewer lateral connection permit

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References – Project Description

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City of East Palo Alto, 2013. *Ravenswood/4 Corners TOD Specific Plan*. Prepared by The Planning Center/DC&E, February 22, 2013.

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City of East Palo Alto, 2016e. City Council Regular Meeting, Minutes. Tuesday, July 19, 2016.

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Erler & Kalinowski, Inc. (EKI), 2014. *Report on Drilling, Construction, and Testing of the Pad D Test Well*. Prepared for the City of East Palo Alto, October 10.

Todd Engineers, 2012. Gloria Way Water Well Production Alternatives Analysis & East Palo Alto Water Security Feasibility Study. November 2012.

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CHAPTER 4
Environmental Setting and Impacts

4.1 Overview

This chapter provides an analysis of the physical environmental effects of implementing the City of East Palo Alto Pad D Standby Well Project (project) as described in Chapter 3, Project Description. This chapter describes the environmental setting, assesses impacts, and identifies mitigation measures for significant impacts. The Initial Study identifies the potentially significant effects that would be reduced to a less-than-significant level with the implementation of mitigation.

4.1.1 Scope of Analysis

This chapter is organized by environmental resource topics, as follows:

Chapter 4 Sections	
4.1 Overview	4.3 Biological Resources
4.2 Hydrology and Water Quality	4.4 Geology and Soils

Each section of Chapter 4 contains the following elements, based on the requirements of the California Environmental Quality Act (CEQA):

- **Setting.** This subsection describes the existing physical environmental conditions in the project area with respect to each resource topic, at an appropriate level of detail to allow the reader to understand the impact analysis.
- **Regulatory Framework.** This subsection describes the relevant laws and regulations that apply to protecting the environmental resources within the project area, and the governmental agencies responsible for enforcing those laws and regulations.
- **Impacts.** This subsection evaluates the potential for the proposed project to result in adverse effects on the physical environment described in the setting. Each impact analysis section defines significance criteria for evaluating environmental impacts, and the approach to analysis section explains how the significance criteria are applied in evaluating the project impacts. The conclusion of each impact analysis is expressed in terms of the impact significance under CEQA, which is discussed further in Section 4.1.2 below.
- **Mitigation Measures.** Each impact subsection identifies mitigation measures for all of the impacts considered significant, consistent with CEQA Guidelines Section 15126.4, which

states that an environmental impact report (EIR), "shall describe feasible measures which could minimize significant adverse impacts…"

- **Cumulative Impacts.** Each subsection discusses cumulative impacts, if applicable, immediately following the description of the direct project-specific impacts and identified mitigation measures. Cumulative impacts, described in detail in Section 4.1.3, consider the effects of the proposed project together with those of other past, present, or reasonably foreseeable future proposed by the City or other jurisdictions. The analysis of cumulative impacts under each resource topic is based on the same setting, regulatory framework, and significance criteria as the project-specific impacts. Additional mitigation measures are identified if the analysis determines that the project's contribution to a significant cumulative impact, even with project-level mitigation, would be considerable.
- **Impacts of Mitigation Measures.** Each subsection identifies the potential impacts of implementing mitigation measures for those mitigation measures that could cause secondary environmental impacts, consistent with CEQA Guidelines Section 15126.4, which states that "if a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed."

4.1.2 Significance Determinations

The significance criteria used in this EIR are based on CEQA Guidelines Appendix G, with some modifications. Each section of Chapter 4 presents, before the discussion of impacts, the significance criteria used to analyze each resource topic. The categories used to designate impact significance are as follows:

- **No Impact.** An impact is considered not applicable (no impact) if there is no potential for impacts or the environmental resource does not occur within the project area or the area of potential effect. For example, there would be no impact related to grading if there is no grading proposed at a particular project site.
- **Less than Significant.** This determination applies if there is a potential for some limited impact but not a substantial, adverse effect that qualifies under the significance criteria as a significant impact. No mitigation is required for impacts determined to be less than significant.
- **Less than Significant with Mitigation.** This determination applies if there is a potential for the project to result in an adverse effect that meets the significance criteria, or if there is certainty that the project would result in an adverse effect that meets the significance criteria, but feasible mitigation is available that would reduce the impact to a less-than-significant level. An impact described as "potentially" significant indicates there is a potential for this impact to occur, but there is either not enough project information or site-specific information to determine definitively whether or not it qualifies under the significance criteria as significant. Impacts identified as "potentially significant" are treated the same as significant impacts in this EIR.
- **Significant and Unavoidable.** This determination applies if the project would result in an adverse effect that meets the significance criteria, but for which there appears to be no feasible mitigation available to reduce the impact to a less-than-significant level.

- **Significant and Unavoidable with Mitigation.** This determination applies if it is certain that the project would result in an adverse effect that meets the significance criteria and there is some mitigation available to lessen the impact, but the residual effect after implementation of the measure would remain significant.

4.1.3 Approach to Cumulative Impact Analysis and Cumulative Projects

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines Section 15130(b)(1): (a) the analysis can be based on a list of past, present, and reasonably foreseeable future projects producing closely related impacts that could combine with those of a proposed project, or (b) a summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts. The following factors were used to determine an appropriate list of individual projects to be considered in this cumulative analysis:

- **Similar Environmental Impacts.** A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project is defined as one that is "reasonably foreseeable," such as a proposed project for which an application has been filed with the approving agency or a project that has approved funding.
- **Geographic Scope and Location.** A relevant project is located in the geographic area within which effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects on air quality consists of the affected air basin.
- **Timing and Duration of Implementation.** Effects associated with activities for a relevant project (e.g., short-term construction or demolition or long-term operations) would likely coincide in timing with the related effects of the proposed project.

Based on the above, the following plans and projects in the project vicinity are projects considered in the cumulative impact analysis:

- **Gloria Way Well.** The City of East Palo Alto recently rehabilitated the existing City-owned Gloria Way groundwater production well. The Gloria Way Well is projected to supply between 200 to and 450 acre-feet per year (AFY). With the exception of pipelines to connect the Gloria Way Well to the existing water supply distribution system in the bordering road rights-of-way, all of the proposed facilities and improvements are located within the 0.12-acre Gloria Way Well site.
- **The U.S. Highway 101 Bicycle and Pedestrian Overcrossing (POC).** The north landing of the POC has recently been constructed at the City-owned Pad D Well site property. The Pad D Well site is located within the "U-Turn" formed by the new POC as the elevated section transitions to street level. The POC consists of a Class I pedestrian/bicycle overcrossing structure over Highway 101 and provides a pedestrian and bicycle-accessible connection between the north and south sides of the highway. The City coordinated the design and construction of the two projects to ensure the two projects do not conflict with each other.
- **University Plaza.** The Sobrato Organization proposes to build a 200,000 square foot office campus (Phase I) at University Avenue and Donohoe Street, with a Phase II expansion of up to 500,000 square feet (The Sobrato Organization, 2011).

- **Light Tree Apartments.** Eden Housing, Inc. proposes to rehabilitate and expand an existing affordable housing apartment complex located at 1805 East Bayshore Road, that includes the demolition of 37 existing apartments, the renovation and rehabilitation of 57 of the existing 94 apartments, and the construction of 128 new apartments, for a net increase of 91 affordable housing units. The new affordable housing units would be housed in two new five-story buildings along East Bayshore Road and in two new three to four story buildings near neighboring residential properties. (City of East Palo Alto, 2018)

References – Environmental Setting and Impacts

City of East Palo Alto, 2016. City Council Agenda Report: Executing a Water Supply Implementation Funding Agreement with the Sobrato Organization, 2020 Bay Rd., and the Primary School. July 19, 2016.

City of East Palo Alto, 2018. Planning and Housing Division, Notice of Intent to Adopt a Mitigated Negative Declaration for Light Tree Apartments. November 27, 2018.

The Sobrato Organization, 2011. 2100 University Avenue – Phase I. Available online at http://www.sobrato.com/wp-content/uploads/property/14_b_2100University_111110.pdf. Accessed January 20, 2017.

4.2 Hydrology and Water Quality

This section analyzes whether operation of the proposed standby well at the Pad D Well site, as described in Section 3, Project Description, would adversely impact local and regional groundwater resources. The potential for this project to have a significant impact on water supplies and water quality was initially identified in the Notice of Preparation/Initial Study (NOP/IS) prepared in September 2016 (City of East Palo Alto, 2016). The NOP/IS concluded that long-term pumping from the Pad D Well could lower the local and regional groundwater levels in the shallow and deep aquifers, potentially interfere with existing municipal and private groundwater wells in East Palo Alto and surrounding cities, or result in water quality impacts associated with potential mobilization of existing groundwater contamination plumes. The NOP/IS also concluded that the proposed project could potentially deplete surface flows in San Francisquito Creek and cause local subsidence of the ground surface. Since that time, the purpose of the proposed Pad D well has changed from being a production well, to being a standby well with limited annual production volume. However, even as a standby well, the Pad D Well would include groundwater extraction. Subsidence is addressed in Section 4.4, Geology and Soils.

The following analysis of groundwater impacts associated with the proposed project partly relies on data included in the *Groundwater Management Plan for East Palo Alto* (City of East Palo Alto, 2015), *San Mateo Plain Groundwater Basin Assessment* (EKI, 2018), *Pad D Municipal Groundwater Well NOP/IS* (City of East Palo Alto, 2016), and the *Gloria Way Well Retrofit Project Joint Initial Study/Environmental Assessment (IS/EA)* (City of East Palo Alto, 2013).

4.2.1 Setting

The groundwater resources study area encompasses the northern Santa Clara Valley and includes the cities of East Palo Alto, Palo Alto, Menlo Park, Atherton, Redwood City, Fremont, Hayward and Santa Clara. This section discusses the hydrogeology, groundwater conditions, and water quality of the study area, which is within the San Mateo Plain subbasin of the larger Santa Clara Valley Groundwater Basin (**Figure 4.2-1**).

Regional Hydrogeology

East Palo Alto is located within the Coast Ranges Physiographic Province, which is characterized by northwest-trending faults and valleys flanked by mountain ranges. Movement along the San Andreas, Hayward, and Calaveras faults and down warping between the faults contributed to the formation of Santa Clara Valley, a broad alluvial basin flanked by the Santa Cruz Mountains to the west and Diablo Range to the east (City of East Palo Alto, 2015).

The California Department of Water Resources (DWR) has delineated the groundwater basins and major subbasins throughout California. The Santa Clara Valley Groundwater Basin (SCVGB), identified as Basin No. 2-9, occupies a geologic trough that is filled with alluvial and bay sediments, and partially inundated by San Francisco Bay **(Figure 4.2-1)**. The major regional aquifers of the SCVGB are composed of the alluvial sediments (i.e. gravel, sand, silt, and clay) that were eroded from the adjacent mountain ranges, transported by stream flow into the valley,

and deposited into alluvial fans and floodplains. While understanding that sediments are broadly continuous under the bay, the basin has been divided by DWR into four subbasins: East Bay Plain, Niles Cone, Santa Clara, and San Mateo Plain (City of East Palo Alto, 2015). **Figure 4.2-1** shows the location and relationship of the Niles Cone, Santa Clara and San Mateo Plain subbasins, which are the focus of this environmental setting. East Palo Alto overlies the southeastern 2.5 square miles of the San Mateo Plain Subbasin (No. 2-9.03). This subbasin covers approximately 75 square miles on the west side of San Francisco Bay and extends to the boundary with Santa Clara County, which is San Francisquito Creek (City of East Palo Alto, 2015).

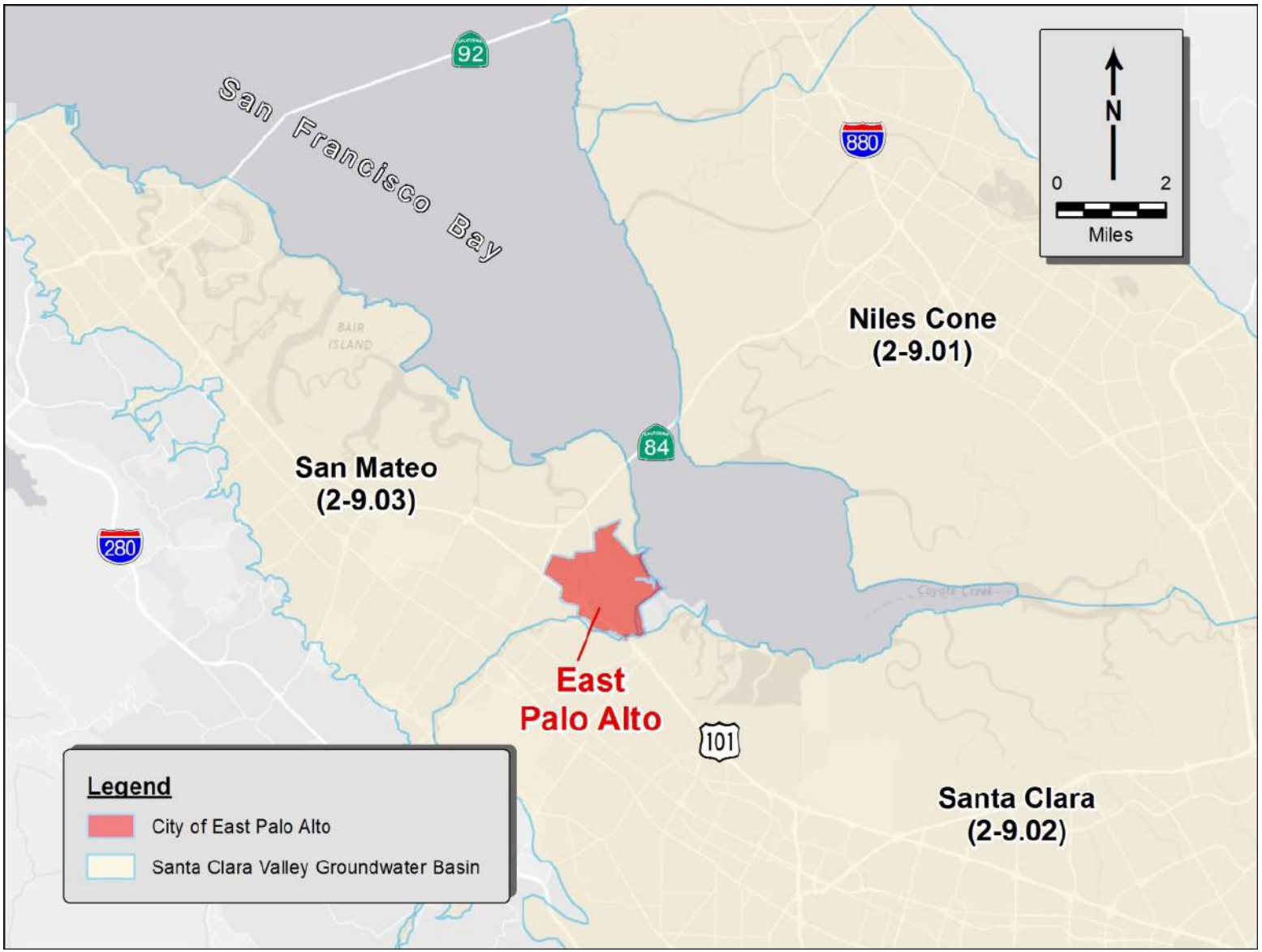
East Palo Alto and the surrounding cities are situated on an alluvial plain between the eastern foothills of the Santa Cruz Mountains and the tidal wetlands of the San Francisco Bay **(Figure 4.2-2)**. San Francisquito Creek, with a watershed extending into the foothills, has a relatively extensive and thick alluvial fan known as the San Francisquito Cone (City of East Palo Alto, 2015). These alluvial fan sediments form the water-bearing sediments of what the U.S. Geological Survey (USGS) has defined as the "San Francisquito Cone Subbasin," a smaller groundwater basin that straddles the San Mateo Plain subbasin and the Santa Clara subbasin boundary.[1]

The composition of the San Francisquito Cone deposits differs based on where they occur on the alluvial fan. Deposits near the top of the fan, closest to the mountains are a mixture of coarse (gravel) and fine-grained (clay) sediment while those in the fan's mid-section, near the active stream channel of San Francisquito Creek, are cleaner sands and gravels. Near the bottom of the fan closer to the Bay, the sediments are finer grained consisting of silts, clays, and fine sand. Thick deposits of fine-grained clay, known as Bay Mud, were deposited in this area when the sea level was lower and now it overlies the alluvial sediments beneath East Palo Alto. Because of its unique local conditions, most the following discussion centers on the San Francisquito Cone portion of the San Mateo Plain subbasin.

Local Groundwater Aquifers and Hydrology

The principal groundwater aquifers of the basin and subbasins are composed of interbedded coarse- and fine-grained alluvial fan deposits of San Francisquito Creek, extending from the Santa Cruz Mountains north and under San Francisco Bay, and distal alluvial fan deposits of the Niles Cone, extending from the Diablo Range. Most of the permeable alluvial sediments occurring in the groundwater subbasin and beneath the City, originated from the Santa Cruz Mountains to the south-southwest; however, some alluvial sediments from the Niles Cone may interfinger under San Francisco Bay with sediments of the San Francisquito Cone (City of East Palo Alto, 2015).

[1] The two different subbasins, San Mateo Plain and San Francisquito Cone, were identified by different agencies, DWR and USGS, respectively, for different purposes. The larger San Francisquito Cone encompasses the hydraulically connected surface water-groundwater system of San Francisquito Creek and its alluvial fan for hydrologic and water balance studies (City of East Palo Alto, 2015).

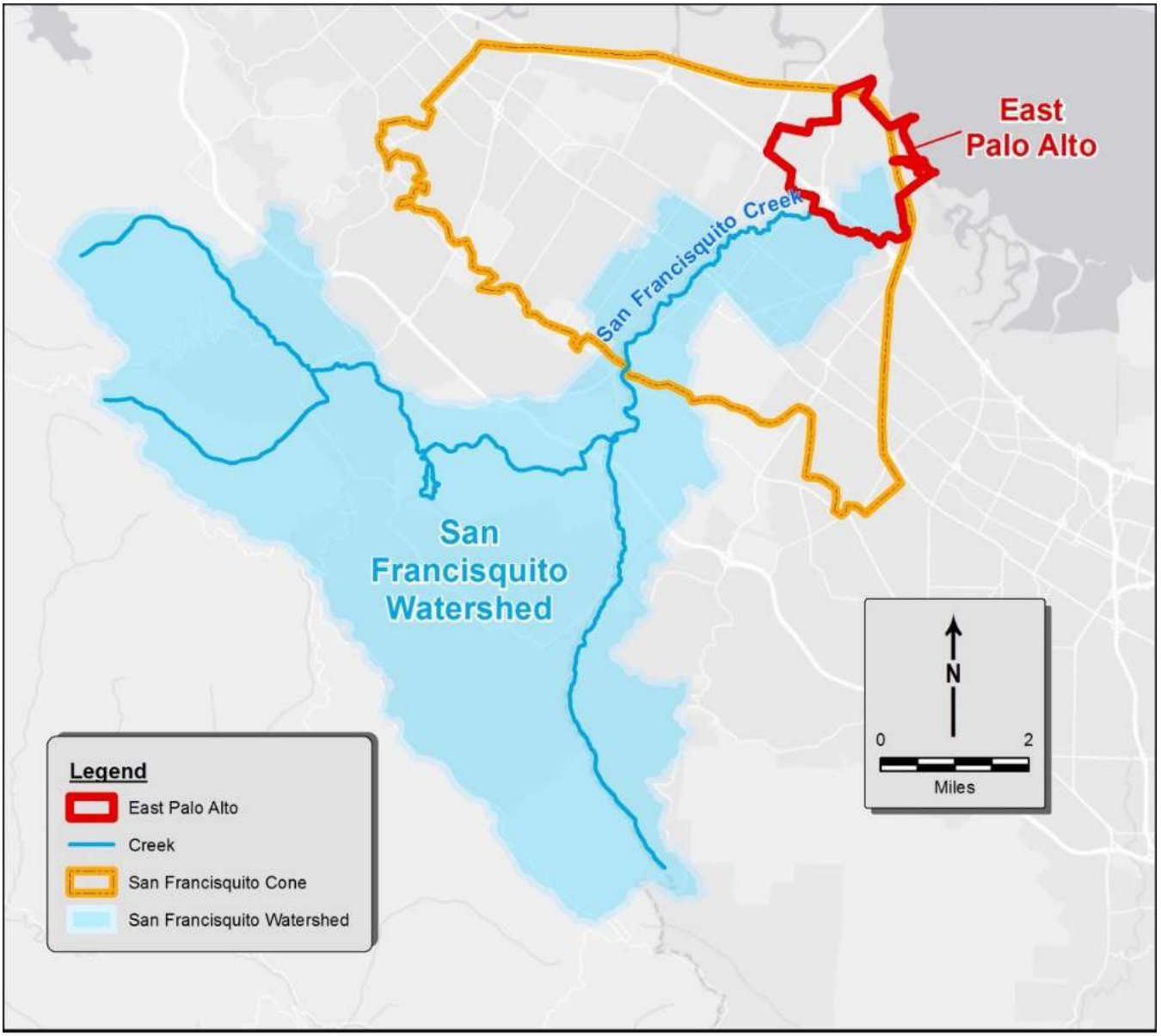


City of East Palo Alto Pad D Standby Well . 150591

SOURCE: Todd Groundwater

Figure 4.2-1

SCVGB and Associated Subbasins in the Vicinity of East Palo Alto



City of East Palo Alto Pad D Standby Well . 150591

SOURCE: Todd Groundwater

Figure 4.2-2
San Francisquito Cone Subbasin

The local groundwater aquifer system underlying East Palo Alto generally consists of three distinct units: the shallow aquifer, the Bay Mud aquitard unit, and the deep aquifer. The shallow aquifer is comprised of coarse stream gravel deposits that were deposited over an ancient clay surface and then buried. Consequently, the shallow aquifer unit is discontinuous and relatively thin, with thicknesses in the tens of feet. The Bay Mud sediments are fine-grained clays and silts that form a continuous low permeability zone called an aquitard or confining layer, which separates coarser, more permeable water bearing units. The Bay Mud unit extends south to southwest under East Palo Alto and the San Francisco Bay but does not extend west as far as the foothills to the Santa Cruz mountains. The Bay Mud aquitard increases in thickness (up to 300 feet) as it approaches the bay. Mapping has identified the inland boundary of this Bay Mud unit as the divide between the unconfined alluvial fan deposits, which acts as an area of recharge, and the confined zone in the northern portion of the subbasin (City of East Palo Alto, 2015).

The deep aquifer zone is the primary groundwater supply aquifer for the subbasin and is made up of gravel, sand, silt and non-marine clay. The deep aquifer zone is subdivided into a deep-upper (DU) zone consisting of fine- to medium-grained alluvium and a deep-lower (DL) zone consisting of more consolidated fine-grained alluvium. This alluvial material in the deep aquifer zone readily transmits groundwater and has a higher permeability than the overlying Bay Mud and shallow aquifer zones. The aquifer materials range from less than 100 feet in thickness near the foothills of the Santa Cruz mountains to as much as 1,100 feet thick closer to the San Francisco Bay. The principal deep aquifer zone underlying East Palo Alto extends offshore and underneath the Bay. Previous studies by the USGS, DWR, the Santa Clara Valley Water District (SCVWD) and others have identified a hydraulic connection between the aquifer zones on the southwest side of the Bay (Santa Clara, San Mateo Plain, San Francisquito Cone) and those on the northeast side, including the Niles Cone subbasin (City of East Palo Alto, 2015).

Groundwater Flow and Elevation

Under natural conditions, groundwater in the San Francisquito Cone flows from the edge of the basin near the bedrock uplands toward San Francisco Bay to the northeast.[2] The hydraulic gradient is relatively gentle (0.002 foot per foot) across East Palo Alto and groundwater flows generally toward the Bay in the northeast.

Groundwater levels in the San Francisquito Cone were close to, and in some areas, above the ground surface (resulting in an artesian condition) at the turn of the century but in the early 1900's this natural groundwater flow pattern was reversed when pumping and periodic drought lowered groundwater elevations below sea level. By the mid-1920s, about 6,000 acre feet per year (AFY) were pumped from the San Francisquito Cone and by the early 1960s, extraction from the cone had reached an estimated 7,500 AFY with groundwater levels well over 140 feet below ground

[2] Currently, there is no centralized database of groundwater elevation data for the San Francisquito Cone. However, generalized groundwater elevation and flow information has been published by San Mateo County, SCVWD, DWR, and the USGS.

surface (bgs) (City of East Palo Alto, 2015). This degree of groundwater pumping led to historical overdraft[3], land subsidence, and seawater intrusion.

Groundwater pumping declined significantly after the City of San Francisco's Hetch Hetchy project began importing water from the Sierra Foothills to the San Francisco Peninsula in the early to mid-1960's. Consequently, groundwater elevations have been steadily increasing and the natural groundwater gradient has been restored. Between 1962 and 1987, groundwater elevations in the City of Palo Alto rose more than 150 feet to levels comparable to those in the early 1900s. Periodic drought conditions have lowered groundwater levels in some wells. For example, City of Palo Alto's Hale Well was used during the 1988 drought and water levels were drawn down 16 feet after pumping 398 acre-feet (AF) of groundwater (City of East Palo Alto, 2015). An 8 to 15-foot decline in the Romic Well (located near the bayfront in East Palo Alto) and Palo Alto's Hale Well have been observed since 2010, likely in response to drought conditions limiting basin recharge (City of East Palo Alto, 2015).

Groundwater Wells and Production

Several large production wells owned by municipal, university and industrial operations near East Palo Alto draw groundwater from the shallow and deep aquifer zones with yields between 100 and 1,100 gallons per minute (gpm) with an average yield of 650 gpm. The most productive wells are in the central portion of the alluvial fan near San Francisquito Creek, while those closer to the bay are less productive (City of East Palo Alto, 2015). There are only two municipal water suppliers within the San Mateo Plain Subbasin that utilize groundwater as a potable supply source, the O'Connor Tract Cooperative Water Company (O'Connor Tract) and the Palo Alto Park Mutual Water Company (PAPMWC) (EKI, 2018). The O'Connor Tract operates two wells in Menlo Park and PAPMWC currently provides groundwater from five wells located in East Palo Alto.

The City of Palo Alto currently maintains eight groundwater production wells for emergency standby supply, which were last used during the extended drought in 1988. It has been estimated that the wells could produce at least 500 AFY on a continuous basis or 1,500 AFY on an intermittent basis without causing excessive declines in groundwater levels (City of East Palo Alto, 2015). East Palo Alto's Gloria Way Well underwent rehabilitation and reactivation as a production well and an additional source of groundwater supply (EKI, 2018), at a production rate of approximately 300 gpm (equivalent to 485 AFY if pumped continuously) (City of East Palo Alto, 2015). However, overall the total groundwater production for the subbasin is estimated at 2,300 AFY (EKI, 2018).

East Palo Alto Pad D Test Well

The City of East Palo Alto initially installed a test groundwater well at the Pad D Well site in 2014 (EKI, 2014). The pilot borehole was drilled to a total depth of 600 feet bgs. The test well was constructed from 6-inch diameter PVC casing to a total depth of 540 feet and includes five screened intervals totaling 125 feet. The screened intervals were placed opposite the most permeable and potentially productive aquifers based on observations of lithology encountered

[3] Overdraft of an aquifer occurs when more groundwater extraction exceeds the groundwater recharge to the aquifer.

during drilling and the geophysical logs. Key findings of the test well drilling and installation were:

- The regional aquitard exists beneath the site from approximately 90 to 160 feet bgs (i.e., approximately 70 to 140 feet below NAVD88) as evidenced by the increased clay content identified during drilling. A sandy interval was encountered between from approximately 125 to 140 feet bgs.
- The stratified aquifer sequence beneath the confining layer consisted of channel or possibly debris flow deposits separated by finer-grained intervals. These sequences of grain size are consistent with an alluvial fan depositional environment. The coarser units, which were selected for the screened intervals consisted of mixtures of medium to coarse sand and gravel.
- The intervals screened in the test well comprise one or more artesian confined aquifers resulting in a composite hydraulic head value (i.e., static water level of approximately 14 feet bgs, or nearly 150 feet above the top of the shallowest screen.
- Basement bedrock was not encountered at the total drilled depth of 600 feet bgs.

San Francisquito Creek

San Francisquito Creek originates in the eastern Santa Cruz mountains and extends about 13 miles to San Francisco Bay (**Figure 4.2-2)**. The creek has a watershed area of about 45 square miles encompassing upland bedrock terrain and relatively flat alluvial fan deposits. The upland watershed consists mostly of open space with some development while the lower alluvial fan is intensively urbanized with storm drains that convey flows to the creek or to the bay. The mean annual flows within San Francisquito Creek have ranged from less than 0.05 cubic feet per second (cfs) recorded in 1961 to 89.1 cfs recorded in 1933 (City of East Palo Alto, 2015).

San Francisquito Creek supports riparian vegetation and fauna, including threatened species such as the red-legged frog and western pond turtle. It is the only free-flowing urban creek on the south Peninsula (USGS *in* City of East Palo Alto, 2015) and the most viable remaining native steelhead population in South San Francisco Bay. San Francisquito Creek has been the subject of numerous studies, restoration plans, active restoration, and education and outreach efforts (City of East Palo Alto, 2015). The lowermost reach of San Francisquito Creek, between Highway 101 and San Francisco Bay (along the East Palo Alto-Palo Alto boundary), is susceptible to severe flooding, as occurred in the low-lying neighborhoods in February 1998 and December 2012.

A USGS study conducted in 1996-97 (USGS Water-Resources Investigations Report 02-4078) of the surface water-groundwater interaction between San Francisquito Creek and the underlying aquifers suggest that the creek loses water to the subsurface in some reaches and is recharged in others. The most pronounced streamflow losses occur where aquifers extend to the ground surface and the Bay Mud aquitard is absent. This is the condition in the upper reaches of the San Francisquito Cone, where stream recharge can readily replenish the shallow and deep aquifer zones. The creek in the lower portion of East Palo Alto is a gaining reach because of storm drain inflow, lack of recharge due to high groundwater levels, and possibly tidal influence.

Groundwater Budget

As part of the groundwater assessment conducted for the subbasin, a groundwater budget was developed to estimate the total inflows against the total outflows considering both natural processes and the effects of urbanization. Basin inflows consist of recharge from rainfall percolation, deep irrigation percolation (when applied irrigation is not fully consumed by crop intake and infiltrates beyond the root zone), leakage from water and sewer pipes, streamflow percolation, and subsurface inflow from outside the subbasin boundaries. Groundwater outflows consist of groundwater supply extraction, groundwater remediation pumping, dewatering for construction purposes, use by riparian and wetland vegetation, seepage into utility corridors and the bay, and subsurface outflows outside of the basin. According to the basin assessment, the groundwater budget for the subbasin shows a balance of inflows with outflows that total 7,900 AFY (EKI, 2018). However, a range for each inflow and outflow source is given due to some of the challenges in making accurate estimates of these sources and the natural variability inherent in natural systems, such as rainfall. For example, percolation of leaking water pipes is estimated to range from 600 to 2,000 AFY. Likewise, water supply extraction was estimated at 2,300 AFY but actually falls within a range of 1,500 to 4,000 AFY. Rainfall percolation will naturally vary depending on the amount of precipitation in any given water year. Over the study period of 1984 to 2015, the relatively stable groundwater levels support the conclusion that overall water budget is in balance, with long-term average inflows generally equaling outflows (EKI, 2018).

Groundwater Quality

Groundwater quality is influenced by several factors, including natural geochemical properties and flow within hydrogeologic formations, groundwater pumping, land use practices, and accidental releases of contaminants into the environment. Natural groundwater quality within the San Francisquito Creek Groundwater Subbasin varies laterally and with depth. Groundwater extracted from the shallow aquifer tends to be similar in composition to recharge water (surface water, precipitation, imported water). Groundwater extracted from the deep aquifer varies in composition because of contact and residence time within formation sediments (Todd Engineers *in* City of East Palo Alto, 2013).

Generally, groundwater quality in the San Francisquito Cone Subbasin is acceptable for both potable and irrigation uses. Water quality is overall better in the deeper zones than the shallow aquifer (EKI, 2018). The groundwater is hard (i.e., high in calcium carbonate) with levels in some wells of chloride, iron, manganese, specific conductance, and total dissolved solids (TDS) that exceed secondary drinking water standards. Elevated levels of these constituents make groundwater undesirable for potable use for aesthetic concerns such as problems with soap lathering, taste, odor, and plumbing/clothing staining. Groundwater pumped from wells operated by O'Connor Tract, approximately 0.75 mile west of the Pad D Well, meets all drinking water quality standards except manganese at times, but there are current plans to provide treatment for that issue. Otherwise, the O'Connor Tract water does not require additional treatment. Groundwater from wells operated by the PAPMWC in East Palo Alto, approximately 1.3 miles northwest of the Pad D Well site, is chlorinated and blended to meet drinking water standards (Todd Engineers *in* City of East Palo Alto, 2013).

Saline Water Intrusion

In the beginning of the 20th century, groundwater in the San Francisquito Cone flowed to the Bay as groundwater levels remained above the sea level and artesian conditions existed in some wells. Drought and over-pumping in the 1920's drew groundwater levels below sea level causing Bay water to begin migrating inland. By the 1960's, the rate of groundwater pumping in the San Francisquito Cone approached 7,500 AFY and, at that rate, groundwater levels remained low and saline water intrusion reportedly extended 2 to 3 miles inland to the areas of Palo Alto, Menlo Park, and Atherton (Iwamura *in* City of East Palo Alto, 2015). Water deliveries from the Hetch Hetchy water system, which started in 1965, reduced groundwater pumping in the San Francisquito Cone area, allowing the recovery of groundwater levels, flushing of the saline water from the aquifers, and the reestablishment of natural northeasterly groundwater flow from the mountains to the Bay. The prevailing easterly groundwater flow gradients have precluded any seawater intrusion at present (EKI, 2018).

Groundwater Contamination

Groundwater contamination has occurred from leaking underground petroleum storage tanks and discharge of heavy metals and chlorinated solvents in commercial/industrial areas of East Palo Alto and surrounding cities. Some human-caused contaminants are carcinogenic, and many are hazardous to human health at elevated concentrations. Several sites have known high concentrations of solvents and heavy metals in groundwater, including the Romic Chemical and Rhone-Poulenc (1990 Bay Road) sites. However, contamination at these sites is limited in lateral and vertical extent, and does not currently threaten water quality at East Palo Alto production well sites. The regional confining layer restricts the rate of contaminant transport at these sites and provides a degree of protection for deep production wells from surface releases. It also reduces the potential for production well pumping to affect remediation activities. Currently, no contamination sites have been identified near the Gloria Way Well, Pad D site, O'Connor Tract or PAPMWC wells. In addition, historical water quality sampling has not indicated petroleum or solvent contamination in the Gloria Way and Pad D Wells (City of East Palo Alto, 2015).

4.2.2 Regulatory Framework

This section provides an overview of notable federal, state, and local environmental laws, policies, plans, regulations, and/or guidelines relevant to groundwater resources.

Safe Drinking Water Act

The federal Safe Drinking Water Act, passed by Congress in 1974 and amended in 1986 and 1996, is the nation's primary law regulating drinking water quality and is implemented by the U.S. Environmental Protection Agency (U.S. EPA). On July 1, 2014, California's Drinking Water Program transferred from California Department of Public Health to the State Water Resources Control Board (SWRCB). Implementation and enforcement of both the federal and California Safe Drinking Water Acts are under the jurisdiction of the SWRCB Division of Drinking Water (DDW), which, among other functions, regulates public water systems, oversees water recycling projects, permits water treatment devices, and supports and promotes water system security.

The U.S. EPA sets national primary drinking water standards (i.e., Maximum Contaminant Levels) to protect against both naturally occurring and man-made contaminants that may be found in drinking water. SWRCB sets state primary drinking water standards that are at least as stringent as, and sometimes more stringent than, those developed by the U.S. EPA. Primary drinking water standards are based on health considerations for contaminants that are known to cause harmful health effects; secondary drinking water standards are set for "nuisance contaminants" that are not directly harmful and may cause cosmetic effects (do not damage the body but are still undesirable), technical effects (damage to water equipment or reduced treatment effectiveness) or aesthetic effects (undesirable tastes or odors). Drinking water regulations are set forth in the California Code of Regulations, Titles 17 and 22.

Groundwater Management Planning Act (AB 3030)

In 1992, the California Legislature passed the Groundwater Management Planning Act—Assembly Bill (AB) 3030—which was designed to provide local public agencies increased management authority over their groundwater resources. AB 3030 provides a systematic procedure to develop a groundwater management plan, including a list of components that may be addressed (e.g., control of saline water intrusion, mitigation of overdraft, wellhead protection, monitoring, replenishment, contamination clean-up, coordination with other agencies) and procedures for public outreach and hearings (City of East Palo Alto, 2015).

In 2002 and 2012 new legislation, Senate Bill (SB) 1938 and AB 359 respectively, expanded AB 3030 by requiring groundwater management plans to include certain specific components in order to be eligible for grant funding for various types of groundwater related projects. The Groundwater Management Planning Act (as amended in Water Code §10750) applies to local agencies that provide water service, flood control, or water management and overlie part or all of a groundwater basin defined by the DWR Bulletin 118. East Palo Alto is such a public water agency and overlies about 2.5 square miles of the San Mateo Plain Subbasin of the Santa Clara Valley Groundwater Basin, designated by DWR as Subbasin No. 2-9.03. As such, East Palo Alto was authorized by the current Water Code to develop and implement its Groundwater Management Plan (GWMP), which as adapted November 17, 2015. (City of East Palo Alto, 2015).

Sustainable Groundwater Management Act

In September 2014, the State enacted three legislative bills (AB 1739, SB 1168, and SB 1319) that together are known as the Sustainable Groundwater Management Act (SGMA). This legislation mandates sustainable management of groundwater resources and provides expanded powers to local public water agencies that organize as groundwater sustainability agencies. Sustainability is defined in terms of a basin's yield as the maximum long-term quantity of water that can be withdrawn annually without causing an undesirable result (City of East Palo Alto, 2015). The SGMA creates a framework for sustainable, local groundwater management in California. The DWR and the SWRCB are the lead state agencies responsible for developing regulations and reporting requirements necessary to carry out SGMA. DWR sets basin prioritization, basin boundaries, and develops regulations for groundwater sustainability. The SWRCB is responsible for fee schedules, data reporting, probationary designations and interim sustainability plans. Compliance with the SGMA is required for groundwater basins or subbasins

that have been designated by DWR as medium- or high priority (requirements for adjudicated basins focus on reporting). The San Mateo Plain Subbasin underlying the City is designated by DWR as very low priority and is therefore not subject to the SGMA. It is important to note that the prioritization is intended to express the relative importance of groundwater basins statewide, considering factors such as reliance on groundwater. It not intended to diminish the local importance of groundwater in the smaller size or lower-use groundwater basins, such as the San Mateo Plain Subbasin.

City of East Palo Alto Monitoring Program

The City of East Palo Alto (City) has developed a Groundwater Management Plan (City of East Palo Alto, 2015). One element of the GWMP is establishment of an annual groundwater monitoring program, that includes groundwater level and quality monitoring, baseline surveying for monitoring future land subsidence, surface water and pumping rate monitoring, and annual reporting.

The City has self-implemented groundwater monitoring and management activities focused on its jurisdiction. The intent of the City's groundwater monitoring and management activities is to begin coordination with current groundwater production by nearby mutual water companies, planned future groundwater production by neighboring municipalities, and the extent and connectivity of the San Francisquito groundwater subbasin (which includes portions of the cities of Palo Alto, Menlo Park, and Redwood City) because surface water and groundwater monitoring are regional issues. The City's self-implemented annual groundwater monitoring program includes the following components:

- Quarterly measurement of depth to water and calculation of groundwater elevations in City monitoring and production wells.
- Annual measurement of water quality field parameters during pumping or purging
- Collection and laboratory analysis of water quality samples for a suite of inorganic analytes
- Measurement and recording of flow rates and total volumes pumped from production wells
- Compilation of rainfall data
- Compilation of San Francisquito Creek flow rates
- Collection of land subsidence monitoring data
- Preparation of an annual groundwater monitoring report to present analysis and evaluation of monitoring results

4.2.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the CEQA Guidelines recommends significance criteria for the evaluation of impacts related to Hydrology and Water Quality. The Initial Study that was prepared as part of the NOP, established that there were only two applicable significance criteria that could have

potential impacts which were related to groundwater resources. These two criteria are provided in the bullets below. Implementation of the proposed project would have a significant impact related to groundwater resources if it would:

- Violate any water quality standards or waste discharge requirements or otherwise degrade surface or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

In the Initial Study, the potential impacts of construction related to water quality standards or waste discharge requirements were discussed and addressed. The project would be required to adhere to the City of East Palo Alto ordinances related to Excavation, Grading, Filling, and Clearing (Title 15, Chapter 15.48). Compliance with these regulations require implementing detailed construction control measures for erosion and sediment control which would be effective in reducing potential water quality impacts related to sediment and siltation. Construction would also require the use of limited quantities of hazardous materials. The potential for an accidental hazardous materials release during construction to affect the public or the environment was addressed in the Initial Study by requiring **Mitigation Measure HY-1 (Construction Best Management Practices)**, which is incorporated here. As a result, with implementation of mitigation, the potential impact associated with an accidental hazardous materials release during construction would be reduced to a less-than-significant level. **(Less than Significant with Mitigation)**.

Note that the criteria above represent the more recent changes to the wording of the significance criteria since publication of the Initial Study. These recent changes to the significance criteria also included the addition of the following criterion which is considered in this section:

- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Therefore, for the purposes of the Pad D Standby Well impact analysis, a groundwater impact would be significant if the project caused a lowering of groundwater levels to the extent that it would substantially decrease groundwater supplies in the basin or interfere with groundwater recharge that may impede with sustainable management of the basin.

Due to the nature of the proposed project, there would be no impacts related to interference with groundwater recharge. Considering the location of the proposed Pad D Well site and the added impervious area required for the improvements at the well site, the additional impervious area would be negligible when compared to the overall recharge area of the basin and would not constitute a significant impediment to groundwater recharge. Thus, no impact related to interference with groundwater recharge would occur, and this issue is not discussed further.

Approach to Analysis

The proposed well would act as a standby well that would operate intermittently and not within any preset schedule. The following analysis therefore evaluates the potential impacts on the basis

of the maximum total annual volume of groundwater that could be extracted, which is 33 AFY. This maximum annual volume of groundwater extraction is compared with annual average inflows and outflows of the basin in accordance with the relatively recent assessment of the basin (EKI, 2018).

Project Impacts

Impact 4.2-1: Groundwater pumping at the Pad D Well could substantially decrease groundwater supplies such that the project may impede sustainable groundwater management of the basin. (*Less than Significant*)

This impact analysis considers the effect that the proposed pumping at the Pad D Well would have on groundwater supplies in the basin and the sustainable management of the basin. The project site is located in the San Mateo Plain Groundwater Basin. As noted above, the basin is considered by DWR under SGMA to be a very low priority basin. A basin's priority is based on a number of factors including the current trend in groundwater levels, the amount of groundwater used for water supply purposes, population, and other issues that may be present. A very low priority rating indicates that the basin is not required to form a Groundwater Sustainability Agency nor prepare a groundwater sustainability plan. A groundwater assessment, however, was prepared for the basin to better understand basin conditions.

According to the assessment, there are numerous different sources of inflows and outflows to the basin. The highest contributions of inflows come from deep infiltration of precipitation and applied irrigation in irrigated areas (22 percent) and deep infiltration of precipitation in non-irrigated areas (22 percent), percolation from creeks (17 percent), and water pipe leaks (12 percent) (EKI, 2018). The largest outflows come from seepage to creeks and tidal wetlands (30 percent), groundwater pumping for water supply (29 percent), groundwater infiltration into sewers (17 percent), and pumping for construction dewatering (12 percent) (EKI, 2018). The total outflow from seepage to creeks, tidal wetlands, sewers, and adjacent basins to the east and north is estimated at an average of 4,300 AFY and in the basin assessment it was determined that because this is greater than average extraction this could indicate an availability for additional extraction, though not necessarily to the extent of the full 4,300 AFY (EKI, 2018). However, the basin was determined to be in equal balance of inflows to outflows at 7,900 AFY even with variations that do occur from year to year. The assessment noted that the balance is generally maintained even between wet and dry years. While dry years result in reductions in infiltration inflows, there is a corresponding reduction in some of the outflows including seepage and sewer line infiltration outflows. The overall balance of the basin is generally supported by the observed water levels over the last few decades.

As noted above in the setting, the basin assessment produced annual averages for each element of the water budget and also provided a range of values due to a certain level of uncertainty or variation that typically occurs. For example, percolation of leaking water pipes is estimated to range anywhere from 600 to 2,000 AFY (EKI, 2018). Groundwater pumping for water supply was estimated at 2,300 AFY but actually falls within a range of 1,500 to 4,000 AFY. In addition, the estimated amount of overall uncertainty in the groundwater budget factors was determined to

be as much as +/- 30 percent. Therefore, at an estimated 33 AFY, the proposed use of the Pad D Well could easily be absorbed into the margin of error or at most represent a relatively small factor in the water budget. As a result, the use of the standby well as proposed would represent a relatively small demand on the basin and would not interfere with the management of the basin. The potential impact on groundwater supplies would be considered **less than significant**.

Interference in Other Wells

Groundwater extraction from a single production well can impact other nearby wells if the area of pumping influence (also known as the cone of depression) generated by the production well substantially lowers local groundwater elevations. While seasonal fluctuation in groundwater elevations is expected, additional drawdown caused by excessive local or regional pumping can lower groundwater elevations, reduce well production, or damage nearby wells. However, as a standby source, per California Code of Regulations, Title 22, Chapter 15, §64414.(c), the proposed well would not operate for more than five straight days and no more than a total of 15 days in any one calendar year at rate of 350 to 500 gallons per minute (gpm), consistent with the findings of the pump test at the Pad D test well (EKI, 2014). This rate is also in line with other production wells in the area, if not at a rate lower than the 650 gpm average for nearby wells. However, by operating the project well for no more than five consecutive days and no more than 15 days in any one year it would be very unlikely to have any observable effects on any neighboring wells. Therefore, based on the proposed rate of pumping and the very limited duration of operation, the potential interference with other wells in the region would be considered **less than significant**.

Impact 4.2-2: Groundwater pumping at the Pad D Well could conflict or obstruct implementation of a water quality control plan or groundwater management plan. (*Less than Significant*)

Construction of the proposed well would include subsurface disturbances and provide a potential conduit for any hazardous materials used for construction at the surface to adversely affect groundwater quality. The San Francisco Water Quality Control Plan (Basin Plan) includes water quality objectives and policies to protect groundwater quality throughout the San Francisco Bay region. As noted above, project construction would be required to implement **Mitigation Measure HY-1 (Construction Best Management Practices)** which would be effective in protecting underlying groundwater quality consistent with Basin Plan policies and objectives. No other elements of the project would conflict or interfere with the Basin Plan and the potential impact would be considered **less than significant.**

The San Mateo Plain basin is not in overdraft and is not currently managed by a groundwater management plan, although the City of East Palo Alto does have a groundwater management plan. The relatively recent basin assessment was prepared as a resource to better understand the basin characteristics and provide guidance on potential opportunities to manage the basin in the future. At the time of preparation of that document, the proposed Pad D well was being considered as a fully operational well and was even discussed in the basin assessment. The well was described as one that could produce 750 AFY. Currently, due to its very low priority

designation by DWR, the basin is not required under SGMA to prepare and implement a groundwater sustainability plan. However, in 2015, the City of East Palo Alto prepared a Groundwater Management Plan which also mentions the Pad D well as a potential future well that would operate as a fully operational groundwater supply well. Therefore, with the proposed use as a standby well at a substantially lower operational use, the proposed project would not conflict with or obstruct implementation of the City's groundwater management plan. The potential impact would be **less than significant.**

Mitigation Measure HYD-1: Construction Best Management Practices.

The City shall incorporate into contractor specifications the requirement that, in addition to the erosion control plan, the construction contractor(s) implement construction Best Management Practices (BMPs) to minimize soil erosion and downstream sedimentation of receiving waterbodies, and the accidental release of hazardous construction materials during construction. The following BMPs shall be required:

Sediment Control Practices

- Install silt fences and fiber rolls downgradient of disturbed areas
- Install temporary storm drain inlet protection

Water Quality Best Management Practices

- Place drip pans under construction vehicles and all parked equipment
- Check construction equipment for leaks regularly
- Refuel vehicles and equipment at least 100 feet from storm drains to minimize the risk of run-on, runoff, and spills that could affect water bodies
- Conduct fueling in paved and curbed areas to contain spills if this is possible; if not, refuel over drip pans or absorptive mats
- Cover all storm drain inlets when paving or applying seals or similar materials to prevent the offsite discharge of these materials

Waste Management and Hazardous Materials Pollution Control

- Require secondary containment of hazardous construction chemicals to prevent the accidental release of these chemicals to the stormwater drainage system
- Remove trash and construction debris from the project site at regular intervals
- Store all hazardous materials in an area protected from rainfall and stormwater run-on and prevent the offsite discharge of leaks or spills
- Train construction personnel in proper material delivery, handling, storage, cleanup, and disposal procedures
- Document compliance with storage and handling requirements for hazardous materials

Implementation of **Mitigation Measure HYD-1** would require measures to be implemented during construction to protect groundwater quality consistent with Basin Plan policies and objectives.

Significance After Mitigation: Less than Significant

Impact 4.2-3: Groundwater pumping at the Pad D Well could capture stream flow from San Francisquito Creek channel or divert shallow groundwater that would otherwise recharge the creek, causing a decline in stream level and flow. (*Less than Significant*)

Stream flow in the San Francisquito Creek readily infiltrates to the subsurface in the upslope areas toward the foothills, in the area not underlain by the Bay Mud aquitard. In these stream reaches, inflow, also referred to as leakage, is constant and because the water table is much lower than the creek, drawdown in the underlying aquifers does not affect stream flow. However, in the lower lying areas toward the Bay and near the Pad D Well, where the clay aquitard is present, the stream is gaining, meaning it is recharged from shallow groundwater and surface runoff with minimal leakage to the underlying aquifer. These areas can be affected by drawdown in the groundwater table because the pumping well is either drawing water from the creek bed (creek loss) or capturing groundwater that would otherwise flow to recharge the creek (groundwater inflows). However, as proposed, the well would operate no more than five straight days and no more than a total of 15 days in any one year. This magnitude of pumping would represent a relatively small percent of the amount of groundwater in storage and water levels would be highly likely to quickly recover to pre-pumping levels. Thus, the proposed use of the standby well would not be considered likely to noticeably alter the hydrologic character of the San Francisquito Creek, and this impact is considered **less than significant**.

Cumulative impact Analysis

Impact 4.2-C: Cumulative impacts related to Groundwater Resources. (*Less than Significant*)

The geographic scope of the cumulative analysis for groundwater resources includes the San Francisquito Cone area that underlies the cities of East Palo Alto, Palo Alto, Menlo Park, Atherton, and Redwood City. Vertically, the geographic scope the shallow and deep aquifer zones in the San Francisquito area.

Cumulative groundwater impacts would be significant if they would substantially deplete or interfere with groundwater supplies, violate water quality standards, or degrade water quality. This analysis evaluates cumulative impacts within the basins associated with the aquifer response to groundwater extraction. The significance thresholds are based on the physical effects from changes to the volume and quality of the groundwater.

The primary cumulative projects considered in this analysis is the operation of the City of East Palo Alto's existing Gloria Way Well and the increased commitment of SFPUC water deliveries

through the cooperative approval of Water Rights Transfer Agreements with the cities of Mountain View and Palo Alto in 2017 and 2018.

The Gloria Well is screened in the same aquifer zone as the proposed Pad D Well and is located about 5,400 feet northwest of Pad D. The Gloria Way well, pumping at 485 AFY, would be a much higher producing well than the proposed Pad D Well at just 33 AFY. However, as noted above, the basin is currently considered in balance with inflows equaling outflows. Therefore, on a basin-wide basis, there is no cumulative impact to groundwater supplies or water quality standards. In addition, the increased commitment of water deliveries from SFPUC decreases the need to access groundwater supplies. The proposed annual volume of 33 AFY is relatively small compared to the Gloria Way well and, as described above, well within the margin of error for the basin water budget. As a result, because the basin is not in overdraft and the proposed annual extraction for the proposed Pad D well is relatively small, there would be a **less than significant** cumulative impact to groundwater resources.

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4.3 Biological Resources

This section analyzes the operation of the proposed municipal standby well at the Pad D Well site and whether operation of the project would adversely impact biological resources. The potential for this project to have a significant impact on biological resources was identified in the Notice of Preparation/Initial Study (NOP/IS) prepared in September 2016. Specifically, the NOP/IS concluded that long-term pumping from the Pad D Well could deplete surface flows in San Francisquito Creek, and result in associated effects on resources and habitat within and near the creek corridor. Since that time, the purpose of the proposed Pad D well has changed from being a production well, to being a standby well with limited annual production volume; see Section 3, Project Description.

4.3.1 Setting

San Francisquito Creek and Associated Habitat

As discussed in Section 4.2, Hydrology and Water Quality, San Francisquito Creek originates in the eastern Santa Cruz mountains and extends about 13 miles to San Francisco Bay, **Figure 4.2-2**. The mean annual flows within San Francisquito Creek have ranged from less than 0.05 cubic feet per second (cfs) recorded in 1961 to 89.1 cfs recorded in 1933 (City of East Palo Alto, 2015). San Francisquito Creek supports wetland and riparian vegetation and fauna, including threatened species such as the red-legged frog and western pond turtle. It is the only free-flowing urban creek on the south Peninsula (USGS *in* City of East Palo Alto, 2015) and the most viable remaining native steelhead population in South San Francisco Bay.

4.3.2 Regulatory Framework

Federal

Federal Endangered Species Act

The Federal Endangered Species Act, which is administered by U.S. Fish and Wildlife Service and National Marine Fisheries Service, protects fish, plants, and wildlife species identified by these agencies as threatened or endangered, as well as the habitats of identified species. In general, the fisheries service is responsible for the protection of federally listed marine species and *anadromous fish*,[1] whereas the fish and wildlife service has jurisdiction over federally listed wildlife, plant, and freshwater fish species

Clean Water Act

The federal Clean Water Act was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlines the basic structure for regulating discharges of pollutants to *waters of the United States*. The act serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

[1] Anadromous fish are born in freshwater then migrate to the ocean as juveniles, where they grow into adults before migrating back into freshwater to spawn.

Waters of the United States are areas subject to federal jurisdiction pursuant to section 404 of the act. Waters of the United States are typically divided into two types: (1) wetlands and (2) other waters of the United States. *Wetlands* are "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."[2] To be considered subject to federal jurisdiction, a wetland must normally support *hydrophytic vegetation* (plants growing in water or wet soils), hydric soils, and wetland hydrology.[3] Other waters of the United States are territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters..

Water Quality Certification (Clean Water Act Section 401)

Under Clean Water Act section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. The California Regional Water Quality Control Board administers this certification. Therefore, all projects that have a federal component and that may affect state water quality (including projects that require federal agency approval, such as issuance of a section 404 permit) must also comply with section 401.

State

California Endangered Species Act

The California Endangered Species Act, which is administered by California Department of Fish and Wildlife, prohibits the take of plant and animal species designated by the Fish and Game Commission as either threatened or endangered in California. *Take* in the context of the California Endangered Species Act means "to hunt, pursue, kill, or capture" a listed species, as well as any other actions that may result in adverse impacts when attempting to take individuals of a listed species. The take prohibitions also apply to candidates for listing under the act. Section 2081 of the act allows the department to authorize exceptions to the state's prohibition against the take of a listed species, such as for educational, scientific, or management purposes, with the exception of *fully protected species* (see below).

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) established the State Water Resources Control Board and divided the state into nine basins, each with its own regional board. The Porter-Cologne Act authorizes the state board to enact state policies regarding the protection of *waters of the state*, broadly defined as "any surface water or groundwater, including saline

[2] 33 Code of Federal Regulations section 328.3[b], 40 Code of Federal Regulations section 230.3.

[3] Environmental Laboratory, *Corps of Engineers Wetland Delineation Manual*, Final Report, Department of the Army Waterways Experiment Station, Vicksburg, Mississippi, January 1987.

waters, within the boundaries of the state"[4] including isolated, intrastate, and non-navigable waters and/or wetlands. With respect to biological resources, the state board and regional boards have authority over any fill activities within state waters, including isolated water/wetlands that may be outside the jurisdiction of the army corps.

4.3.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the CEQA Guidelines recommends significance criteria for the evaluation of impacts related to biological resources, in this case, relating primarily to effects on stream flows, wetlands, and riparian habitats as well as the species that use them. The criteria are provided below. Implementation of the proposed project would have a significant impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Approach to Analysis

The following analysis of impacts on biological resources resulting from changes in streamflow from proposed project pumping considers the proposed annual volume of groundwater (33 AFY) that would be extracted with the project, compared to the water budget for the basin. As explained in Section 4.2.1, Hydrology and Water Quality, a groundwater budget developed for the subbasin shows a balance of inflows with outflows that total 7,900 AFY (EKI, 2018). However, a range is provided for each inflow and outflow source because of the challenges in making accurate estimates of these sources. For example, groundwater pumping was estimated at 2,300 AFY but actually falls within a range of 1,500 to 4,000 AFY. Because the proposed well would perform as a standby well that would operate intermittently, and as proposed, would operate no more than five straight days and no more than a total of 15 days in any one year, this magnitude of pumping (up to 33 AFY) would represent a relatively small demand on the basin. Impacts of the proposed

[4] California Water Code section 13050.

project pumping on the basin balance was used to evaluate potential impacts on stream flows and therefore, biological resources.

Project Impacts

Impact 4.3-1: Groundwater pumping at the Pad D Well could capture stream flow from San Francisquito Creek channel or divert shallow groundwater that would otherwise recharge the creek, causing a decline in stream level and flow, and associated effects on biological resources. (*Less than Significant)*

As discussed in Impact 4.2-3, stream flow in the lower lying areas of San Francisquito Creek, toward the Bay and near Pad D, where the clay aquitard is present, is recharged from shallow groundwater and surface runoff with minimal leakage to the underlying aquifer. These areas can be affected by drawdown in the groundwater table because the pumping well is either drawing water from the creek bed (creek loss) or capturing groundwater that would otherwise flow to recharge the creek (groundwater inflows).

As proposed, the Pad D standby well would operate no more than five straight days and no more than a total of 15 days in any one year. This magnitude of pumping would represent a relatively small percent of the amount of groundwater in storage. Therefore, the proposed pumping at the Pad D standby Well would not substantially increase leakage (decrease in surface flow) in San Francisquito Creek and would not deplete surface water sources or change stream flow characteristics. As a result, surface flows would not be affected and would not affect wetland and riparian resources, or the species that occur in those areas. Therefore, this impact is considered less than significant.

Cumulative Analysis

Impact 4.3-C: Cumulative impacts related to Biological Resources. (*Less than Significant*)

The geographic scope of the cumulative analysis for biological resources includes the San Francisquito Cone subbasin that underlies the cities of East Palo Alto, Palo Alto, Menlo Park, Atherton, and Redwood City.

Cumulative impacts would be significant if groundwater extraction or other activities would substantially deplete or interfere with surface water, or result in related effects on wetlands, riparian habitat, or species dependent on those resources.

The only cumulative project considered in this analysis is the operation of the City of East Palo Alto's existing Gloria Way Well. This production well is screened in the same aquifer zone as the proposed Pad D Well and is located about 5,400 feet northwest of Pad D. For the purposes of this analysis, the Gloria Way Well would operate simultaneously with the Pad D Well.

As discussed in Section 4.2, Hydrology and Water Quality, the Gloria Well is screened in the same aquifer zone as the proposed Pad D Well and is located about 5,400 feet northwest of Pad D. The Gloria Way well, pumping at 485 AFY, would be a much higher producing well than the proposed Pad D Well at just 33 AFY. However, as noted above, the basin is currently considered in balance with inflows equaling outflows. Therefore, on a basin-wide basis, there is no cumulative impact to groundwater supplies or water quality standards. The cumulative impact of groundwater pumping

on the creek and biological resources associated with the Creek, therefore, would be less than significant.

References – Project Description

City of East Palo Alto, 2015. *Gloria Way Well Retrofit Project, Joint Initial Study/Environmental Assessment.* Prepared by Environmental Science Associates, June 2013.

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe, 1979.w *Classification of wetlands and deepwater habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, available online at https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf. Accessed January 27, 2017.

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4.4 Geologic Resources

This chapter analyzes if the operation of the proposed municipal standby well at the Pad D Well site would adversely impact local and regional geologic resources, namely, whether it initiate ground subsidence. The potential for this project to have a significant impact on the local geology was identified in the Notice of Preparation/Initial Study (NOP/IS) prepared in September 2016 (City of East Palo Alto, 2016). Specifically, the NOP/IS concluded that any long-term pumping[1] from the Pad D Well could lower the local and regional groundwater levels in the shallow aquifer and deep, confined aquifer, below historic lows resulting in ground subsidence. Impacts to hydrology and water resources are discussed in Section 4.2, *Hydrology and Water Quality*. Since that time, the purpose of the proposed Pad D well has changed from being a production well, to being a standby well with very limited annual production volume.

The analysis of geologic impacts associated with the proposed project partly relied on the Groundwater Management Plan for East Palo Alto (City of East Palo Alto, 2015), the NOP/IS (City of East Palo Alto, 2016), and the Joint Initial Study/Environmental Assessment (IS/EA) prepared for the Gloria Way Well Retrofit Project (City of East Palo Alto, 2013).

4.4.1 Setting

This section discusses the geologic conditions, as they apply to land subsidence, underlying East Palo Alto and the San Francisquito Cone. This area is within the San Mateo Plain Groundwater subbasin, one of the four subbasins of the larger Santa Clara Valley Groundwater Basin (Figure 4.2-1 and 4.2-2). Chapter 4.2, *Hydrology and Water Quality* provides a detailed description of the local geologic conditions.

Land Subsidence

Land subsidence is a gradual settling or sudden sinking of the Earth's surface (USGS, 1999). The principal cause of subsidence is deep-seated compaction of unconsolidated sediments caused by extraction of subsurface fluids, oils, water and gas. Aquifer-system compaction, associated with groundwater pumping and extensive water-level declines, is responsible for most of the subsidence in California. Land subsidence can result in temporary or permanent lowering of the land surface and can exacerbate flooding and damage infrastructure. Overdrafting of groundwater aquifers often leads to permanent land subsidence.

Areas having a greater abundance of fine-grained sediments are more susceptible to land subsidence because these sediments are more compressible. In a subsidence-prone area, declining water levels can compress unconsolidated fine-grained sediment beds within an aquifer and the subsurface compression manifests as a lowering of the land surface. When drawdown occurs, the total stress decreases as the pressure transmitted by the overlying water column decreases, and the decrease in pressure shifts a greater portion of the overburden stress onto the grain-to-grain

[1] Note that the project as presented in the NOP/IS was for a well that would operate as a full production well at a rate of up to 725 AFY.

contacts between the sediments. The overall effect is an increase in effective stress that results in compaction. The fine-grained sediment beds most affected by the change in effective stress are the compressible clay and silt deposits within the confined aquifer unit, and the change in effective stress in a confined aquifer is directly related to the drawdown.

Aquifer-system deformation can be fully reversible (elastic) or largely irreversible and permanent (inelastic). Elastic deformation occurs when sediments compress as pore pressure decreases, and expand equally as pore pressure increases. The consequent subsidence and rebound of the land surface commonly occurs seasonally, coincident with groundwater discharge and recharge. The magnitudes of elastic subsidence and rebound are equivalent and typically small, ranging from about 2×10^{-6} to 8×10^{-6} feet of subsidence (or rebound) per foot of aquifer system thickness per foot of head change (Luhdorff & Scalmanini, 2014).

Inelastic compaction results only when the sediments are compressed beyond their previous maximum stress (preconsolidation stress). The preconsolidation stress, or the effective stress threshold at which inelastic compaction begins, generally is exceeded when groundwater levels decline below historic low levels. In these stress ranges, the materials compress inelastically, and the compaction and subsequent land subsidence are largely permanent and irreversible, despite any subsequent water level recovery. Because clays are often highly compressible, and subject to rearrangement of the grains, depressurization of clay aquitard strata results in more compaction and subsidence than depressurization of less compressible, coarser-grained deposits.

Historical Subsidence

Historical overdraft in the San Francisco Bay area resulted in water levels that were much lower than they had been. Water level changes from 1915–1967 showed a maximum drawdown of about 85 feet within East Palo Alto. Overdraft also resulted in land subsidence, which was measured in Santa Clara and San Mateo counties. Regional maps of land subsidence suggest that more than two feet was measured in Palo Alto and East Palo Alto between 1934 and 1967 (EKI, 2018). Subsidence in Atherton during the same period was reportedly between 0.1 and 0.5 feet. Although the subsidence that did occur may have partially reversed (elastic), these observed historical conditions indicate a potential for subsidence, should pumping resume to historical rates of withdrawals and groundwater elevations decline to historical low levels.

It is estimated that annual pumping from the San Francisquito Cone Groundwater Subbasin amounted to about 7,500 acre-feet per year (AFY) prior to 1962 (EKI, 2018). Historical low water levels, as measured in major aquifers, have been used as a guide of minimum allowable pressure in the system; this is largely because these major aquifers are the only zones where abundant data are available. However, this approach assumes that the entire aquifer/aquitard system has fully equilibrated to these lower pressures, which this is rarely the case. Due to their low permeability and relatively high compressibility, aquitards drain very slowly toward equilibrium with adjacent aquifers. Although some subsidence is expressed as soon as water levels begin to decline, full expression of subsidence within thicker aquitards can take a long time, sometimes on the order of tens of years or longer. This lag time in pore pressure

equilibration is a function of the thickness of the aquitards and their degree of isolation from pumped aquifer zones.

4.4.2 Regulatory Framework

There are no specific federal, state, and local environmental laws, policies, plans, regulations, and/or guidelines relevant to the occurrence of subsidence.

4.4.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the CEQA Guidelines recommends significance criteria for the evaluation of impacts related to geologic resources, in this case, ground subsidence. The criterion is provided below. Implementation of the proposed project would have a significant impact related to geologic resources if it would:

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Approach to Analysis

The following analysis on subsidence considers the proposed annual volume of groundwater (33 AFY) that would be extracted with the project in comparison with the water budget for the basin. The water budget for the basin is based on the findings of the relatively recent assessment of the basin (EKI, 2018) and is discussed in Section 4.2, Hydrology and Water Quality.

Project Impacts

Impact 4.4-1: Groundwater pumping at the Pad D Well could lower localized water levels below the historical lows thereby initiating compaction of the fine-grained sediments and leading to irreversible ground subsidence, which could cause structural instability for utilities and foundations. (*Less than Significant*)

As described in the Project Description, the proposed well would be operated as a standby well with an estimated annual extraction rate of up to 33 AFY. However, the well would never operate continuously more than five days in a row and not more than 15 days in a year. The historical subsidence that has been observed in the region occurred during an era when annual extractions of the basin were an estimated 7,500 AFY in the 1960s (EKI, 2018). Compared with current levels of groundwater pumping, now estimated at 2,300 AFY, the historic levels of groundwater extractions were much higher. There was a significant reduction in groundwater pumping with the advent of imported Hetch Hetchy surface water as a replacement for groundwater as a source of water supply. In addition, Santa Clara Valley Water District implemented a program of artificial recharge to help restore groundwater levels. The result was a recovery in groundwater levels, some recovery in ground surface elevations and cessation of subsidence.

As discussed more thoroughly in Section 4.2, Hydrology and Water Quality, the basin is characterized as being in balance with inflows generally equaling outflows which is confirmed by relatively stable water levels. As discussed in the Hydrology section, there is a certain amount of variance and uncertainty in calculating the different inflow and outflow elements resulting in a range of estimated values. The maximum 33 AFY of groundwater extraction proposed by the project is well within the margin of error of these elements and would likely have a negligible effect on the overall water balance. Not only would the total volume of pumping be relatively low, the duration of pumping at no more than five consecutive days and no more than 15 days total in a year, make it unlikely for the well to result in anything other than a very short term effect on water levels that would recover quickly once the pump is turned off. Water levels would be highly likely to recover to pre-pumping levels at the end of the temporary pumping (operational) period.

Therefore, considering the proposed operational characteristics of the well including the total annual volume and short operational durations compared with the total water budget for the basin, the proposed pumping would be unlikely to have any lasting effect on water levels. Since subsidence typically requires sustained substantive lowering of the water table, the proposed project would be considered to have a low probability of causing subsidence and the potential impact is considered **less than significant.**

Significance: Less than Significant, no mitigation required.

Cumulative Analysis

Impact 4.4-C: Cumulative impacts related to Geology and Soils. (*Less than Significant*)

The geographic context for the cumulative analysis of geologic resources, namely subsidence, is the Pad D and Gloria Way Well operations and the San Mateo Plain Groundwater subbasin. Under the cumulative scenario, the Pad D Standby Well would pump groundwater at a maximum of 33 AFY that could potentially occur simultaneously with the Gloria Way Well pumping at 485AFY. However, combined with the existing amount of pumping occurring in the basin (2,300 AFY), the two wells would still fall far short of the amount of groundwater extraction that occurred during the time when subsidence was observed (7,500 AFY). In addition, subsidence typically requires sustained pumping over relatively long periods of time, multiple years or even decades, before subsidence effects are observed. Considering the infrequent and short durations of pumping that the proposed well would operate in, there would be little likelihood of the Pad D Well causing any substantive changes to groundwater levels. Therefore, the potential for a cumulative impact is considered **less than significant**.

References – Geologic Resources

City of East Palo Alto, 2015. *Groundwater Management Plan for City of East Palo Alto*, Prepared by Todd Groundwater, August 2015.

City of East Palo Alto, 2016. *Pad D Municipal Groundwater Well Notice of Preparation/Initial Study.* Prepared for the City of East Palo Alto and the U.S. Environmental Protection Agency. Prepared by Environmental Science Associates, September 2016.

EKI, HydroFocus, and Todd Groundwater (EKI), 2018. *San Mateo Plain Groundwater Basin Assessment. Report.* July 2018.

Luhdorff and Scalmanini Consulting Engineers (Luhdorff & Scalminini), *Land Subsidence for Groundwater Use in California,* April 2014.

U. S. Geological Survey (USGS, 1999). *Land Subsidence in the United States*. USGS Circular 1182. 1999.

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CHAPTER 5
Other CEQA Considerations

5.1 Growth-Inducing Impacts

5.1.1 Introduction and Overview

This section considers the growth-inducement potential resulting from implementation of the proposed project, as required by the California Environmental Quality Act (CEQA). CEQA requires that an Environmental Impact Report (EIR) evaluate the growth-inducing impacts of a proposed project[1]:

> Discuss the way in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Direct growth would result if a project involved construction of new housing. A project can have indirect growth inducement if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. A project would also have an indirect growth inducement effect if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service.

Based on the CEQA definition above, assessing the growth-inducement potential of the Pad D Standby Well Project involves answering the question: "Will implementation of the proposed project directly or indirectly support economic expansion, population growth, or residential construction?" Water supply is one of the chief, though not the only, public service needed to support urban development. A water service capacity deficiency could constrain future development, particularly if coupled with strong community policy. Adequate water supply, treatment, and conveyance on the other hand, would play a role in supporting additional growth in the City of East Palo Alto, but it would not be the single impetus to such growth. Factors such as the General Plans and policies of the City and San Mateo County and/or the availability of wastewater disposal capacity, public schools, and transportation services also influence business and residential or population growth in the planning area. Economic factors, in particular, greatly affect development rates and locations.

[1] CEQA Guidelines Section 15126.2(d).

Growth inducement may constitute an adverse impact if the growth is not consistent with the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service and solid waste service. A project that would induce "disorderly" growth that is in conflict with local land use plans could indirectly cause additional adverse environmental impacts and impacts to other public services. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

5.1.2 Planned Growth and Water Demand

The City of East Palo Alto conducted a Water Supply Assessment (WSA) in 2015 and data from the WSA were used in the General Plan Update EIR analysis. In August 2016, the City certified the EIR for the City of East Palo Alto General Plan Update, which discusses the potential growth-inducing impacts of the General Plan. The EIR concluded that although the Update provides appropriate land use goals and policies to accommodate future growth, planned growth would require expansion of water services.

The City of East Palo Alto prepared an EIR on the Ravenswood/4 Corners TOD Specific Plan[2]. The Ravenswood/4 Corners Area is estimated to contribute about one third of City-wide projected new housing units and retail space, all new proposed industrial space, and approximately 60 percent of proposed new office space (City of East Palo Alto, 2016a). The EIR includes analysis of the growth-inducement potential of the Specific Plan, which concludes that the construction of new housing units would directly induce growth.

The City's 2015 Urban Water Management Plan (UWMP) was prepared in coordination with the General Plan Update, and the WSAs prepared in support of the General Plan Update and Specific Plan. Future population, employment, and water demand projections in the UWMP are consistent with such plans.

The growth-inducing, population and housing, and water supply analyses in both the Ravenswood/4 Corners TOD Specific Plan EIR and East Palo Alto General Plan Update EIR show that:

- Population and employment projections in the Specific Plan and General Plan Update are within the Association of Bay Area Governments (ABAG) projections for population growth and slightly above employment projections.
- The General Plan Update requires new or intensified development project proponents to submit a WSA that demonstrates adequate water supplies prior to project approval.

The City has secured additional long-term water supplies from SFPUC to accommodate the planned growth. Implementation of the proposed project as an emergency water supply that could

[2] City of East Palo Alto, Ravenswood/4 Corners TOD Specific Plan, Final EIR, State Clearinghouse #2011052006. Available online at http://www.ci.east-palo-alto.ca.us/Archive/ViewFile/Item/126.

not operate for more than five consecutive days up to a total of 15 days per year (resulting in a maximum annual yield of 33 AFY), would be consistent with these applicable land use plans. The proposed project would not directly induce population or economic growth, nor would it tax existing community service facilities or encourage other activities that could significantly affect the environment. Implementation of the Pad D Standby Well project would not contribute to an incremental portion of the growth-inducement impacts and associated indirect impacts of growth of the Specific Plan and General Plan Update. It would not result in the construction of additional housing (direct growth), and would not remove an obstacle to additional growth and development (indirect growth).

5.2 Significant and Unavoidable Impacts

In accordance with Section 21067 of CEQA and Sections 15126(b) and 15126.2(b) of the *CEQA Guidelines*, the purpose of this section is to identify project-related environmental impacts that could not be eliminated or reduced to a less-than-significant level with implementation of all mitigation measures identified in Chapter 4, Environmental Setting and Impacts. The findings in this chapter are subject to final determination by the East Palo Alto Planning Commission as part of its certification of the EIR.

The analyses presented in Chapter 4, Environmental Setting and Impacts, of this EIR indicate that implementation of the proposed project would not result in significant unavoidable impacts. All impacts would either be no impact, less than significant, or reduced to less-than-significant levels with implementation of the identified mitigation measures.

5.3 Areas of Known Controversy and Issues to be Resolved

In accordance with Sections 15063 and 15082 of the *CEQA Guidelines*, the City of East Palo Alto sent a Notice of Preparation (NOP) to responsible agencies, trustee agencies, and other interested entities and individuals to begin the formal CEQA scoping process for the Pad D Well project. A more detailed description of the NOP process and a summarized list of concerns that were noted in the public comments on the NOP and at the public scoping meetings are provided in Chapter 2, Introduction and Background. However, there are no specific areas of known controversy or issues to be resolved.

References – Other CEQA Considerations

City of East Palo Alto, 2012. Ravenswood/4 Corners TOD Specific Plan Final EIR. July 30, 2012. SCH# 2011052006.

City of East Palo Alto, 2013. *Ravenswood/4 Corners TOD Specific Plan*. February 22, 2013.

City of East Palo Alto, 2016a. Draft Environmental Impact Report, City of East Palo Alto General Plan Update. Prepared for the City of East Palo Alto by Circlepoint. April 2016. Available online at http://www.ci.east-palo-alto.ca.us/DocumentCenter/View/2633. Accessed October 10, 2016.

City of East Palo Alto, 2016b. City Council Agenda Report, *Executing a Water Supply Implementation Funding Agreement with the Sobrato Organization, 2020 Bay Rd., and the Primary School*. July 19, 2016.

City of East Palo Alto, 2016c. City Council Regular Meeting, Minutes. Tuesday, July 19, 2016.

CHAPTER 6
Alternatives

6.1 Introduction

This chapter presents the California Environmental Quality Act (CEQA) alternatives analysis for the proposed East Palo Alto Pad D Standby Well project. The CEQA Guidelines, Section 15126.6(a), state that an Environmental Impact Report (EIR) must describe and evaluate a reasonable range of alternatives to the proposed project that would feasibly attain most of the project's basic objectives and would avoid or substantially lessen any identified significant adverse environmental effects of the project. CEQA Guidelines Section 15126.6 sets forth the criteria for selecting and evaluating alternatives.

- ***Identifying Alternatives.*** The selection of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that may be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative whose impacts cannot be reasonably ascertained and whose implementation is remote and speculative. The specific alternative of "no project" must also be evaluated.
- ***Range of Alternatives.*** An EIR need not consider every conceivable alternative, but must consider and discuss a reasonable range of feasible alternatives in a manner that will foster informed decision-making and public participation. The "rule of reason" governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice. The lead agency (the City of East Palo Alto) is responsible for selecting a range of project alternatives to be examined and for disclosing its rationale for choosing the alternatives.
- ***Evaluation of Alternatives.*** EIRs are required to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. Matrices may be used to display the major characteristics and the environmental effects of each alternative. If an alternative would cause one or more significant effects that would not result from the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project.

Section 6.2 describes the alternatives selection process and the objectives of the project; summarizes the significant impacts of the project; describes the alternatives selected for detailed analysis; and compares the environmental impacts of each alternative to those of the proposed

project. Section 6.3 identifies the environmentally superior alternative. Section 6.4 discusses the preliminary alternatives that were considered but rejected from further consideration.

6.2 Pad D Well Alternatives Analysis

This section describes the process of developing a reasonable range of Pad D Well alternatives for analysis in this EIR. Consistent with CEQA, the approach to alternatives selection for this EIR focused on identifying alternatives that: (1) could meet most of the basic objectives of the project while reducing one or more of its significant impacts, (2) could foster informed decision-making and public participation, and (3) could be feasibly implemented. The City of East Palo Alto Community and Economic Development Department (CEDD) considered multiple alternative locations for well sites. Several alternative well sites were eliminated from consideration based on their inability to meet most of the project's basic objectives, their infeasibility, or their inability to reduce the project's environmental impacts (see Section 6.4). One alternative location, the Bay/University site, was carried forward into this alternatives analysis (see Section 6.3).

6.2.1 Project Objectives

As discussed in Chapter 3, Project Description, Section 3.4.1, Project Objectives, the objectives of the Pad D Standby Well project are to:

- Provide backup potable water supplies in the event that deliveries from the SFPUC are interrupted during an emergency.
- Improve hydraulic conditions in the distribution system during the emergency event.

The City of East Palo Alto proposes to meet these objectives by constructing a municipal standby groundwater supply well with an instantaneous pumping capacity of between approximately 350 and 500 gallons per minute (gpm) to secure up to 33 acre-feet per year (AFY) of emergency supplies.

6.2.2 Significant Environmental Impacts

This section summarizes the impacts of the Pad D Standby Well project, as analyzed in the NOP/IS, and in Chapter 4 of this EIR, and that were considered during the alternatives identification process. All of the following project impacts were determined to be less than significant with mitigation (LSM), meaning that all significant project impacts could be reduced to a less-than-significant level through the implementation of mitigation measures identified in the NOP/IS or in this EIR.

Long-Term Impacts

Project operation of the standby well at the Pad D site would not result in any significant long-term impacts.

Short-Term Impacts

Project construction would result in the following significant short-term impacts, all of which could be mitigated to a less-than-significant level with the implementation of mitigation measures identified in Section 2 of the NOP/IS:

- ***Air Quality.*** Project-related construction activities at the project site may cause wind-blown dust that could generate particulate matter into the atmosphere. Fugitive dust includes not only PM10 and PM2.5 but also larger particles that can represent a nuisance impact (Initial Study Impact AIR-b, LSM).
- ***Biological Resources.*** All bird nesting activity is protected under California Fish and Game Code and the Migratory Bird Treaty Act. Construction noise and human disturbance could cause nest abandonment, death of the young, or loss of reproductive potential at active nests within or adjacent to the project site, a potentially significant impact (Initial Study Impact BIO-a, LSM).
- ***Cultural Resources.*** The proposed depth of disturbance ranges from less than 4 feet for support facilities and pipelines to 575 feet for the well installation. The potential for exposing significant archaeological materials not exposed previously appears low within both the horizontal and vertical area of potential effect (APE). While unlikely, the inadvertent discovery of archaeological resources cannot be entirely discounted. Disturbance to an archaeological resource would be a significant impact (Impact CU-b, LSM). There is no indication from the archival research that any part of the project area has been used for human burial purposes in the recent or distant past. Therefore, it is unlikely that human remains would be encountered during construction of the project. However, the possibility of inadvertent discovery cannot be entirely discounted, and would result in a potentially significant impact (Initial Study Impact CU-d, LSM).
- ***Hazards and Hazardous Materials.*** Although the potential for encountering hazardous materials is low, the possibility exists for unknown contamination to be encountered during construction, a potentially significant impact. Storage and use of hazardous materials at construction sites and staging areas could result in the accidental release of small quantities of hazardous materials which could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies. The potential for an accidental hazardous materials release during construction to affect the public or the environment represents a potentially significant impact (Impact HZ-b, LSM). Installation of pipeline connections within the roadways immediately adjacent to the project site are anticipated to result in temporary single-lane closures along a portion of Clarke Avenue. Temporary reductions in travel lanes and road capacity to accommodate the construction zone could result in delays for emergency vehicles in the vicinity of the Pad D Well site (Initial Study Impact HZ-g, LSM).
- ***Hydrology and Water Quality.*** Construction activities at the Pad D Well site would result in ground disturbance at the project site. Although the proposed improvements would be sited on relatively level ground, construction activities, if not properly managed, could increase soil erosion and adversely affect water quality in downstream receiving water bodies. Construction activities would require the use of certain potentially hazardous materials such as fuels, oils, solvents, lead solder, and glues. Storage and use of hazardous materials at construction sites and staging areas could result in the accidental release of small quantities of hazardous materials which could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies. The potential for an accidental

hazardous materials release during construction to affect water quality standards represents a potentially significant impact (Initial Study Impact HY-a, LSM).

- ***Noise.*** Nighttime drilling would exceed the applicable nighttime ambient noise standard of 65 dBA contained in the City of East Palo Alto Noise Ordinance (Municipal Code Section 8.52.320). It would therefore be a potentially significant construction noise impact (Initial Study Impacts NOI-a, d, LSM).
- ***Transportation and Traffic.*** Increased vehicular traffic, potential increases in safety hazards, and temporary delays on Clarke Avenue could conflict with the existing circulation system (including vehicles and non-motorized modes of transportation), a potentially significant impact (Initial Study Impact TR-a, LSM). The percent increase in daily traffic volumes resulting from construction traffic generated by construction activities would not be substantial relative to the background traffic volumes on roads used to access the project site; however, haul trucks and delivery trucks could increase safety hazards and conflict with other travel modes along affected roadways. Adverse effects related to traffic safety and conflicts with other users of the affected roadways (e.g., vehicles, bicyclists, and pedestrians) during Project construction would be considered potentially significant (Initial Study Impact TR-d, LSM). Construction activities would require single-lane closures for up to one week at a time as described above. Although traffic would be able to move in both directions around these short-term closures, construction activities along affected roadways could result in additional impaired access to land uses (nearby residences) and cross streets (private driveways, public roadways) along Clarke Avenue for both general and emergency vehicles in the vicinity of the project site. Although access along affected roadways would be maintained for construction vehicles, local residents, and emergency vehicles during construction, in the event of an emergency, impedance or slowing of access by emergency vehicles could pose a safety hazard and is considered a potentially significant impact (Initial Study Impact TR-e, LSM). Most Project-related construction activities would not interfere with, nor disrupt access to, alternative modes of transportation. However, construction activities occurring within or requiring partial closures of Clarke Avenue could adversely affect access to, or decrease the performance of, alternative transportation facilities, including sidewalks, bicycle lanes, and bus stops (Initial Study Impact TR-f, LSM).

6.2.3 Approach to Alternatives Selection

The alternatives selection process for the Pad D Standby Well project was guided, in part, by the magnitude and severity of the impacts identified above. Therefore, this analysis focuses on alternatives that could be implemented (i.e., are feasible), meet most of the project objectives, and lessen or avoid short-term construction-phase impacts.

6.2.4 Selected CEQA Alternatives

This section describes the project alternatives that were selected and analyzed in accordance with CEQA Guidelines Section 15126.6(a). The alternatives to the proposed project selected for detailed analysis in this EIR are:

- Alternative 1: No Project Alternative
- Alternative 2: Bay/University Site

The consideration of different well locations draws heavily on the feasibility study conducted in 2012 for the Gloria Way Well in East Palo Alto. That study evaluated a number of different locations that could be available for locating a water supply well. Several of the other locations were determined to not meet most of the project objectives, had additional or greater environmental impacts, or were infeasible. **Table 6-1** provides a brief description of the two alternatives (the No Project and the Bay/University Site) and highlights how they differ from the proposed project. This section also evaluates the impacts of the two alternatives compared to those of the proposed project. Since the alternatives are conceptual, the evaluation is based on the available information and reasonable assumptions about how each alternative would be implemented. For each alternative, this section presents the following:

- A description of the alternative, including the rationale for its possible selection, and associated facility improvements and auxiliary components
- An evaluation of the alternative's ability to meet project goals and objectives
- Analysis of the environmental impacts of each alternative compared to those of the proposed project

TABLE 6-1
SELECTED CEQA ALTERNATIVES

Alternative	How Does the Alternative Differ from the Proposed Project?
Alternative 1: No Project – The City of East Palo Alto would not construct the proposed well facility, and the City's municipal water supply would continue to operate as it does under existing conditions.	• The City would not construct new well facilities, or distribution pipelines. • The City would not produce 350 to 500 gallons per minute up to 33 AFY of emergency water supplies. • The City would not be able to provide backup potable water supplies from this well in case of an emergency interruption to its Hetch Hetchy water supplies.
Alternative 2: Bay/University Site – The City of East Palo Alto would construct the proposed standby well at the intersection of Bay Road and University Avenue.	• The City would construct the Standby Well as described in the Project Description at the northwest corner of Bay Road and University Avenue. • The City would operate the Standby Well whenever an emergency situation occurs, but not to exceed five consecutive days, or 15 days total in any given year, as described in the Project Description. • The Standby Well would pump additional groundwater into the existing distribution system. • The City would maintain the well as described in the Project Description. • The City would be able to provide backup potable water supplies from this well in case of an emergency interruption to its Hetch Hetchy water supplies.

Table 6-2 summarizes the environmental impacts of the alternatives compared to those of the proposed project. This table presents the significant impacts of the proposed project as well as less-than-significant impacts whose severity would be different under the project alternatives than under the proposed project. **Table 6-2** does not include less-than-significant impacts of the proposed project that would have the same significance determination and/or impact severity as those of the project alternatives.

Alternative 1: No Project Alternative

CEQA Guidelines Section 15126.6(e) requires that EIRs include an evaluation of the No Project Alternative to provide decision-makers the information necessary to compare the relative impacts of approving the project and not approving the project. The No Project Alternative is defined as a continuation of existing conditions, as well as conditions that are reasonably expected to occur in the event that the proposed project is not implemented.

Description of the No Project Alternative

In the event that the City of East Palo Alto does not approve the Pad D Standby Well Project, the proposed well facilities and associated above-grade infrastructure and distribution pipelines would not be constructed. The existing Pad D test well would either remain in place as part of the City's ongoing groundwater monitoring plans or would be decommissioned as a monitoring well in accordance with the well abandonment and destruction requirements of the California Water Well Standards promulgated by the California Department of Water Resources and enforced by the San Mateo County Environmental Health Services Division. The existing conditions of groundwater, surface water, and other environmental characteristics would remain as described in earlier sections of this EIR and in the Initial Study. The City would not have access to an emergency potable water supply in case of an emergency interruption to its Hetch Hetchy water supplies.

Ability to Meet Project Objectives

The No Project Alternative would not meet any of the project objectives, which are to: provide backup potable water supplies in the event that deliveries from the San Francisco Public Utilities Commission (SFPUC) are interrupted during an emergency, and; improve hydraulic conditions in the distribution system during the emergency events. The City would not be able to secure a high-quality emergency water supply for use during an emergency situation, such as earthquake damage.

Environmental Impacts of the No Project Alternative Compared to those of the Project

As summarized in **Table 6-2**, the No Project Alternative would avoid all construction-related short-term impacts because no well facilities and connections to the distribution system pipelines would be constructed. Therefore, under the No Project Alternative, there would be no potential to cause wind-blown dust that could generate particulate matter and violate air quality standards (Impact AIR-b); no activities would occur that could impact common nesting birds (Impact BIO-a); no potential to encounter significant archaeological resources or disturb human remains during drilling of the well (Impact CU-b,d); no potential to encounter unknown hazardous contamination or accidentally release hazardous materials that could affect the public or water quality (Impacts HZ-b and HY-a); there would be no road construction that could result in delays for emergency vehicles or interfere with an adopted emergency response plan or evacuation plan (Impact HZ-g); no ground disturbance that could increase soil erosion (Impact HY-a); no nighttime construction to exceed standards of the Noise Ordinance (Impact NOI-a, d); and there would be no disruptions to traffic and transportation that could cause a conflict with local traffic policies, increase traffic safety hazards, cause inadequate emergency vehicle access, or interfere with transit, bicycle, or pedestrian facilities (Impacts TR-a, d, e, f).

TABLE 6-2
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
Impact AIR-b: The project would violate air quality standards or contribute substantially to an existing or projected air quality violation. (Less than Significant with Mitigation)	Project related construction activities at the project site may cause wind-blown dust that could generate particulate matter into the atmosphere. Fugitive dust includes not only PM10 and PM2.5 but also larger particles that can represent a nuisance impact. For mitigation of fugitive dust emissions, the BAAQMD recommends using specific best management practices (BMPs), which has been a practical and effective approach to control fugitive dust emissions. The guidelines note that individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent and conclude that projects that implement construction BMPs would reduce fugitive dust emissions to a less than significant level.	**No Impact** There would be no construction that would cause wind-blown dust that could generate atmospheric particulate matter.	**Less than Significant with Mitigation** Construction activities for this alternative would be the same as those described in the proposed project, and the potential for construction-related wind-blown fugitive dust or other changes to atmospheric particulate matter would be unchanged.
BIO-a: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant with Mitigation)	All bird nesting activity is protected under California Fish and Game Code and the Migratory Bird Treaty Act. Construction noise and human disturbance could cause nest abandonment, death of the young, or loss of reproductive potential at active nests within or adjacent to the project site, a potentially significant impact.	**No Impact.** There would be no construction noise that could impact common nesting birds.	**Less than Significant with Mitigation** Construction activities at the Bay/University Site would be similar to those described for the proposed project, and the effects from construction noise and human disturbance on nesting birds, would be **lessened** due to the presence of fewer trees.
CU-b: The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5. (Less than Significant with Mitigation)	The proposed depth of disturbance ranges from less than 4 feet for support facilities and pipelines to 575 feet for the well installation. The potential for exposing significant archaeological materials not exposed previously appears low within both the horizontal and vertical APE. While unlikely, the inadvertent discovery of archaeological resources cannot be entirely discounted. Disturbance to an archaeological resource would be a significant impact.	**No Impact** There would be no construction that would inadvertently expose significant archaeological materials.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for inadvertent exposure of significant archaeological materials would be unchanged.

TABLE 6-2 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
CU-d: The project could disturb human remains, including those interred outside of a formal cemetery. (Less than Significant with Mitigation)	There is no indication from the archival research that any part of the project area has been used for human burial purposes in the recent or distant past. Therefore, it is unlikely that human remains would be encountered during construction of the project. However, the possibility of inadvertent discovery cannot be entirely discounted, and would result in a potentially significant impact.	**No Impact** There would be no construction that would inadvertently disturb human remains.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for inadvertent disturbance of human remains would be unchanged.
HZ-b: The project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)	Although the potential for encountering hazardous materials is low, the possibility exists for unknown contamination to be encountered during construction, a potentially significant impact. Storage and use of hazardous materials at construction sites and staging areas could result in the accidental release of small quantities of hazardous materials which could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies. The potential for an accidental hazardous materials release during construction to affect the public or the environment represents a potentially significant impact.	**No Impact** There would be no construction activities that would encounter unknown hazardous materials, or that would result in the accidental release of hazardous materials.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential to encounter unknown hazardous materials or to result in the accidental release of hazardous materials would be unchanged.
Impact HZ-g: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant with Mitigation)	Installation of pipeline connections within the roadways immediately adjacent to the project site are anticipated to result in temporary single-lane closures along portions of Clarke Avenue. Temporary reductions in travel lanes and road capacity on Clarke Avenue to accommodate the construction zone could result in delays for emergency vehicles in the vicinity of the Pad D Well site.	**No Impact** There would be no pipeline installation, and therefore no temporary single-lane closures or reduction in road capacity that would result in delays for emergency vehicles or interfere with an adopted emergency response or evacuation plan.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential to result in delays for emergency vehicles or interfere with an adopted emergency response or evacuation plan would be unchanged.

TABLE 6-2 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
Impact HY-a: The proposed project would violate water quality standards or waste discharge requirements. (Less than Significant with Mitigation)	Although the proposed improvements would be sited on relatively level ground, construction activities, if not properly managed, could increase soil erosion and adversely affect water quality in downstream receiving water bodies. Construction activities would require the use of certain potentially hazardous materials such as fuels, oils, solvents, lead solder, and glues. Storage and use of hazardous materials at construction sites and staging areas could result in the accidental release of small quantities of hazardous materials which could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies. The potential for an accidental hazardous materials release during construction to affect the public or the environment represents a potentially significant impact.	**No Impact** There would be no construction activities that would result in ground disturbance that would increase soil erosion and adversely affect water quality. No hazardous materials would be used that could result in an accidental release which could degrade water quality.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for soil disturbance and erosion would be unchanged. The potential for accidental releases of hazardous materials or other accidental effects on water quality would remain unchanged.
NOI-a: The proposed project would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant with Mitigation)	Nighttime drilling would exceed the applicable noise standard of 65 dBA (the ambient noise level) of the ordinance and be a potentially significant construction noise impact.	**No Impact** There would be no nighttime drilling or construction noise impacts.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for the generation of noise impacts would remain unchanged. However, impacts on sensitive receptors would be **reduced** because of the lack of nearby residences at the Bay/University site, compared to the proposed project.
NOI-d: The proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant with Mitigation)	Construction-related noise would exceed noise standards, which are based on increases above ambient noise levels, during nighttime hours.	**No Impact** There would be no construction noise impacts.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for temporary or periodic increase in ambient nighttime noise levels would be unchanged. However, impacts on sensitive receptors would be **reduced** because of the lack of nearby residences at the Bay/University site, compared to the proposed project.

TABLE 6-2 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
TR-a: The proposed project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. (Less than Significant with Mitigation)	Increased vehicular traffic, potential increases in safety hazards, and temporary delays on Clarke Avenue could conflict with the existing circulation system (including vehicles and non-motorized modes of transportation), a potentially significant impact.	**No Impact** There would be no construction-related traffic increases, delays, or safety hazards.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related traffic increases, delays, or safety hazards would be unchanged.
TR-d: The proposed project would substantially increase hazards due to a design feature or incompatible uses. (Less than Significant with Mitigation)	The percent increase in daily traffic volumes resulting from construction traffic generated by construction activities would not be substantial relative to the background traffic volumes on roads used to access the project site; however, haul trucks and delivery trucks could increase safety hazards and conflict with other travel modes along affected roadways. Adverse effects related to traffic safety and conflicts with other users of the affected roadways (e.g., vehicles, bicyclists, and pedestrians) during Project construction would be considered potentially significant.	**No Impact** There would be no construction-related traffic increases or adverse effects related to traffic safety.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related traffic increases or related adverse effects would be unchanged.
TR-e: The proposed project would result in inadequate emergency access. (Less than Significant with Mitigation)	Construction activities would require single-lane closures for up to one week at a time as described above. Although traffic would be able to move in both directions around these short-term closures, construction activities along affected roadways could result in additional impaired access to land uses (nearby residences) and cross streets (private driveways, public roadways) along Clarke Avenue for both general and emergency vehicles in the vicinity of the project site. Although access along affected roadways would be maintained for construction vehicles, local residents, and emergency vehicles during construction, in the event of an emergency, impedance or slowing of access by emergency vehicles could pose a safety hazard and is considered a potentially significant impact.	**No Impact** There would be no construction activities that would result in inadequate emergency access.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related effects on emergency access would be unchanged.

TABLE 6-2 (CONTINUED)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Bay/University Site
TR-f: The proposed project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant with Mitigation)	Most Project-related construction activities would not interfere with, nor disrupt access to, alternative modes of transportation. However, construction activities occurring within or requiring partial closures of Clarke Avenue could adversely affect access to, or decrease the performance of, alternative transportation facilities, including sidewalks, bicycle lanes, and bus stops.	**No Impact** There would be no construction-related impacts to public transit, bicycle, or pedestrian facilities.	**Less than Significant with Mitigation** Construction activities would be the same as those described for the proposed project, and the potential for construction-related impacts on public transit, bicycle, or pedestrian facilities would be unchanged.

Alternative 2: Bay/University Site

Description of Alternative 2

In the Bay/University Site Alternative, the proposed Standby Well would be constructed and operated as described for the proposed project, but would be located at the Bay/University Site. The Bay/University Site is a City-owned parcel located at the intersection of Bay Road and University Avenue, approximately 3,500 feet from the Bay. The site is adjacent to major water distribution mains and could accommodate the introduction of a new water supply. The site is at the edge of an undeveloped field and adjacent land uses are predominantly commercial. The site is not located near any creeks and is not within a FEMA flood hazard zone. There are no apparent special biological resource permit considerations associated with this site.

This alternative would include the same physical infrastructure as the proposed project, and like the proposed project, would operate as a standby well, limited to 15 days of pumping a year at 350 to 500 gpm, and for no more than 5 consecutive days, to produce up to 33 AFY. The Bay/University and 6 other sites were identified and considered in the *Gloria Way Water Well Production Alternatives Analysis & East Palo Alto Water Security Feasibility Study* (City of East Palo Alto, 2012).

Ability to Meet Project Objectives

A standby well at the Bay/University site could meet the project objectives.

Environmental Impacts of Alternative 2

In most instances, as summarized in **Table 6-2**, the CEQA impact conclusions associated with the construction of the standby well at the Bay/University site would be similar to the proposed project, but could reduce or eliminate the potentially significant environmental impacts of the proposed project on wildlife disturbance (Initial Study Impact BIO-a, LSM) and noise. However, the short-term impacts from construction on various aspects of air quality (Initial Study Impact AIR-b, LSM), cultural resources (Initial Study Impact CU-b, LSM, and Initial Study Impact CU-d, LSM), traffic (Initial Study Impacts TR-a, LSM, and TR-d, LSM), hazards (Initial Study Impact HZ-b, LSM, and Initial Study Impact HZ-g, LSM), hydrology and water quality (Initial Study Impact HY-a, LSM) would not be reduced or eliminated by moving the well location; they would simply be shifted to a new place.

From a construction impact standpoint, there would be the same potential for the following impacts:

- Wind-blown dust that could generate particulate matter and violate air quality standards (Impact AIR-b)
- Encountering significant archaeological resources or disturb human remains (Impact CU-b, d)
- Encountering unknown hazardous contamination or accidentally releasing hazardous materials that could affect the public or water quality (Impacts HZ-b and HY-a)
- Road construction that could result in delays for emergency vehicles or interfere with an adopted emergency response plan or evacuation plan (Impact HZ-g)

- Ground disturbance that could increase soil erosion (Impact HY-a)
- Nighttime construction to exceed standards of the Noise Ordinance (Impact NOI-d)
- Disruptions to traffic and transportation that could cause a conflict with local traffic policies, increase traffic safety hazards, cause inadequate emergency vehicle access
- Interference with transit, bicycle, or pedestrian facilities (Impacts TR-a, d, e, f)

From a construction impact standpoint, the impact on common nesting birds (Impact BIO-a) could be reduced or eliminated because of the fewer number of tress at the Bay/University site, and the exposure of persons to noise levels in excess of standards established in the local general plan or noise ordinance (NOI-a) could be reduced because of fewer nearby sensitive receptors (residences), compared to the Pad D site. However, groundwater extraction from the Bay/University well can impact other nearby wells if the area of pumping influence (also known as the cone of depression) generated by the well substantially lowers local groundwater elevations. While seasonal fluctuation in groundwater elevations is expected, additional drawdown caused by pumping can lower groundwater elevations, reduce well production, or damage nearby wells. The potential for lowered groundwater elevations and the creation of a temporary cone of depression during operations such that other groundwater wells would be adversely affected (Impact 4.2-2) and cannot operate as designed, would be greater at the Bay/University site because of its closer proximity to the existing and rehabilitated Gloria Way Well Project.

Furthermore, the Bay/University site is located closer to the San Francisco Bay such that future sea level rise and the resultant sea water intrusion could limit the feasibility of this well location over time.

6.3 Comparison of Alternatives

The CEQA Guidelines require the identification of an environmentally superior alternative to the proposed project (Section 15126.6[e]. If it is determined that the No Project Alternative would be the environmentally superior alternative, then the EIR shall also identify an environmentally superior among the other project alternatives (Section 15126.6[3]).

As described above, the No Project Alternative would eliminate all of the potential construction-related impacts of the Proposed Project. While the Proposed Project and the Bay/University Site Alternative would meet all of the project objectives in the near term, the No Project Alternative would not. Under the No Project Alternative there would be no source of alternative water supply following an earthquake or other local or regional emergency event that impairs the water supply from SFPUC's Hetch Hetchy system. The Bay/University Site Alternative would reduce the potential construction-related impact on nesting birds and noise compared to the Proposed Project, but pumping at the Bay/University site may affect groundwater levels that could affect other nearby wells. Because the Bay/University site is closer to San Francisco Bay than the Proposed Project, it becomes more vulnerable to rising sea levels and seawater intrusion which could jeopardize the feasibility of this well to meet the project objectives in the longer term.

Based on the evaluation above, the Proposed Project is considered to be the environmentally superior alternative among the project alternatives (other than the No Project Alternative). While the Bay/University site would reduce the severity of a construction-related impact, it could result in a potential operational impact (impact to adjacent wells) that the Proposed Project would not. The Proposed Project would eliminate the potential for long-term impacts on local and regional groundwater and other wells while retaining the construction-related impacts and is therefore, considered to be the environmentally superior alternative.

6.4 Alternatives Considered but Rejected from Further Analysis

The alternatives to the Pad D Well Project that were considered by the City included a number of different well locations. Each alternative well location that was considered but rejected is briefly described and evaluated. The alternative well sites described here would either fail to reduce the potential environmental impacts of the project or would increase them relative to the proposed project.

Bell Park Site: This City-owned site is located on University Avenue, south of Bell Road. Surrounding land uses include recreation, commercial, and residential. The site is currently used as community open space, is not located in close proximity to creeks or other waterways and is not located in a FEMA flood hazard zone. There are no apparent special biological resource permit considerations associated with this site. The site is located within ¼-mile of three LUST sites (2101 University Avenue, 2194 University Avenue, and 1475 East Bayshore Road) whose status is indicated as closed, and one LUST site (660 Donohoe Street) whose status is indicated as open, which could present groundwater quality concerns for a new well at this site.

Because this site is adjacent to residences, it would not avoid or substantially lessen the significant effects of the proposed project, and would in fact, increase the potential impact of noise on nearby sensitive receptors.

Brentwood School Site: This site is located at the intersection of Clark Avenue and O'Connor Street, is adjacent to the Edison-Brentwood Elementary School, and the site is owned by the school district. Other nearby land uses include single-family and multifamily residential and industrial. The site is not located in a FEMA flood hazard zone and there are no apparent special biological resource permit considerations associated with this site. Of all the potential sites, it is the closest to the bay (approximately ½ mile) and as such has the greatest potential to be impacted by seawater intrusion. The Brentwood School site has the additional drawback of requiring negotiations with the school district to implement new well facilities.

Because this site is adjacent to residences, it would not avoid or substantially lessen the significant effects of the proposed project, and would in fact, increase the potential impact of noise on nearby sensitive receptors.

Newell/101 Site: This privately-owned site is located at the intersection of Newell Road and West Bayshore Road. Adjacent land uses are predominantly multifamily residential. The site is located within a FEMA flood hazard zone. There are no apparent special biological resource permit considerations associated with this site. This site, however, lies outside of the City's main distribution network and is situated next to residential land uses. The west side of the Highway101 Pedestrian overcrossing terminates at this site.

Because this site is adjacent to residences, it would not avoid or substantially lessen the significant effects of the proposed project, and would in fact, increase the potential impact of noise on nearby sensitive receptors.

Verbena Site: This privately-owned site is located at the terminus of Verbena Drive (near the intersection at Abelia Way) and is surrounded by single-family residences. The site is located in a FEMA flood hazard zone (one-percent annual chance flood) and is located adjacent to the San Francisquito Creek. The site is also located approximately 1/5-mile from the Bay, which increases the potential for seawater intrusion. The site is located within ¼-mile of one LUST site (1905 East Bayshore Boulevard) whose status is open. This site has special biological permit considerations due to its proximity to San Francisquito Creek.

Because this site is adjacent to residences and to San Francisquito Creek, it would not avoid or substantially lessen the significant effects of the proposed project, and construction activities would in fact, increase the potential impact of noise on nearby sensitive receptors, and result in an increased likelihood of impacting nesting birds and potentially sensitive species.

References – Alternatives

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CHAPTER 7
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