Draft EIR

800 Carlisle Way Well & Water Tank

File No. 2022-7041

SCH No. 2023020080

Prepared by

Sunnyvale

In Consultation with

DAVID J. POWERS & ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS & PLANNERS

May 2025

TABLE OF CONTENTS

Figures

Tables

Appendices

All appendices are incorporated herein by reference.

SUMMARY

The City of Sunnyvale, as the Lead Agency, has prepared this Draft Environmental Impact Report (EIR) for the 800 Carlisle Way Well & Water Tank project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

As the CEQA Lead Agency for this project, the City of Sunnyvale is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, significant environmental impacts including growth-inducing impacts, cumulative impacts, mitigation measures, and alternatives. It is not the intent of an EIR to recommend either approval or denial of a project.

Project Location, Background Information, and Description

The approximately 0.77-acre project site is located on the southeast corner of Lillian Avenue and Carlisle Way at 800 Carlisle Way in the City of Sunnyvale. The project site is bound by Panama Park to the west, Carlisle Way to the north, and residential developments to the south and east.

The project site was formerly used as a groundwater extraction site for California Water Service (Cal Water) to provide potable water to their Los Altos Suburban service district (which includes portions of Sunnyvale). The site consisted of a water well and associated chemical storage buildings, a cellular communication tower, booster pump, and a 50,000-gallon water storage tank. In 2016, the water well on-site was decommissioned and is no longer functional. The water tank was also removed in 2016. The chemical storage buildings and booster pump – though inactive – remain on-site. The cellular communication tower is still in active use and is owned and maintained separately.

To provide water supply reliability and meet current customer water supply demands, Cal Water is proposing to reactivate the site as a groundwater extraction site by constructing a replacement well and associated improvements to accommodate future water demands. No modifications are proposed to the communication tower as part of the proposed project.

The project would demolish the existing chemical storage buildings, electrical control panel, and connection to the existing water main on-site. After demolition, the project would install a replacement groundwater well and construct a new, approximately 56,000-gallon steel water storage tank, three chemical storage enclosures, and several utility and right-of-way improvements, including a new discharge pipeline. The project would also include a diesel-powered emergency generator with a sound attenuation enclosure and comply with the City's Bird Safe Building Design Guidelines. Emergency lighting would also be installed on-site; however, it would be reserved for emergency situations where repair work is required at night.

Above is a summary of the project's location, background information, and description. Refer to Section 2.0 Project Information and Description for additional details.

Summary of Significant Impacts and Mitigation Measures

The following table summarizes the significant impacts of the project identified and discussed within the text of the EIR (as well as the Initial Study in Appendix A), and the mitigation measures proposed to avoid or reduce those impacts. Please refer to the main body of the EIR and the appended Initial Study for detailed discussions of the existing environmental setting, impacts, and mitigation measures.

Significant Impacts	Mitigation and Avoidance Measures
Air Quality	
Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan with mitigation incorporated.	**LUTE DEIR MM 3.5.3:** Basic BMPs – Include measures to control dust and exhaust during construction.
Impact AIR-2: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard with mitigation incorporated.	During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph). • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be

	provided for construction workers at all access points. • 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. • Post a publicly visible sign 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. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations with mitigation incorporated.	Refer to **LUTE DEIR MM 3.5.3** above. **MM AIR-3.1:** Use construction equipment that has low diesel particulate matter exhaust emissions. Implement a feasible plan to reduce DPM emissions by 35 percent such that increased cancer risk from construction would be reduced below the Air District significance threshold as follows: 1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for PM (PM_{10} and $PM_{2.5}$), if feasible, otherwise, a. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 2 or 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 35 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination). b. Use of electrical or non-diesel fueled equipment. 2. Alternatively, the applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 35 percent or greater. Elements of the plan could include a combination of some of the following measures:

	• Implementation of No. 1 above to use Tier 4 or alternatively fueled equipment, • Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors, • Use of electrically-powered equipment, • Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered, • Change in construction build-out plans to lengthen phases, and • Implementation of different building techniques that result in less diesel equipment usage. Such a construction operations plan would be subject to review by an air quality expert and approved by the City prior to construction.
Biological Resources	
Impact BIO-1: The project would not have a substantial effect, either directly or through habitat modifications, on any special status species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS with mitigation incorporated. **Impact BIO-4:** The project would not 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 with mitigation incorporated.	**MM BIO-1.1:** When possible, construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay area extends from February 1 through August 31. If it is not possible to schedule construction and tree removal between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that nests of bird species protected by the MBTA or Fish and Game code shall not be disturbed during project construction. A final report of nesting birds, including any protection measures, shall be submitted to the Director of

	Community Development prior to the start of grading or tree removal.
Cultural Resources	
Impact CUL-2: The project would not cause a substantial change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 1564.5 with mitigation incorporated.	**MM CUL-2.1:** Prior to ground-disturbing activities, a qualified archaeologist shall provide cultural resources training to all contractors and employees involved in trenching and excavation. The training shall inform participants how to recognize archaeological artifacts and deposits, and discuss their obligations under the law and the project mitigation measures. **MM CUL-2.2:** A qualified archaeologist shall monitor the demolition of the building foundations and any other below surface disturbances, such as but not limited to, grading, excavation, and utility connections and improvements. If any cultural resources are identified, all activity in the vicinity of such resources shall stop until a research design and treatment plan is prepared to address those types of resources encountered and such plan is approved by the City, as described in mitigation measure MM CUL-2.3 below. Any cultural resources identified shall be evaluated to determine if these resources would qualify for the NRHP or CRHR. If no resources are found during excavation work, the implementation of mitigation measure MM CUL-2.3 below is not required. **MM CUL-2.3:** In the event that buried, or previously unrecognized archaeological deposits or materials of any kind are inadvertently exposed during any construction activity, all activity within a 50-foot radius of the find shall be stopped until a qualified archaeologist can assess the find and provide recommendations for further treatment, if warranted. Preservation in place is the preferred treatment of an archeological resource. When preservation in place of an archeological resource is not feasible, data recovery, in accordance with a data recovery plan prepared by a qualified archaeologist and adopted by the City, is the appropriate mitigation. Construction and potential impacts to the area within a radius determined by the archaeologist shall not recommence until the assessment is complete.
Impact CUL-3: The project would not disturb any human remains, including those interred outside of dedicated cemeteries with mitigation incorporated.	**MM CUL-3.1:** In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the

	Coroner shall notify the NAHC immediately. Once NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial, which shall be implemented in accordance with Section 15064.5 of the CEQA Guidelines.
Energy	
Impact EN-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation with mitigation incorporated.	Refer to **LUTE DEIR MM 3.5.3** and **MM AIR-3.1** above.
Geology and Soils	
Impact GEO-6: The project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature with mitigation incorporated.	**MM GEO-6.1:** Should a unique paleontological resource or site or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the Sunnyvale Community Development Director notified immediately. A qualified paleontologist shall evaluate the find and prescribe measures to preserve the find. Work may proceed on other parts of the project site while measures to preserve the paleontological resources or geologic features are implemented. One such measure would be a buffer that would be established by the qualified paleontologist. This buffer would preserve the area immediately surrounding the discovered resource while allowing work to happen beyond the buffer. Upon completion of the paleontological assessment, a report shall be submitted to the City and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology shall also be submitted to the City.
Greenhouse Gas Emissions	
Impact GHG-1: The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment with mitigation incorporated.	Refer to **LUTE DEIR MM 3.5.3** and **MM AIR-3.1** above.
Impact GHG-2: The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs with mitigation incorporated.	Refer to **LUTE DEIR MM 3.5.3** and **MM AIR-3.1** above.
Noise and Vibration	
Impact NOI-1: The project (specifically the project construction drilling phase) would result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan	**MM NOI-1.1:** Installation of Acoustic Barriers: During drilling activities on-site, the project shall install the following acoustic barriers (the installation

or noise ordinance, or applicable standards of other agencies, even with mitigation incorporated.	of which shall take place during regular, daytime construction hours): • Approximately 600 linear feet of 32-foot-high, Sound Transmission Class (STC) rated 32 acoustic barrier wall shall be installed parallel to the site boundaries. The acoustic barrier wall shall be installed with no openings or gaps except for an acoustical gate on the north side of the project site to facilitate site access during drilling activities. This acoustical gate shall remain closed during drilling operations. • Approximately 190 linear feet of 20-foot-high, STC rated 32 dual K-rail mounted acoustic barriers shall be installed on the south and north sides of drilling equipment. These acoustic barriers shall also be installed on portions of the east and west sides of drilling equipment as shown in Figure 7-3 of the Noise Assessment Report. • Approximately 72 linear feet of 12-foot-high, STC rated 25 acoustic barrier walls shall be installed on the north, west and south sides of mud pump and air compressor. • Approximately 96 linear feet of 8-foot-high, STC rated 25 acoustical blankets shall be installed on the rig floor. **MM NOI-1.2:** Provision of Vouchers for Alternative Accommodations. California Water Service (Cal Water) shall provide the two nearest residences adjacent to the southwestern portion of the project site (i.e., 819 and 823 Coventry Court as identified in the Noise Assessment Report dated July 24, 2024 in Appendix B of the Draft EIR) with the potential to exceed 50 dBA noise levels during nighttime drilling activities, with vouchers for alternative accommodations. Prior to the initiation of nighttime drilling activities, Cal Water shall communicate the anticipated drilling schedule to the affected residents at 819 and 823 Coventry Court. Upon request, vouchers shall be offered based on the needs of each household for the specific dates that nighttime drilling activities are scheduled. It is anticipated that the nighttime drilling activities would occur over two separate phases. If requested by the affected residents, vouchers for alternative accommodations shall be issued for each of the two phases based on the finalized construction schedule and be for $300/night/room. Confirmation regarding any request for vouchers and the provision of vouchers for alternative accommodations shall be

	provided by Cal Water to the City prior to issuance of building permits. **MM NOI-1.3:** Ongoing Noise Monitoring and Implementation of Portable Acoustic Barriers: During demolition, grading, excavation, trenching, and tank construction activities on-site, the project shall conduct ongoing noise monitoring to determine when the use of portable acoustic barriers is required to the prevent the exceedance of the applicable 80 dBA threshold as measured at surrounding sensitive receptors. If noise levels during these construction activities is measured within three dBA of the 80 dBA threshold at surrounding sensitive receptors, then portable acoustic barriers shall be installed between the noise generating equipment and the impacted sensitive receptor prior to initiating any additional noise generating construction activities.
Tribal Cultural Resources	
Impact TCR-1: The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) with mitigation incorporated.	Refer to **MM CUL-2.1**, **MM CUL-2.2**, **MM CUL-2.3**, and **MM CUL-3.1** above.
Impact TCR-2: The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 with mitigation incorporated.	Refer to **MM CUL-2.1**, **MM CUL-2.2**, **MM CUL-2.3**, and **MM CUL-3.1** above.

Summary of Project Alternatives

CEQA requires that an EIR identify alternatives to the project as proposed. The CEQA Guidelines specify that an EIR identify alternatives which "would feasibly attain the most basic objectives of the project but avoid or substantially lessen many of the significant environmental effects of the project." The purpose of the alternatives discussion is to determine whether there are alternatives of design, scope, or location which would substantially lessen the significant impacts, even if those alternatives "impede to some degree the attainment of the project objectives" or are more expensive (CEQA Guidelines Section 15126.6).

The project would result in one significant and unavoidable impact due to the construction noise levels generated by drilling activities on-site (see Impact NOI-1 in the table above). Therefore, the alternatives analysis focused on a reasonable range of alternatives that would avoid or reduce this significant and unavoidable impact. While CEQA does not require that alternatives must be capable

of meeting all of the project objectives, their ability to meet most of the objectives is considered relevant to their consideration. The project objectives are identified in Section 2.3 Project Objectives. A summary of the three project alternatives considered and evaluated in this EIR is provided below and discussed in detail in Section 7.2.2. The EIR considered the following six other alternatives but rejected them for further analysis due to their inability to meet project objectives or reduce impacts compared to the proposed project:

- Alternative Equipment Type or Drilling Method
- Alternative Construction Schedule
- Desalination Plant Alternative
- Alternative Wholesale Water Suppliers
- Alternative On-Site Well Location
- Alternative Off-Site Well Location

The above listed considered but rejected alternatives are described in in Section 7.2.1.

No Project/No Redevelopment Alternative

The CEQA Guidelines specifically require consideration of a "No Project" Alternative. The purpose of including a No Project Alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. The Guidelines specifically advise that the No Project Alternative is "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

Under the No Project/No Redevelopment Alternative, the site would remain as it is today and continue to contain the old chemical storage buildings, inactive booster pump, and cellular communication tower.

The No Project/No Redevelopment Alternative would avoid the project's impacts but would not meet any of the project objectives. In addition, the No Project/No Redevelopment Alternative could result in indirect impacts of the same magnitude as the proposed project in other areas within the service district as Cal Water would implement different strategies to secure additional groundwater supplies.

No Project/ Redevelopment Alternative

The No Project/Redevelopment Alternative assumes that, if the proposed project were not approved, the site could be sold by Cal Water and redeveloped according to the existing General Plan designation and zoning for the site. For the purposes of this analysis, it is assumed up to four single-family residences would be constructed on-site of similar scale and character of existing residences in the surrounding neighborhood, which are primarily single-story residences.

The No Project/Redevelopment Alternative would avoid the project's significant and unavoidable construction noise impact and result in similar impacts to other resources. This alternative could result in marginally fewer construction criteria pollutant and GHG emissions and lesser effects on subsidence than the proposed project. This alternative, however, would not meet any of the project objectives. In addition, the No Project/Redevelopment Alternative would result in indirect impacts of

similar magnitude as the proposed project in other areas within the service district as Cal Water would implement different strategies to secure additional groundwater supplies.

Shallower Well Depth On-Site Alternative

In order to reduce the significant and unavoidable noise impact related to continuous drilling activities on-site, a possible alternative could be to reduce the target depth of the groundwater well to reduce the amount of time that drilling would occur on-site. For the purposes of this analysis, it is assumed that the shallower well depth under this alternative would be approximately 600 feet (bgs), as opposed to the 1,000 feet bgs for the proposed project.

The Shallower Well Depth Alternative would lessen, though not avoid, the project's significant and unavoidable construction noise impact because it would still require continuous drilling activities over several weeks. In addition, it would mostly result in similar less than significant or no impact to other environmental resource areas and could also potentially reduce construction air quality and GHG impacts and operational geology and soils and hydrology and water quality impacts. In addition, this alternative could result in indirect impacts of similar magnitude as the proposed project in other areas within the service district as Cal Water may need to implement different strategies to secure additional groundwater supplies if the shallower water well is not successful. This alternative would meet all four project objectives; however, it would meet them at a lesser extent than the proposed project.

Areas of Known Controversy

Section 15123 of the State CEQA Guidelines requires the summary section of a Draft EIR to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public. Areas of concern include noise and vibration, energy consumption, air pollution and odors during construction, tree preservation and replacement, and light pollution.

SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The City of Sunnyvale, as the Lead Agency, has prepared this Draft Environmental Impact Report (EIR) for the 800 Carlisle Way Well & Water Tank project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

Prior to the preparation of this EIR, the City of Sunnyvale prepared an Initial Study for the project. Because the project is consistent with the land use and development assumptions for the site in the City of Sunnyvale General Plan (General Plan), which were analyzed in the City's certified 2017 Land Use and Transportation Element EIR (SCH# 2012032003) (LUTE EIR), the Initial Study tiers from the LUTE EIR. The CEQA Guidelines Section 15152 contains the following information on tiering an environmental document:

(a) "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the EIR or negative declaration solely on the issues specific to the later project.

(b) Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including general plans, zoning changes, and development projects. This approach can eliminate repetitive discussions of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequences of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy or program of lesser scope, or to a site-specific EIR or negative declaration. Tiering does not excuse the lead agency from adequately analyzing reasonably foreseeable significant effects of the project and does not justify deferring such analysis to a later tier EIR or negative declaration. However, the level of detail contained in a first tier EIR need not be greater than that of the program, plan, policy, or ordinance being analyzed.

The analysis in the Initial Study concluded that the proposed project would result in either no impacts or less than significant impacts to the following environmental resources:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

As the Initial Study for the proposed project determined that impacts to the environmental resources above would be less than significant with project-specific mitigation and mitigation imposed by the LUTE EIR, the Initial Study concluded that an EIR primarily focused on noise should be prepared for the project. A copy of the Initial Study is included in Appendix A.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to the proposed project that could reduce or avoid adverse environmental impacts (CEQA Guidelines 15121(a)). As the CEQA Lead Agency for this project, the City of Sunnyvale is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, significant environmental impacts including growth-inducing impacts, cumulative impacts, mitigation measures, and alternatives. It is not the intent of an EIR to recommend either approval or denial of a project.

1.2 EIR PROCESS

1.2.1 Notice of Preparation and Scoping

In accordance with Section 15082 of the CEQA Guidelines, the City of Sunnyvale prepared a Notice of Preparation (NOP) for this EIR. The NOP was circulated to local, state, and federal agencies on February 3, 2023. The standard 30-day comment period for the NOP concluded on March 6, 2023. The NOP provided a general description of the proposed project and identified possible environmental impacts that could result from implementation of the project. The City of Sunnyvale also held a public scoping meeting on February 16, 2023, to discuss the project and solicit public input as to the scope and contents of this EIR. The meeting was held virtually, and can be accessed at the following link: https://www.youtube.com/live/OTR2c_b0Kuw?si=47CWVQ3P6hah3nd6.

Following the publication of the original NOP on February 3, 2023, changes were made to the project to alter the dimensions of the proposed water tank to be constructed on-site. The dimensions were changed from 33 feet in diameter and 12 feet in height to 21 feet in diameter and 24 feet in height. This change was disclosed in a Recirculated NOP which was circulated on March 14, 2024. The 30-day comment period for the Recirculated NOP concluded on April 14, 2025.

Appendix C of this EIR includes the NOP, Recirculated NOP, and all comments received on the NOP and Recirculated NOP. All substantive environmental issues raised in the NOP and Recirculated NOP comment letters have been addressed in this Draft EIR.

1.2.2 Draft EIR Public Review and Comment Period

Publication of this Draft EIR will mark the beginning of a 45-day public review period. During this period, the Draft EIR will be available to the public and local, state, and federal agencies for review and comment. Notice of the availability and completion of this Draft EIR will be sent directly to every agency, person, and organization that commented on the NOP, as well as the Office of Planning and Research.

Written comments concerning the environmental review contained in this Draft EIR during the 45-day public review period should be sent to:

Mary Jeyaprakash
City of Sunnyvale
456 W Olive Ave, Sunnyvale, CA 94086
Email: MJeyaprakash@sunnyvale.ca.gov

1.3 FINAL EIR/RESPONSES TO COMMENTS

Following the conclusion of the 45-day public review period, the City of Sunnyvale will prepare a Final EIR in conformance with CEQA Guidelines Section 15132. The Final EIR will consist of:

- Revisions to the Draft EIR text, as necessary;
- List of individuals and agencies commenting on the Draft EIR;
- Responses to comments received on the Draft EIR, in accordance with CEQA Guidelines (Section 15088);
- Copies of letters received on the Draft EIR.

Section 15091(a) of the CEQA Guidelines stipulates that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings. If the lead agency approves a project despite it resulting in significant adverse environmental impacts that cannot be mitigated to a less than significant level, the agency must state the reasons for its action in writing. This Statement of Overriding Considerations must be included in the record of project approval.

1.3.1 Notice of Determination

If the project is approved, the City of Sunnyvale will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office and available for public inspection for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA (CEQA Guidelines Section 15094(g)).

SECTION 2.0 PROJECT INFORMATION AND DESCRIPTION

2.1 PROJECT INFORMATION

2.1.1 Project Title

800 Carlisle Way Well & Water Tank (File Number: 2022-7041)

2.1.2 Lead Agency Contact

Mary Jeyaprakash
City of Sunnyvale
456 West Olive Avenue, Sunnyvale, CA 94086
Email: MJeyaprakash@sunnyvale.ca.gov
Phone Number: (408) 730-7449

2.1.3 Project Applicant

Melinda Schmidt, Superintendent II
California Water Service
1720 N First St, San Jose, CA 95112
Email: Mschmidt@calwater.com
Phone Number: (650) 390-0284

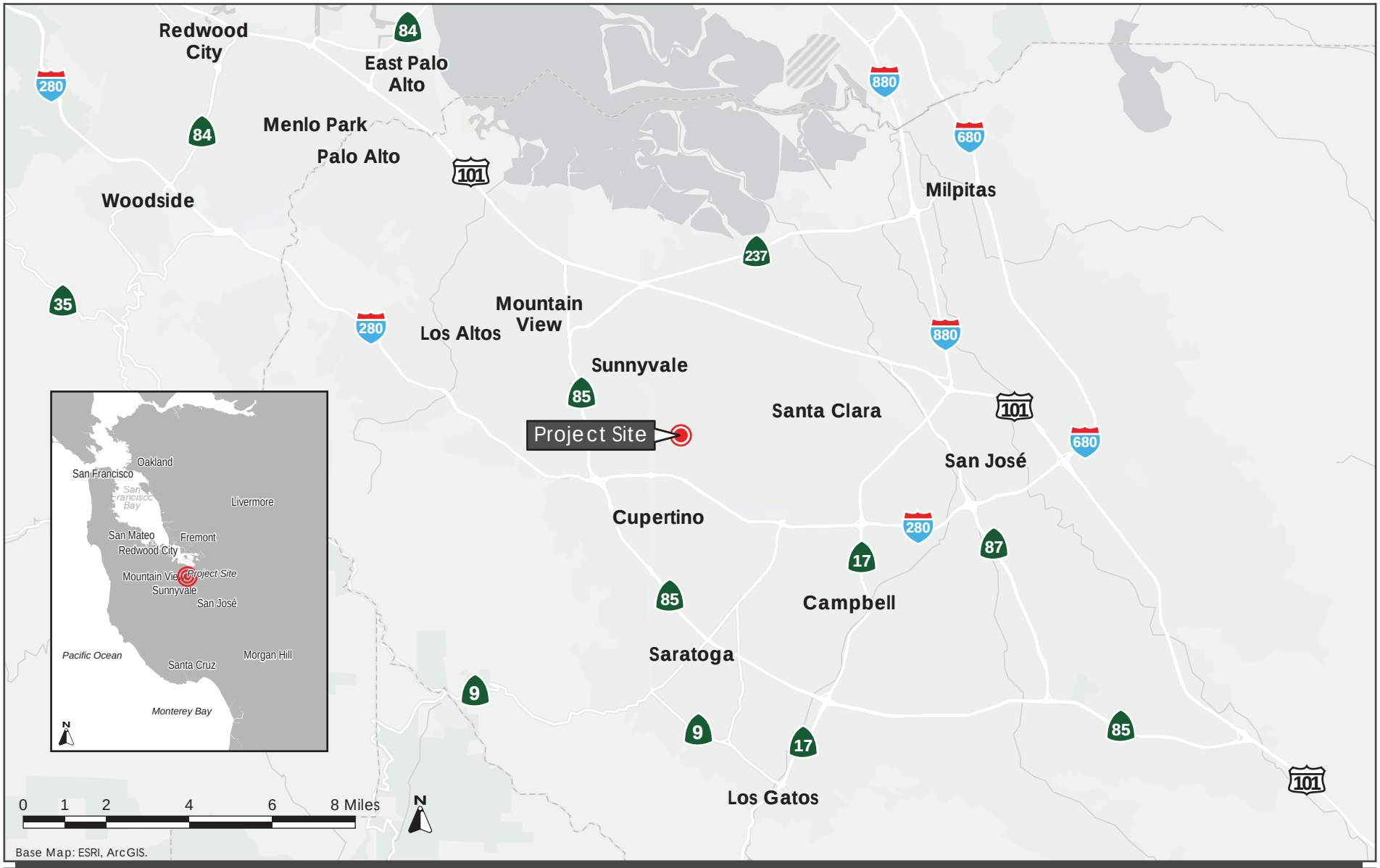
2.1.4 Project Location

The approximately 0.77-acre project site is located on the southeast corner of Lillian Avenue and Carlisle Way at 800 Carlisle Way in the City of Sunnyvale. The project site is bound by Panama Park to the west, Carlisle Way to the north, and residential developments to the south and east.

Regional and vicinity maps of the site are shown below on Figure 2.1-1 and Figure 2.1-2, respectively, and an aerial photograph of the project site and the surrounding land uses is shown on Figure 2.1-3.

2.1.5 Assessor's Parcel Number

309-12-013



REGIONAL MAP

FIGURE 2.1-1

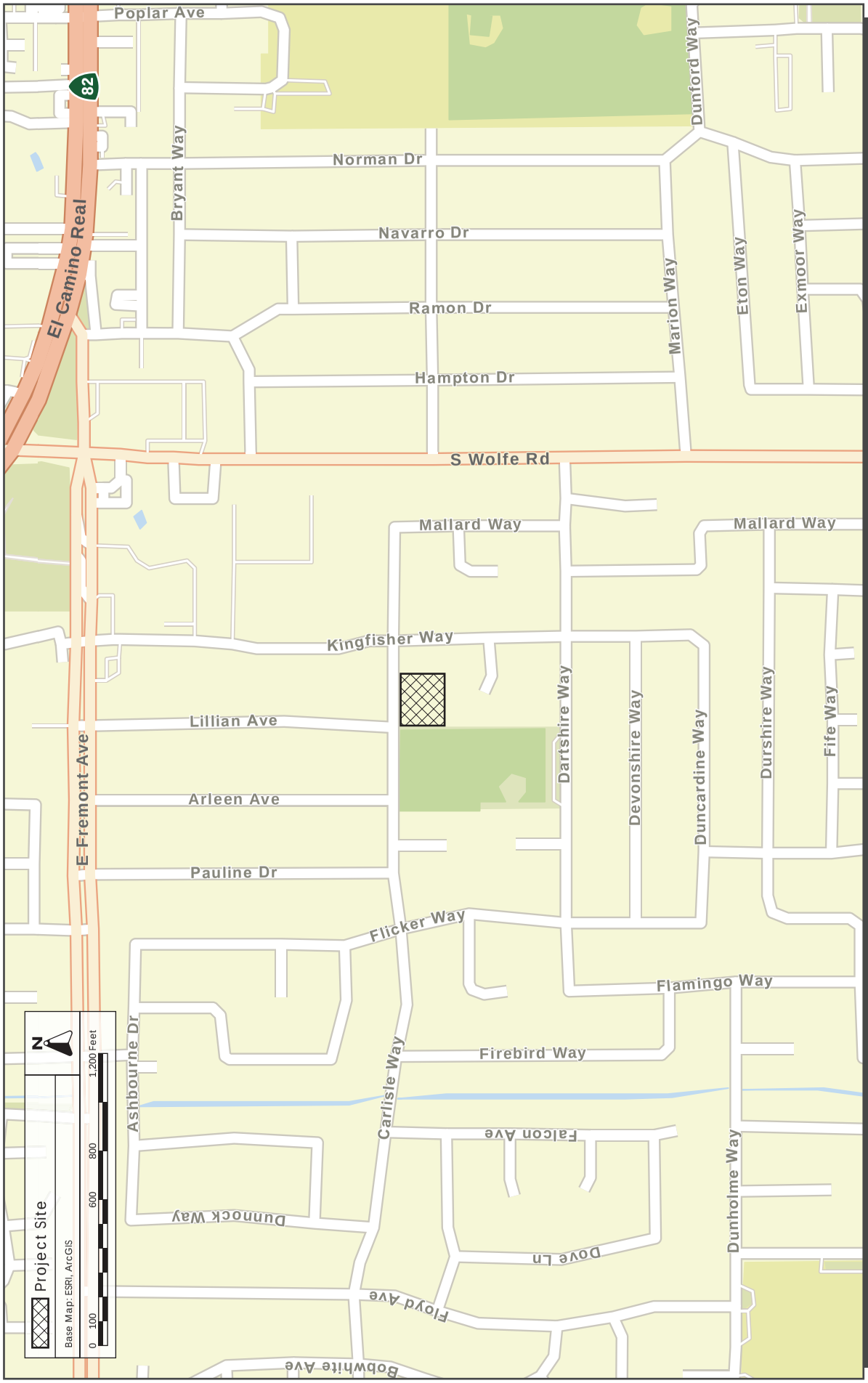


FIGURE 2.1-2

VICINITY MAP

AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 2.1-3

2.1.6 General Plan Designation and Zoning District

The City of Sunnyvale General Plan (General Plan) land use designation for the project site is Low Density Residential, which primarily preserves existing single-family neighborhoods designed around parks or schools that are located along neighborhood streets or residential collector streets. Development in this land use designation is allowed a maximum development intensity of zero to seven dwelling units per acre (du/ac), and accessory dwelling units are allowed pursuant to standards provided in the Zoning Code. The project site is identified as an active production well in the City's General Plan.[1]

The project site has a zoning designation of R-0/S (low-density residential), which is generally reserved for the construction, use, and occupancy of no more than seven du/ac. Additionally, the project site is within the residential single-story (S) combining district which is intended to modify the site development regulations of the R-0 residential zoning district to maintain single-family neighborhoods with homes that are no more than 17 feet tall. Uses permitted in this zoning district include single-family residential, small-scale care facilities, small-scale boarding homes, and public parks and playgrounds. Additional uses such as agricultural facilities, primary and high schools, private parks, office, and public utility buildings and service facilities are allowed with a Use Permit. The City's municipal code contains additional development standards applicable to development in the R0/S zoning district such as floor area ratio (FAR) and maximum height.

2.2 PROJECT DESCRIPTION

2.2.1 Background Information

The project site was formerly used as a groundwater extraction site for California Water Service (Cal Water) to provide potable water to their Los Altos Suburban service district. This service district encompasses the City of Los Altos and portions of Cupertino, Los Altos Hills, Mountain View, Sunnyvale and adjacent unincorporated areas of Santa Clara County. The service district delivers potable water to approximately 18,000 service connections (approximately 2,000 of which are located in Sunnyvale) and a population of approximately 70,000 customers.[2]

The site consisted of a water well and associated chemical storage buildings, a cellular communication tower, booster pump, and a 17-foot tall, 50,000-gallon water storage tank (through Planning Permits - #1999-0687 and #2001-0319). In 2016, the water well on-site was decommissioned due to sanding issues and casing deterioration within the well. This water well, therefore, is no longer functional. The 50,000-gallon redwood tank was removed in 2016 because the closure of the groundwater well on-site rendered the storage tank obsolete. The chemical storage buildings and booster pump – though inactive – remain on-site. The cellular communication tower is still in active use and is owned and maintained separately by Sprint Nextel on a portion located within the northwestern portion of the project site that is leased from Cal Water. No modifications are proposed to the communication tower as part of the proposed project.

[1] City of Sunnyvale. *Sunnyvale General Plan*. July 26, 2011. Figure 7-1.
[2] California Water Service. *2020 Urban Water Management Plan – Los Altos Suburban District*. June 2021. Pages 24 to 27.

To provide water supply reliability and meet current customer water supply demands, Cal Water is proposing to reactivate the site as a groundwater extraction site by constructing a replacement well and associated improvements to accommodate future water demands. The proposed replacement well would provide access to a long-term source of water for Cal Water that would be used to partially offset a decrease in supply from other sources due to drought and climate change. Cal Water is continuously looking for ways to improve the reliability of their water system, including replacing and installing new wells. The project site was selected for a replacement well because land acquisition to install new wells in the area is challenging, Cal Water already owns the property, the water quality is better than in surrounding areas, and the historic yield from the previous well on-site was higher than other options in the surrounding area.

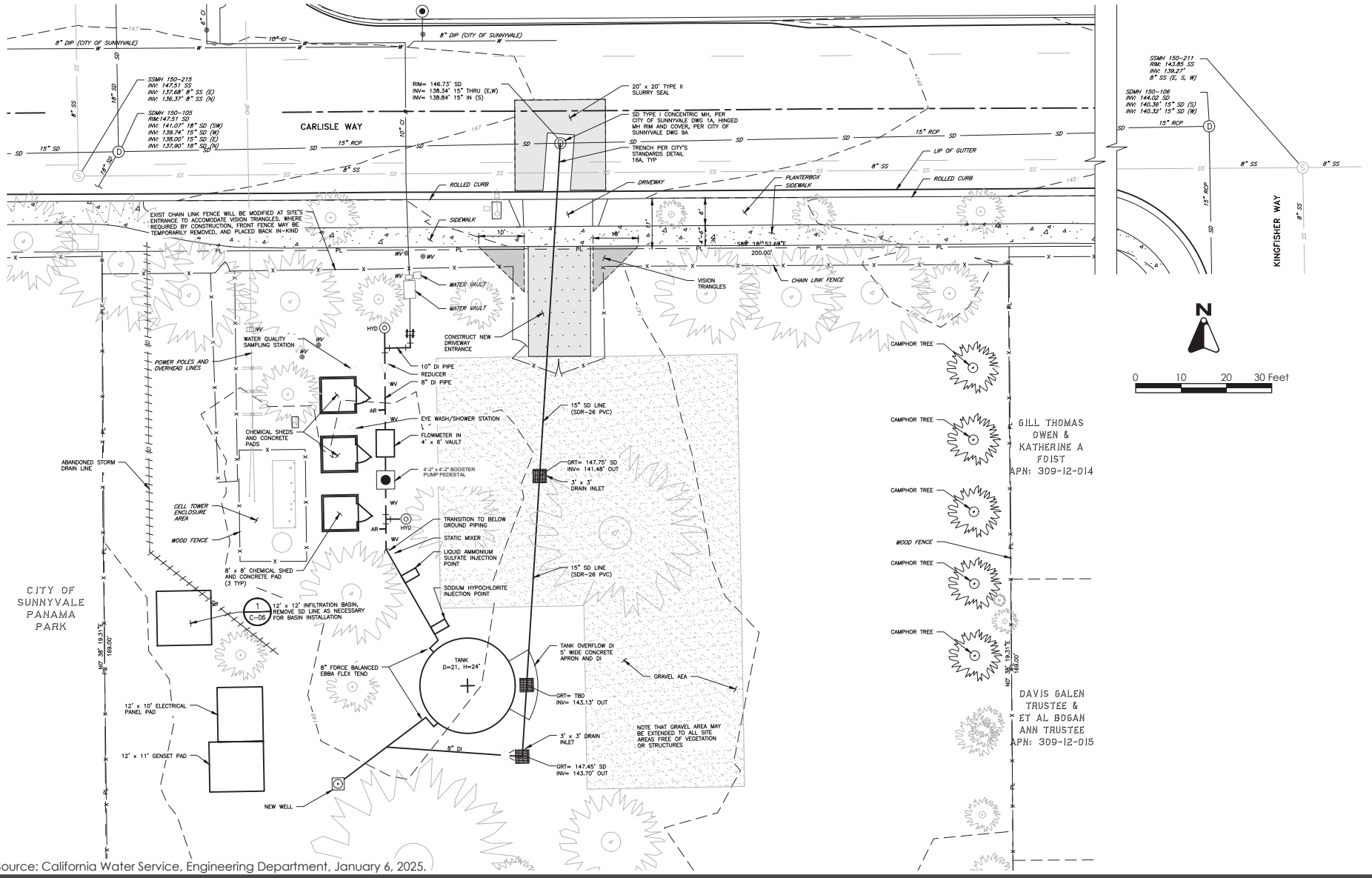
2.2.2 Project Overview

The project would demolish the existing chemical storage buildings, electrical control panel, and connection to the existing water main on-site. After demolition, the project would install a replacement groundwater well and construct a new, approximately 56,000-gallon steel water storage tank, three chemical storage enclosures, and several utility and right-of-way improvements, including a new discharge pipeline. The project would also include a diesel-powered emergency generator with a sound attenuation enclosure. These project components are described in further detail below.

In addition to the primary project components and consistent with the requirements of the City's Bird Safe Building Design Guidelines, the project would also install new signs on the entry gate with contact information for an authorized bird conservation organization or museum to aid in identification of any bird species involved with collisions with the proposed structures on-site. During operation of the project, Cal Water's Environmental Affairs group would maintain records documenting the number and location of bird deaths, if any, and report findings to the City at the required frequency. Emergency lighting would also be installed on-site; however, it would be reserved for emergency situations where repair work is required at night.

Conceptual site plans are shown in Figure 2.2-1, and the proposed project elevation is shown in Figure 2.2-2. The location of the well on-site was determined, in part, based on the separation requirements established by the California Department of Public Health (CDPH), Division of Drinking Water (DDW), California Department of Water Resources (DWR), and the American Water Works Association (AWWA). These entities have established guidance and provided various standards and requirements which necessitate a minimum set back of 50 feet from the existing well on-site and from sanitary sewer lines in the vicinity. In addition, the location of the proposed well would allow for necessary equipment to be installed in compliance with the City's property line setback requirements in order to minimize impact to neighboring properties.

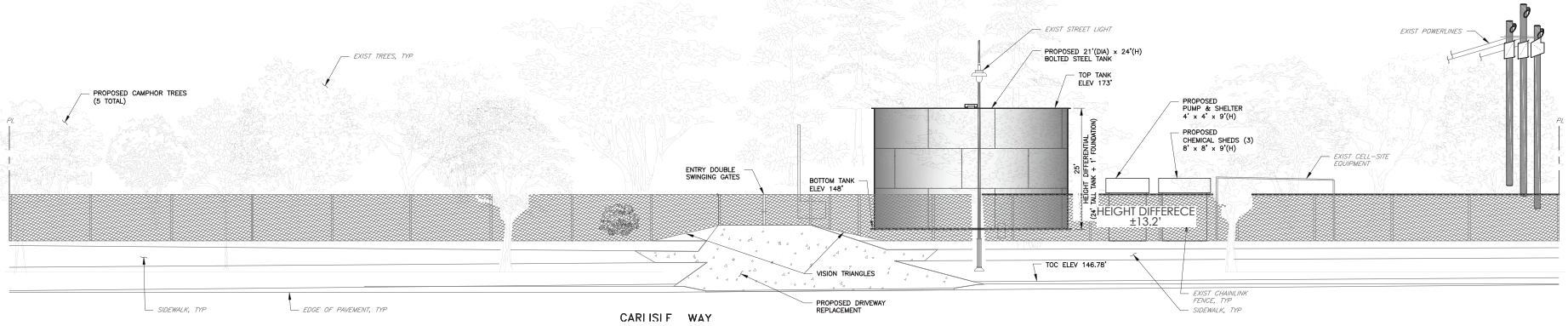
The project is consistent with the existing General Plan land use and zoning designations on the site, therefore, no General Plan amendment or rezoning is required. As mentioned in Section 2.4 Uses of the EIR, the project requires a use permit, building permits, hazardous materials storage permit, and variance for the proposed height of the water tank which would exceed the height typically allowed for structures in this zone.



Source: California Water Service, Engineering Department, January 6, 2025.

PROPOSED SITE PLAN

FIGURE 2.2-1



SOUTH ELEVATION

Source: California Water Service, Engineering Department, January 6, 2025.

PROPOSED PROJECT ELEVATIONS | FIGURE 2.2-2

2.2.3 Project Components

2.2.3.1 *Groundwater Well*

The previous groundwater well that was capped in 2016 is located in the center of the site on the north side. The new well would be located on the southwest portion of the site and would reach a depth of approximately 1,000 feet below ground surface (bgs). Details about construction of the well are provided in Section 2.2.3.9 below.

After the well has been drilled and the casing installed, the project would conduct a standard water production test which would continuously pump water from the new well for 24 hours. The purpose of the production test would be to determine the yield of the aquifer as well as the size of the pump that would be necessary for the new well. It is anticipated that this would result in the pumping of approximately 1.7 million gallons of raw water from the aquifer. The water pumped from the aquifer would be discharged into the existing storm drain system on Carlisle Way pursuant to existing regulations, including Chapter 12.60 (Stormwater Management) of the Sunnyvale Municipal Code (SMC). During operation of the new well, a discharge of the initial raw water would be required per Division of Drinking Water regulations to flush the system prior to filling up the new water storage tank. This initial draw of raw water would last for approximately 15 minutes and would result in the discharge of approximately 18,000 gallons of water to the existing storm drain system on Carlisle Way. After this initial discharge is complete, the water tank would begin storing the groundwater pumped from the new well on-site.

2.2.3.2 *Water Storage Tank*

The project would construct a new, steel water storage tank in the center of the project site that would be connected to the new groundwater well. The storage tank would be 21 feet in diameter, 24 feet in height, and would have an approximate capacity of 56,000 gallons. The dimensions of the water tank would allow for optimal operation of the booster pump while still providing the necessary amount of freeboard for a tank of this size, which is four feet.[3] The groundwater in the aquifer has entrained air, which causes aesthetic problems and maintenance issues in the distribution system. To address these issues, the water must be aerated after it is pumped from the ground to allow for the release of entrained air in the water. To facilitate release of the entrained air, the water would be discharged into the tank from a point close to the top of the tank and allowed to “splash”, which would agitate the water and expedite aeration.

2.2.3.3 *Chemical Storage Enclosures*

The project would construct three new chemical storage sheds with a maximum height of 10 feet that would be placed on concrete pads on the northwest portion of the project site. These chemical storage sheds would be used to store approximately 300 gallons of 12.5 percent sodium hypochlorite and 100 gallons of 19.5 percent ammonium hydroxide within their own separate chemical storage sheds. These chemicals would be stored within a double containment system that would reduce the risk of any chemical leaks and would be used to disinfect the treated water in the storage tank prior to release into the distribution system. Most of the equipment operation required to disinfect the treated

[3] Freeboard is the area within the tank that does not contain water, as measured from the water overflow height to the top of the tank.

water would be done remotely; however, a staff member would visit the site daily to clean the chemical injector and ensure that the equipment is operating effectively.

2.2.3.4 *Emergency Generator*

The project would install an emergency back-up generator on-site that would only be operational during power outages or during bi-weekly testing. Routine testing would consist of running the generator bi-weekly for approximately 30 minutes during daytime hours. The bi-weekly testing is necessary to ensure the generator would operate during an emergency scenario. The generator would have fuel stored in a double lined tank under the generator and would also utilize a double containment system to reduce the risk of accidental fuel leaks. The generator would comply with diesel engine requirements set by the Bay Area Air Quality Management District.

2.2.3.5 *Pump Station*

In order to pump groundwater from the well to the potable water distribution lines, a pump station would be installed adjacent to the groundwater well. This pump station would include mechanical equipment such as a booster pump, pump motor, panel board (including the electric panel and controls), and connections for portable boosters that could be utilized if the primary booster pump is out of operation for maintenance or repairs.

2.2.3.6 *Site Access*

The project site is currently secured by a chain link fence and can only be accessed by Cal Water via a driveway on the north side of the site. The project would remove and replace the existing driveaway to ensure compliance with current City driveway standards. The new driveway would be in the same location as the current driveway. The proposed improvements within the public right-of-way are detailed further in Section 2.2.3.6. Public access to the project site would continue to be prohibited under the proposed project.

2.2.3.7 *Utility and Right-of-Way Improvements*

The proposed project would construct a new eight-inch distribution water line that would connect to an existing 10-inch water main on-site. In addition, the project would construct a new 15-inch storm drain lateral line that would connect to the existing 15-inch mainline in Carlisle Way. The point of connection to the existing storm drain would be within the public right-of-way on Carlisle Way. The project would also install a new manhole to provide maintenance access to the connection between the new storm drain lateral line and the existing storm drain main line. In addition, the project would install a private manhole at the property line. A portion of the sidewalk along Carlisle Way would be reconstructed concurrent with the new access driveway described in Section 2.2.3.5.

Electricity would be provided by the existing electrical utilities on-site. No connections to natural gas are proposed.

2.2.3.8 *Landscaping*

The project site currently contains 38 trees, 15 of which are protected under the City of Sunnyvale's tree protection ordinance.[4] The proposed project would remove a total of eight trees, including five protected trees and three unprotected trees. Four of the trees proposed for removal are either diseased, dead, or dying. The other four trees would be removed to construct the new well and storage tank. There are six street trees in front of the project site and none of them are proposed for removal. The project would plant 12 camphor trees for replacement, along the eastern border of the project site consistent with the requirements outlined in Chapter 19.94 of the SMC.

2.2.3.9 *Stormwater Treatment*

The project site currently consists of approximately 524 square feet (or 1.6 percent) of impervious area. The remaining 33,276 square feet (or 98.4 percent) of the site consists of pervious area, which is comprised of landscaping and other permeable surfaces. The proposed project would result in an increase of impervious area by approximately 1,261 square feet (or 3.7 percent). The proposed improvements that would contribute to the increase in impervious area include the addition of small, paved areas throughout the project site.

2.2.3.10 *Construction*

Project construction activities include demolition, site preparation, drilling, minor grading, construction, and paving. Construction of the project would be completed in a total of approximately 10 months.

Demolition of the existing chemical storage buildings, electrical control panel, and connection to the existing water main on-site and other site preparation activities would take approximately one month.

It is estimated that the well construction and required testing would take a total of three months. The groundwater well would be constructed using borehole drilling equipment and a flooded-reverse mud rotary drilling technique. The drilling activity would consist of mixing drilling additives with water, which would then be circulated in the borehole to assist with the drilling process, remove excavated material, stabilize the borehole, and reduce water loss to the surrounding soil on-site. The primary drilling fluid would consist of powdered bentonite clay and potable water with other NSF/ANSI 60 certified additives used, as needed.[5]

Based on the data collected during operation of the previous well on-site, a well depth of approximately 1,000 feet bgs would provide a comparable yield and performance as the previous

[4] The provisions of Chapter 19.94 (Tree Preservation) of the Municipal Code identify and prescribe specific procedures and requirements for the filing, processing, and consideration of the removal and preservation of trees. A significant size tree (or protected tree) is defined as: Any single trunk tree 38 inches or greater in circumference (the circumference of the tree is measured at 4.5 feet above the ground); or any multi-trunk tree which has at least one trunk 38 inches or greater in circumference or where the measurements of the multi-trunks added together equal at least 113 inches.

[5] NSF/ANSI 60 establishes minimum health effects requirements for chemicals, chemical contaminants, and impurities added directly to drinking water from treatment chemicals. Source: NSF International. "NSF/ANSI Standard 60: Drinking Water Treatment Chemicals – Health Effects" January 2017. Accessed August 9, 2023. Available at: https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects.

well on-site. In addition, the water quality typically improves as wells reach deeper levels of an aquifer as there is lower risk of contamination from the ground surface. In order to reach the anticipated depth of approximately 1,000 feet bgs, portions of the drilling and construction process would be conducted continuously for 24 hours a day for a maximum total of 27 days. The 24-hour continuous construction activity on-site would be split into two phases. The initial phase of continuous, 24-hour per day drilling activity would take up to 12 days. This initial phase would consist of drilling the pilot hole in order to collect information and finalize the planned depth of the new well. The pilot hole would be approximately 17.5 inches in diameter and would potentially reach a depth of approximately 1,000 feet bgs. After this initial phase is completed, the drilling would pause for approximately two weeks (or 14 days) while the well materials are fabricated and delivered to the site. Once the required materials are on-site, the drilling for the well would resume for 24 hours per day for up-to 15 days. This hole would be approximately 28 to 32 inches in diameter, and casing for the new well would be inserted into the hole during construction. The well casing would have a diameter of 18 inches. Continuous operation of construction equipment during the two drilling phases reduces the risk of borehole collapse and damage to construction equipment. The soil, drilling additive, and water expelled from the borehole during the drilling process would be collected in a mud tank and disposed of at an off-site landfill location or recycling facility.

Construction for the remaining project components, including the chemical storage sheds, water storage tank, and required water storage tank discharge would take a total of six months.

The project requires excavation at a maximum depth of 1,000 feet bgs for the well and eight feet bgs for the remaining improvements, and would result in the off-haul of approximately 210 cubic yards of soil.

2.3 PROJECT OBJECTIVES

The stated objectives of the applicant for this project are to:

1. **Replace a critical Cal Water supply well that was previously destroyed on-site due to its age.** Santa Clara Valley Water District (Valley Water) is planning a 10-year Pipeline Inspection and Rehabilitation project that will take significant portions of its supply system down over a phased period. These planned shutdowns started in 2021 and are expected to extend until 2028. During the Valley Water project, Cal Water expects interruptions to the supply system between 2023 to 2026. These interruptions in supply would remove the emergency supply for Cal Water, and would increase the risk of supply shortfalls if an emergency or a break in a mainline were to occur.

   This well would provide potable water to Cal Water's Los Altos Suburban service district which encompasses the City of Los Altos and portions of Cupertino, Los Altos Hills, Mountain View, Sunnyvale, and adjacent unincorporated areas of Santa Clara County. The service district delivers potable water to approximately 18,000 service connections (approximately 2,000 of which are located in Sunnyvale) and a population of approximately 70,000 customers.[6] Acquiring new property in the Los Altos Suburban service district (within

[6] California Water Service. *2020 Urban Water Management Plan – Los Altos Suburban District*. June 2021. Pages 24 to 27.

the cities of Sunnyvale and Los Altos) is difficult, therefore, constructing the replacement well on a property that Cal Water already owns is preferable. In addition, the former well on-site produced good yields and the site is already connected to Cal Water's existing distribution system infrastructure. Therefore, drilling and installing a replacement well on-site is an expeditious and cost-effective solution to adding additional water supply to the Los Altos Suburban service district.

2. **Upgrade Cal Water's aged infrastructure in the Los Altos Suburban service district with a new well and water tank to maximize and improve the reliability of the water supply in the area.** Of the 20 groundwater wells operated by Cal Water in the Los Altos Suburban service district, 16 were installed before 1970 and are near the end of their anticipated service life. Aging infrastructure is at a higher risk to experience potential failures, including water quality issues, mechanical equipment failure, or structural issues in the well.

3. **Address potential drought emergency in the County of Santa Clara by generating an additional source of groundwater.**

4. **Address fire risk in the area generating an additional source of groundwater in the area that can be used in emergency scenarios.**

2.4 USES OF THE EIR

This EIR is intended to provide the City of Sunnyvale, other public agencies, and the general public with the relevant environmental information needed in considering the proposed project. The City of Sunnyvale anticipates that discretionary approvals by the City, including but not limited to the following, will be required to implement the project addressed in this EIR:

- Use Permit
- Building Permits
- Hazardous Materials Storage Permit
- Variance for the maximum tank height

SECTION 3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

This section presents the impact discussion related to noise. The discussion includes the following subsections:

- **Environmental Setting** – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.

- **Impact Discussion** – This subsection includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts. For significant impacts, feasible mitigation measures are identified. "Mitigation measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered to correspond to the checklist question being answered. For example, Impact NOI-1 answers the first checklist question in the Noise section. Mitigation measures are also numbered to correspond to the impact they address. For example, MM NOI-1.3 refers to the third mitigation measure for the first impact in the Noise section.

  Cumulative impact should also be assessed. Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant effects taking place over a period of time. CEQA Guideline Section 15130 states that an EIR should discuss cumulative impacts "when the project's incremental effect is cumulatively considerable." The purpose of the cumulative analysis is to allow decision makers to better understand the impacts that might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project addressed in this EIR. The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document (CEQA Guidelines Section 15130(b)(1)). This EIR uses the list of projects approach. There are no pending or probably cumulative projects within 1,000 feet of the project site. For this reason, the project would not result in a cumulatively considerable contribution to a cumulatively significant noise or vibration impact and cumulative noise impacts are not discussed further in this EIR.

3.1 NOISE

The following analysis is based, in part, on a Noise Assessment Report prepared by Behrens and Associates, Inc. dated July 24, 2024. This report is attached as Appendix B.

3.1.1 Environmental Setting

3.1.1.1 *Background Information*

Noise

Factors that influence sound as it is perceived by the human ear, include the actual level of sound, period of exposure, frequencies involved, and fluctuation in the noise level during exposure. Noise is measured on a decibel scale, which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA. Generally, changes in sound level below three dBA are classified as barely perceptible changes and an increase in sound level of five dBA is classified as readily perceptible.[7]

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are generally expressed using one of several noise averaging methods, including L_{eq}, DNL, or CNEL.[8] These descriptors are used to measure a location's overall noise exposure, given that there are times when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and times when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. PPV has been routinely used to measure and assess ground-borne construction vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches/second (ips) PPV.

[7] Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024. Table 2-1.

[8] L_{eq} is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. Where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq}.

3.1.1.2 *Regulatory Framework*

State, Regional, and Local

Transportation and Construction Vibration Guidance Manual

The California Department of Transportation (Caltrans) Transportation and Construction Vibration Guidance Manual provides practical guidance to engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects. Pursuant to this manual, a significant vibration impact would occur if vibration levels exceed 0.25 ips at historic and sensitive buildings.[9] This threshold is often used by jurisdictions when evaluating the vibration impact of development projects.

Consistent with past City practice, the City has determined that a conservative threshold to avoid damage to existing structures near construction activities, a significant vibration impact could occur during daytime construction activities within allowed construction hours if vibration levels exceed 0.25 ips at the nearest off-site structures (including ones of modern construction). Because construction activities are not typically allowed outside of the City's standard construction hours, the City has identified a more restrictive significance threshold for construction activities that occur during nighttime outside of standard construction hours based on the perceptibility of vibration levels outlined in Caltrans' Transportation and Construction Vibration Guidance Manual. For the purposes of this analysis, a significant vibration impact would occur if ground-borne vibration levels caused by construction activities outside of the City's standard construction hours exceed 0.04 ips at surrounding structures, which is considered to be a distinctly perceptible level of vibration.[10]

Comprehensive Land Use Plan for Moffett Federal Airfield

The project site is located four miles southeast of the Moffett Federal Airfield, which is the closest airport to the site. The Moffett Federal Airfield Comprehensive Land Use Plan (CLUP) is intended to safeguard the general welfare of the inhabitants within the vicinity of the airport, as well as aircraft occupants.[11] The CLUP is also intended to ensure that surrounding new land uses do not affect airport operations.

[9] California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. April 2020. Table 11.
[10] Ibid. Table 4.
[11] Santa Clara County Airport Land Use Commission. *Moffett Federal Airfield – Comprehensive Land Use Plan.* Amended November 2016.

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to noise and vibration and are applicable to the proposed project.

Policy	Description
Safety and Noise Element	
SN8.1	Enforce and supplement state laws regarding interior noise levels of residential units.
SN-8.4	Require development projects to assess potential construction noise impacts on nearby noise-sensitive land uses and to minimize impacts on those uses, to the extent feasible, as determined by the Director of Community Development.
SN-9.1	Regulate land use operational noise including but not limited to hours of operation limits, consistent with operational noise standards in the Sunnyvale municipal code.
SN-9.2	When new equipment is installed on a property, including new stationary noise sources (e.g., heating, ventilation, and air conditioning systems, generators, heating boilers) that could affect existing sensitive land uses, construction of enclosures or other screening materials should be installed around the stationary noise source such that equipment is in compliance with the city's operational noise code.

Sunnyvale Municipal Code

SMC Section 19.42.030 includes operational noise standards enforced on residential and non-residential zoned property lines, listed below.

(a) Residential Noise Limits:
   (1) Operational noise shall not exceed 50 dBA during nighttime or 60 dBA during daytime hours at any point on the property line of the adjacent single family or duplex uses.

(b) Non-Residential Noise Limits:
   (1) Operational noise shall not exceed 60 dBA during nighttime or 70 dBA during daytime hours at any point on the property line of the adjacent nonresidential use.

Chapter 16.08 of the SMC limits construction activity to between 7:00 AM and 6:00 PM daily Monday through Friday. Construction operations on Saturday are limited to between 8:00 AM and 5:00 PM. No construction activities are allowed on Sunday or federal holidays when the city offices are closed. Exceptions to these hours may granted by the Chief Building Official when it is determined emergency construction activity is required or construction activity will not be a nuisance to surrounding properties.

While the SMC does not define the acoustical time descriptor such as L_{eq} or L_{max} that is associated with the above limits, a reasonable interpretation of the SMC would identify the ambient base noise level criteria as L_{eq}.

3.1.1.3 *Existing Conditions*

The noise environment at the project site is currently dominated by the vehicular traffic from Carlisle Way and other local streets in the surrounding neighborhood. Flights to Moffett Federal Airfield also occasionally pass overhead. A summary of the ambient noise levels measured on-site are included in Table 3.1-1 and Table 3.1-2 below. The noise measurement locations are shown on Figure 3.1-1 below.

Table 3.1-1: Long-Term (24-Hour Period) Ambient Noise Measurement Data (dBA)

Noise Measurement Location	24-hour Average	Daytime L_{eq}	Nighttime L_{eq}	CNEL
LT-1: ~ 80 feet east of the center of the site on the eastern site boundary	46.3	46.9	45.1	52

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

Table 3.1-2: Short-Term (15-Minute Increment) Ambient Noise Measurement Data (dBA)

Noise Measurement Location	L_{eq}	L_{max}	L_{min}
ST-1: ~90 feet east of the center of the site on the eastern site boundary	48.2	66.1	35.7
ST-2: ~130 feet north of the center of the site on Carlisle Way	54.0	72.4	37.0
ST-3: ~290 feet northwest of the center of the site on Carlisle Way	56.4	74.7	37.0
ST-4: ~270 feet northwest of the center of the site on Lillian Avenue	49.2	66.2	36.7
ST-5: ~145 feet northeast of the center of the site on Carlisle Way	58.1	78.1	39.6
ST-6: ~350 feet northeast of the center of the site on Kingfisher Way	56.8	72.9	40.2
ST-7: ~135 feet southwest of the center of the site on the southwestern corner of the site	48.4	62.6	41.6
ST-8: ~265 feet southwest of the center of the site on Kingfisher Way	56.9	72.6	40.0
ST-9: ~205 feet south of the center of the site on Coventry Court	43.8	59.3	34.5
ST-10: ~385 feet southwest of the center of the site on Coventry Court	52.3	69.0	38.2

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

EXISTING NOISE MEASUREMENT LOCATIONS | FIGURE 3.1-1

3.1.2 Impact Discussion

For the purpose of determining the significance of the project's impact on noise, would the project result in:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
2) Generation of excessive groundborne vibration or groundborne noise levels?
3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

CEQA does not define what noise level increase would be considered substantial. Criteria based on City practice, standards identified by the FTA and Caltrans, and standards in the CBC, CALGreen, General Plan, and SMC were used to evaluate the significance of environmental noise resulting from the project. The relevant thresholds of significance are included in the discussion below.

3.1.2.1 *Project Impacts*

Impact NOI-1:	The project (specifically the project construction drilling phase) would result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Construction Noise

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours) or when the construction occurs in areas immediately adjoining noise-sensitive land uses.

Drilling Phase

As discussed in Section 2.2.3.9 Construction, portions of the required drilling process would be conducted continuously for 24 hours a day. These 24-hour continuous construction activities on-site would be split into two phases, including an initial phase of up to 12 days and a second phase lasting up to 15 days, for a total of 27 days. Drilling activities would pause for approximately two weeks between these phases to allow for the sourcing of the required materials to construct the well.

When drilling activities occur during the allowed construction hours (i.e., between 7:00 AM and 6:00 PM on Monday through Friday and 8:00 AM and 5:00 PM on Saturday), consistent with construction noise thresholds established by the FTA, a potentially significant impact would occur if the noise level exceeds 80 dBA at surrounding residential properties or 85 dBA at the adjacent park. When drilling activities occur outside the allowed construction hours, the City considers noise impacts significant if the sound levels exceed the SMC standards of 50 dBA for nighttime hours and 60 dBA for daytime hours at the surrounding residential property boundaries or 60 dBA for nighttime hours and 70 dBA for daytime hours at the adjacent park property boundary.

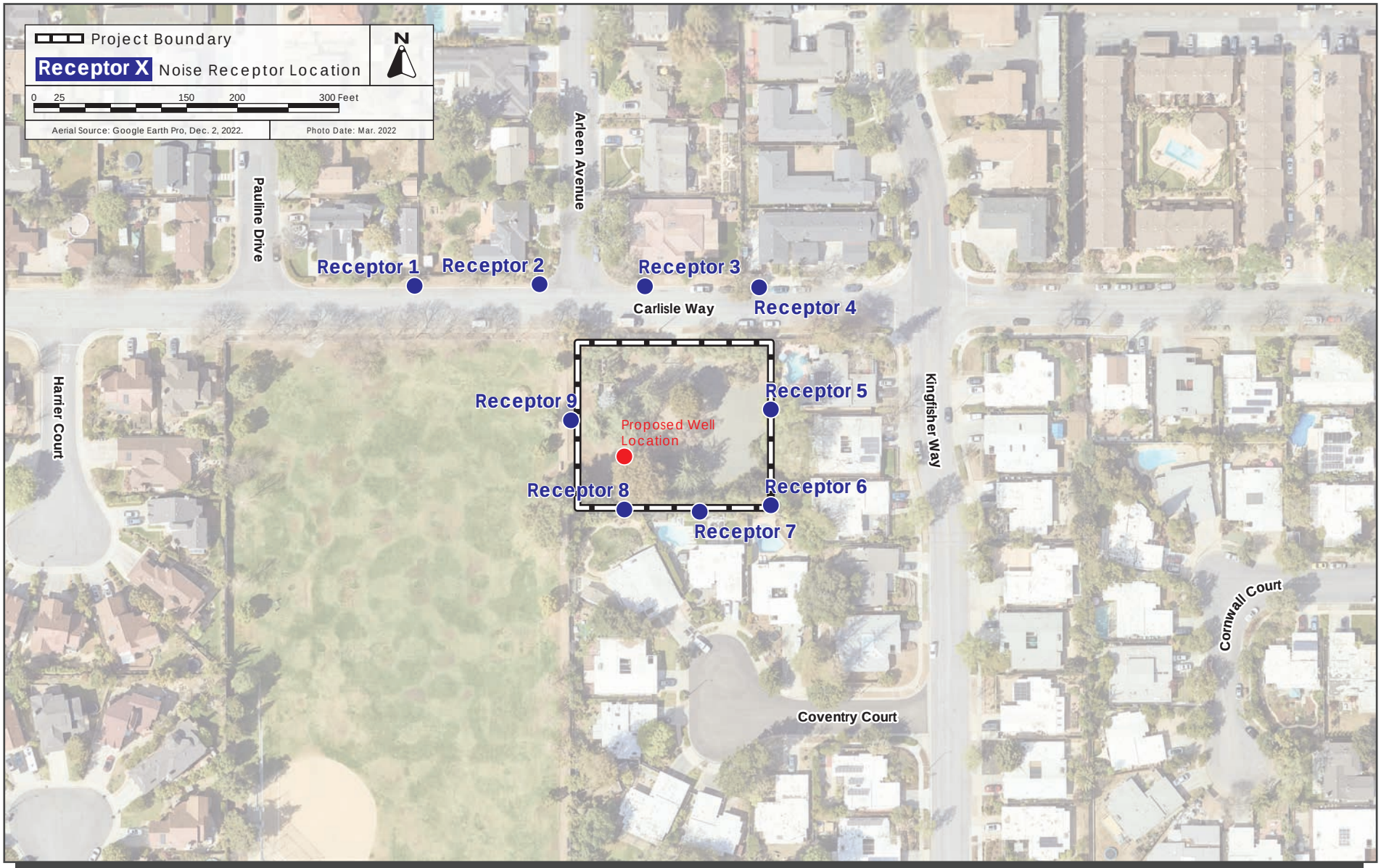
To evaluate potential construction noise impacts associated with the drilling phase of construction, modeling was completed. Noise-generating equipment required for the drilling process would include items such as the drilling rig engine and exhaust, a cooling fan, the mud pump motor and shaker, and an air compressor. These pieces of equipment would be operating on the southwest portion of the project site. Table 3.1-3 below summarizes the estimated noise levels that would be generated by the drilling equipment as measured at the surrounding noise receptors. The location of each receptor is shown on Figure 3.1-2 below.

Table 3.1-3: Estimated Drilling Activity Noise Levels (dBA)

Noise Receptor	Allowed Construction Hours Noise Threshold	Outside Allowed Construction Hours Noise Threshold (Daytime)	Outside Allowed Construction Hours Noise Threshold (Nighttime)	Drilling Activity Noise Level
1: Residence to the northwest of project site	80.0	60.0	50.0	**62.8**
2: Residence to the northwest of project site	80.0	60.0	50.0	**65.7**
3: Residence to the north of project site	80.0	60.0	50.0	**65.8**
4: Residence to the northeast of project site	80.0	60.0	50.0	**62.8**
5: Residence to the east of project site	80.0	60.0	50.0	**65.9**
6: Residence to the southeast of project site	80.0	60.0	50.0	**65.6**
7: Residence to the south of project site	80.0	60.0	50.0	**68.7**
8: Residence to the southwest of project site	80.0	60.0	50.0	**74.1**
9: Park facility to the west of project site	85.0	70.0	60.0	**79.8**

Note: **Bold** text indicates an exceedance of the noise thresholds for construction activities outside of the City's allowed construction hours. The location of each receptor is shown on Figure 3.1-2.

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.



NOISE RECEPTOR LOCATIONS | FIGURE 3.1-2

As shown in Table 3.1-3 above, drilling activities on-site would not exceed the applicable daytime thresholds of 80 dBA and 85 dBA during allowed construction hours; however, the drilling activities outside allowed construction hours would exceed the applicable daytime thresholds of 60 dBA and 70 dBA and nighttime thresholds of 50 dBA and 60 dBA. This would result in a significant construction noise impact.

Mitigation Measure:

MM NOI-1.1: **Installation of Acoustic Barriers:** During drilling activities on-site, the project shall install the following acoustic barriers (the installation of which shall take place during regular, daytime construction hours):

- Approximately 600 linear feet of 32-foot-high, Sound Transmission Class (STC) rated 32 acoustic barrier wall shall be installed parallel to the site boundaries. The acoustic barrier wall shall be installed with no openings or gaps except for an acoustical gate on the north side of the project site to facilitate site access during drilling activities. This acoustical gate shall remain closed during drilling operations.
- Approximately 190 linear feet of 20-foot-high, STC rated 32 dual K-rail mounted acoustic barriers shall be installed on the south and north sides of drilling equipment. These acoustic barriers shall also be installed on portions of the east and west sides of drilling equipment as shown in Figure 7-3 of the Noise Assessment Report.
- Approximately 72 linear feet of 12-foot-high, STC rated 25 acoustic barrier walls shall be installed on the north, west and south sides of mud pump and air compressor.
- Approximately 96 linear feet of 8-foot-high, STC rated 25 acoustical blankets shall be installed on the rig floor.

The installation of these temporary acoustic barriers would occur during daytime hours and would not be anticipated to generate sound levels above the allowable 80 dBA daytime construction noise limit during allowed construction hours at the surrounding residential properties.[12] With implementation of mitigation measure MM NOI-1.1, noise generated by drilling activities on-site would be reduced at the surrounding noise receptors by approximately 14 to 22 dBA. Table 3.1-4 below summarizes the potential reduction in noise levels with implementation of mitigation measure MM NOI-1.1.

[12] Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024. Page 29.

Table 3.1-4: Estimated Drilling Activity Noise Levels with Mitigation (dBA)

Noise Receptor	Allowed Construction Hours Noise Threshold	Outside Allowed Construction Hours Noise Threshold (Daytime)	Outside Allowed Construction Hours Noise Threshold (Nighttime)	Drilling Activity Noise Level	Reduction with Mitigation	Mitigated Drilling Activity Noise Level
1	80.0	60.0	50.0	**62.8**	16.1	46.7
2	80.0	60.0	50.0	**65.7**	16.5	49.2
3	80.0	60.0	50.0	**65.8**	16.0	49.8
4	80.0	60.0	50.0	**62.8**	14.1	48.7
5	80.0	60.0	50.0	**65.9**	18.5	47.3
6	80.0	60.0	50.0	**65.6**	17.1	48.5
7	80.0	60.0	50.0	**68.7**	16.5	**52.2**
8	80.0	60.0	50.0	**74.1**	16.4	**57.7**
9	85.0	70.0	60.0	**79.8**	22.3	57.5

Note: **Bold** text indicates an exceedance of the nighttime noise threshold. The location of each receptor is shown on Figure 3.1-2.

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

As shown in Table 3.1-4 above, with implementation of mitigation measure MM NOI-1.1, drilling activities would still generate noise levels that would exceed the established nighttime thresholds for construction noise outside of the allowed construction hours at the two nearest residential noise receptors adjacent to the southwestern portion of the project site. No other feasible mitigation measures are available that would clearly lessen the noise levels from drilling. An additional mitigation measure (see MM NOI-1.2 below) has been identified to provide the opportunity for the occupants of the two residences exposed to significant and unavoidable nighttime drilling activity noise levels to relocate elsewhere during the significant, unavoidable nighttime drilling activity.

Mitigation Measure:

MM NOI-1.2: **Provision of Vouchers for Alternative Accommodations:** California Water Service (Cal Water) shall provide the two nearest residences adjacent to the southwestern portion of the project site (i.e., 819 and 823 Coventry Court as identified in the Noise Assessment Report dated July 24, 2024 in Appendix B of the Draft EIR) with the potential to exceed 50 dBA noise levels during nighttime drilling activities, with vouchers for alternative accommodations. Prior to the initiation of nighttime drilling activities, Cal Water shall communicate the anticipated drilling schedule to the affected residents at 819 and 823 Coventry Court. Upon request, vouchers shall be offered based on the needs of each household for the specific dates that nighttime drilling activities are scheduled. It is anticipated that the nighttime drilling activities would occur over two separate phases. If requested by the affected residents, vouchers for alternative accommodations shall be issued for each of the two phases based on the finalized

construction schedule and be for $300/night/room. Confirmation regarding any request for vouchers and the provision of vouchers for alternative accommodations shall be provided by Cal Water to the City prior to issuance of building permits.

With implementation of mitigation measure MM NOI-1.2, residents adjacent to the project site that would experience construction noise levels exceeding the City's established threshold of significance would have the option to relocate during the significant and unavoidable noise activity. Since this measure does not actually reduce the significant, unavoidable noise levels at these two residences to an acceptable level and the City cannot require the residents of these two residences relocate, the impact from nighttime construction noise that would occur outside allowed construction hours would remain significant and unavoidable. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Demolition, Grading, Excavation, Trenching, and Tank Construction Phase

As discussed in Section 2.2.3.9 Construction, construction for the remaining project components, including the chemical storage sheds and the water storage tank would take a total of six months. Construction of these components would require demolition of existing improvements on-site, grading and excavation, trenching for utility lines and the required foundation, and construction of the water storage tank. These construction activities would occur during regular, daytime construction hours. To be conservative, it is assumed the acoustic barrier walls installed pursuant to mitigation measure MM NOI-1.1 during the drilling phase of the project would be removed prior to initiation of these remaining construction activities. The modeled scenarios for each construction activity in this phase represent a worst-case scenario in which all anticipated equipment is operating concurrently without the presence of the acoustic barrier walls installed for the drilling phase. The estimated maximum noise levels at the surrounding receptors for this phase are summarized in Table 3.1-5 below.

Table 3.1-5: Estimated Noise Levels During Other Construction Activities (dBA)

Noise Receptor	Allowed Construction Hours Noise Threshold	Demolition	Grading and Excavation	Trenching and Foundation	Water Tank Construction
1	80.0	70.8	69.9	59.9	66.3
2	80.0	75.4	73.8	64.0	70.3
3	80.0	**82.0**	78.9	69.6	74.6
4	80.0	77.2	76.4	65.3	72.4
5	80.0	79.3	**81.6**	68.9	78.8
6	80.0	76.2	78.9	67.7	76.0
7	80.0	78.4	**81.9**	72.3	78.9
8	80.0	77.7	**80.8**	72.8	78.6
9	85.0	80.2	81.3	73.7	79.6

Note: **Bold** text indicates an exceedance of the allowed construction hours noise threshold. The location of each receptor is shown on Figure 3.1-2.

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

Consistent with the thresholds for the drilling phase, the construction noise thresholds for construction activities during allowed hours in this phase would be 80 dBA as measured at surrounding residential properties and 85 dBA for the adjacent park facility property boundary during the daytime.

As shown in Table 3.1-5 above, maximum noise levels measured at the surrounding receptors would exceed the allowable 80 dBA at various residential receptor locations during demolition, grading, and excavation activities. The construction activities during this phase would not exceed the threshold at the park (see Receptor 9 in Table 3.1-5). Although the exceedance of the 80 dBA threshold at the various residential receptors is unlikely because construction equipment utilization varies and construction equipment is used intermittently during the workday, it is conservatively concluded as a significant impact.

Mitigation Measure:

MM NOI-1.3: **Ongoing Noise Monitoring and Implementation of Portable Acoustic Barriers:** During demolition, grading, excavation, trenching, and tank construction activities on-site, the project shall conduct ongoing noise monitoring to determine when the use of portable acoustic barriers is required to the prevent the exceedance of the applicable 80 dBA threshold as measured at surrounding sensitive receptors. If noise levels during these construction activities is measured within three dBA of the 80 dBA threshold at surrounding sensitive receptors, then portable acoustic barriers shall be installed between the noise generating equipment and the impacted sensitive receptor prior to initiating any additional noise generating construction activities.

With implementation of MM NOI-1.3, noise levels at the impacted surrounding receptors would be reduced by up to six dBA.[13] With strategic positioning of the portable acoustic barriers, even greater noise reduction could be achieved on-site. Therefore, the significant construction noise impact would be reduced to a less than significant level with implementation of MM NOI-1.3. **(Less than Significant Impact with Mitigation Incorporated)**

Operational Noise

Operational noise from the project would be generated primarily by the pump station's booster pump and pump motor that would be installed on-site. Periodic noise would also be generated by the diesel-powered emergency generator that would be installed. However, the emergency generator would only be operational during power outages or during bi-weekly testing where it would be run for approximately 30 minutes during daytime hours.

Operational Noise Without the Emergency Generator

For purposes of this analysis, the City has established an operational noise threshold of significance which would be exceeded if sound levels generated by the pump station without operating the emergency generator increase the existing ambient sound levels by five dBA or more, which is considered a readily perceptible change. Under normal operating conditions (i.e., without the emergency generator), the booster pump and pump motor required to operate the groundwater well would be the primary noise generating equipment on-site. The noise generated by this equipment compared to existing conditions is summarized in Table 3.-6 below.

Table 3.1-6: Operational Noise Levels Under Normal Operating Conditions (dBA)

Noise Receptor	Pump Station Operation Noise Level	Existing Short-Term Ambient Noise Level	Pump Station Operation Plus Ambient Noise	Increase Above Ambient Noise Level
1	33.9	56.4	56.4	0
2	39.0	56.4	56.5	0.1
3	42.0	54.0	54.3	0.3
4	35.8	58.1	58.1	0
5	37.6	48.2	48.6	0.4
6	38.9	48.2	48.7	0.5
7	37.1	48.4	48.7	0.3
8	44.3	48.4	49.8	1.4
9	46.7	48.4	50.6	2.2

Notes: **Bold** text indicates a readily perceptible increase in ambient noise level. The location of each receptor is shown on Figure 3.1-2. Because decibels are logarithmic units, noise levels cannot be added or subtracted by ordinary arithmetic means. For example, if one vehicle produces a noise level of 70 dBA when it passes an observer, two cars passing simultaneously would not produce 140 dB; they would combine to produce 73 dBA.

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

[13] Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report*. July 24, 2024. Page 37.

Generally, changes in sound level below three dBA are classified as barely perceptible changes and an increase in sound level of five dBA is classified as readily perceptible.[14] As shown in Table 3.1-6 above, the operation of equipment on-site under normal operating conditions would result in a minor increase in ambient noise level in the area that would be below the City's identified threshold of five dBA or more for increases in ambient sound levels.

In addition, the noise levels generated by the proposed equipment on-site would be below 50 dBA nighttime and 60 dBA daytime SMC standards for mechanical equipment (i.e., operational) noise at residential property lines. The proposed equipment on-site would also be below the 60 dBA nighttime and 70 dBA daytime SMC standard for mechanical equipment (i.e., operational) noise at non-residential property.

Therefore, under normal conditions, operation of the project would not result in a significant permanent increase in ambient noise levels in excess of standards established by City practice, the General Plan, SMC, or the Noise Ordinance. **(Less than Significant Impact)**

Impact NOI-2:	The project would not result in generation of excessive groundborne vibration or groundborne noise levels. **(Less than Significant Impact)**

Construction activities associated with the project may generate vibration when heavy equipment (e.g., jackhammers, hoe rams, drilling equipment) are used in proximity to existing buildings on surrounding properties. Construction activities would include demolition, site preparation, drilling, minor grading, construction, and paving. Consistent with past City practice, a significant vibration impact would occur if ground-borne vibration levels caused by construction activities exceed 0.25 ips at the nearest off-site structures during daytime hours. For the purposes of this analysis, a significant vibration impact would occur if ground-borne vibration levels caused by construction activities exceed 0.04 ips during nighttime hours, which is considered to be a perceptible level of vibration.

Drilling Activities

To determine potential vibration levels at the nearest sensitive receptor during drilling activities, modeling was completed. The vibration levels expected at the property line adjacent to the southwest corner of the site, which would be approximately 17 feet from the drilling equipment, are summarized in Table 3.1-7 below.

Table 3.1-7: Estimated Vibration Level During Drilling Activities

Construction Activity	Typical PPV at 100 feet (ips)	Distance to Nearest Receptor (feet)	Approximate PPV at Nearest Receptor
Drilling Equipment	0.0021	17	0.03

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

[14] Behrens and Associates, Inc. 800 Carlisle Way Well & Water Tank Project Noise Assessment Report. July 24, 2024. Table 2-1.

As shown in Table 3.1-7 above, vibration levels at the nearest adjacent property line would be below the daytime and nighttime thresholds of 0.25 and 0.04 ips, respectively, during drilling activities. Therefore, drilling activities would not result in a significant vibration impact to surrounding structures. **(Less than Significant Impact)**

Other Construction Activities

Estimated vibration levels at surrounding properties during the remaining construction activities (including demolition, site preparation, minor grading, construction, and paving) are summarized in Table 3.1-8 below.

Table 3.1-8: Estimated Vibration Level During Drilling Activities

Construction Activity	Typical PPV at 25 feet (ips)	Distance to Nearest Receptor (feet)	Approximate PPV at Nearest Receptor
Excavator	0.058	55	0.02
Hoe Ram	0.089	55	0.03
Jack Hammer	0.035	55	0.01
Dozer	0.089	55	0.03

Source: Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report.* July 24, 2024.

As shown in Table 3.1-8 above, operation of heavy equipment on-site during the remaining construction activities would not generate vibration levels exceeding the thresholds of 0.25 ips and 0.04 ips at adjacent properties. In addition, these construction activities would occur in the daytime during the City's normal, allowable construction hours. Therefore, other construction activities on-site would not result in a significant vibration impact to surrounding properties or structures. **(Less than Significant Impact)**

Impact NOI-3:	The project would not be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not expose people working in the project area to excessive noise levels. **(Less than Significant Impact)**

A significant noise impact would be identified if the project would expose people residing or working in the project area to excessive aircraft noise levels. The nearest airport to the project site is Moffett Federal Airfield, which is approximately four miles northwest of the site. While aircraft flyovers from Moffett Federal Airfield would at times be audible at the project site, the site is outside of the Airfield's 65 dBA CNEL noise contour area. Therefore, the project would not expose people working on-site to excessive noise levels. **(Less than Significant Impact)**

SECTION 4.0 GROWTH-INDUCING IMPACTS

Impact GRO-1:	The project would not foster or stimulate significant economic or population growth in the surrounding environment. **(Less than Significant Impact)**

Pursuant to the CEQA Guidelines, a project is considered to be growth inducing if it would "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment" (Section 15126.2[e]). This section of the EIR is intended to evaluate the impacts of such growth in the surrounding environment. Examples of projects likely to have significant growth inducing impacts include removing obstacles to population growth, for example extending or expanding infrastructure beyond what is needed to serve the project. Other examples of growth inducement include increases in population that may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

As discussed in Section 2.3 Project Objectives, the general intent of the project would be to replace the groundwater well that was previously operational on-site to improve water supply reliability in the service area. The need for this additional supply is based on anticipated interruptions to the water supply of Cal Water due to a planned maintenance project by Valley Water. Due to these anticipated interruptions, Cal Water needs an additional source of groundwater to address drought and fire concerns in the area while continuing to provide service to an existing urban area and accommodate future, planned growth in the population of the Los Altos Suburban service district.

Based on this discussion, the project would not foster or stimulate significant economic or unplanned population growth in the surrounding environment. **(Less than Significant Impact)**

SECTION 5.0 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

Pursuant to CEQA Guidelines Section 15126.2(d), an EIR must identify significant irreversible environmental changes that would be caused by the proposed project being analyzed. Significant irreversible changes include the 1) irreversible use and irretrievable commitments of nonrenewable resources, 2) commitment of future generations to similar use, 3) irreversible damage resulting from environmental accidents associated with the project.

5.1 IRREVERSIBLE USE AND IRRETRIEVABLE COMMITMENTS OF NONRENEWABLE RESOURCES

Implementation of the project would require the use and consumption of nonrenewable resources during construction and operation activities. Nonrenewable resources used would include fossil fuels, metals, concrete, and plastics. Renewable resources, such as lumber and energy from renewable sources (e.g., solar and wind), would also be used. As discussed in Appendix A, although the project would require the use of these energy sources during construction, it would implement measures consistent with mitigation measure LUTE DEIR MM 3.5.3 and mitigation measure MM AIR-3.1 to reduce the potential for energy waste. In addition, the project's operational energy needs for operating the pump station would be provided by SVCE, which is 100 percent greenhouse gas (GHG) emission free energy from renewable and hydroelectric sources.

The project would construct a groundwater well on-site to replace the well that was previously in service. Therefore, the project would result in the pumping of groundwater that would be used to supplement the supply of water available within and supplied to the service district. The service district encompasses the City of Los Altos and portions of Cupertino, Los Altos Hills, Mountain View, Sunnyvale and adjacent unincorporated areas of Santa Clara County. The service district delivers potable water to approximately 18,000 service connections and a population of approximately 70,000 customers.[15] However, without the project, Cal Water would still need to secure a supplementary source of groundwater to continue to meet water demand within the Los Altos Suburban service district. These alternative sources could include identifying an alternative site to construct a new well, increasing the amount of groundwater pumped from other operational wells, and/or implementing new water use restrictions for customers. For additional discussion regarding these potential project alternatives, see Section 7.2 Project Alternatives.

Construction activities on-site, including the initial production tests, would result in the discharge of raw water into the storm drain system. In addition, it is estimated that the project would extract a maximum amount of approximately 1,935 AF of groundwater per year, which would account for approximately 2.4 percent of the total annual amount pumped from the Santa Clara Subbasin. It is anticipated the project would extract a similar amount of groundwater as historically extracted before the prior well was capped. In addition, water is a renewable resource if properly managed and used responsibly. Valley Water has a successful history of managing groundwater levels in the Santa Clara Subbasin, and they would continue to manage groundwater to sustainable levels under project conditions.

[15] California Water Service. *2020 Urban Water Management Plan – Los Altos Suburban District*. June 2021. Pages 24 to 27.

Therefore, although the project would consume nonrenewable resources, it would not do so in a manner that would impact the sustainability level of those resources.

5.2 COMMITMENT OF FUTURE GENERATIONS TO SIMILAR USE

The project is the replacement of a groundwater extraction well that previously operated on-site from 1959 to 2016. The project would not preclude the site from being redeveloped with a different use in the future if the water production from the proposed groundwater well was no longer needed.

5.3 IRREVERSIBLE DAMAGE RESULTING FROM ENVIRONMENTAL ACCIDENTS

As discussed in this document and Appendix A, the project would be required to implement conditions of approval and mitigation measures to reduce the risk of environmental accidents. Implementation of these conditions of approval and mitigation measures would reduce any potential irreversible or nearly irreversible environmental changes to a less than significant level.

SECTION 6.0 SIGNIFICANT AND UNAVOIDABLE IMPACT

As discussed in Section 3.1 Noise under Impact NOI-1, the project would result in a new significant and unavoidable impact related to temporary construction noise levels during the drilling phase.

SECTION 7.0 ALTERNATIVES

CEQA requires that an EIR identify alternatives to a project as it is proposed. The CEQA Guidelines specify the EIR should identify alternatives which "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." The purpose of the alternatives discussion is to determine whether there are alternatives of design, scope, or location which would substantially lessen the significant impacts, even if those alternatives "impede to some degree the attainment of the project objectives" or are more expensive (CEQA Guidelines Section 15126.6).

In order to comply with the purposes of CEQA, it is important to identify alternatives that reduce the significant impacts anticipated to occur if the project is implemented and try to meet as many of the project's objectives as possible. The CEQA Guidelines emphasize a commonsense approach – the alternatives should be reasonable, "foster informed decision making and public participation," and focus on alternatives that avoid or substantially lessen the significant impacts. The range of alternatives selected for analysis is governed by the "rule of reason" which requires the EIR to discuss only those alternatives necessary to permit a reasoned choice. An EIR is not required to consider alternatives which are infeasible.

The two critical factors to consider in selecting and evaluating alternatives are, therefore: (1) the significant impacts from the proposed project which could be reduced or avoided by an alternative, and (2) the project objectives. These factors are discussed below.

7.1 FACTORS IN SELECTING AND EVALUATING ALTERNATIVES

7.1.1 Significant and Unavoidable Impact of the Project

As explained above, the CEQA Guidelines state an alternatives analysis in an EIR should be limited to alternatives that are feasible and would avoid or substantially lessen any of the significant effects of the project and achieve most of the basic project objectives. The project would result in a significant and unavoidable impact due to the construction noise levels generated by drilling activities on-site (see Impact NOI-1 in Section 3.1 Noise).

7.1.2 Project Objectives

Pursuant to CEQA Guidelines Section 15124, the EIR must include a statement of objectives sought by the proposed project. While CEQA does not require that alternatives must be capable of meeting all of the project objectives, their ability to meet most of the basic objectives is considered relevant to their consideration. As identified in Section 2.3 Project Objectives, the objectives for the project are as follows:

1. **Replace a critical Cal Water supply well that was previously destroyed on-site due to its age.** Santa Clara Valley Water District (Valley Water) is planning a 10-year Pipeline Inspection and Rehabilitation project that will take significant portions of its supply system down over a phased period. These planned shutdowns started in 2021 and are expected to extend until 2028. During the Valley Water project, Cal Water expects interruptions to the supply system between 2023 to 2026. These interruptions in supply would remove the

emergency supply for Cal Water, and would increase the risk in supply shortfalls if an emergency or a break in a mainline were to occur.

This well would provide potable water to Cal Water's Los Altos Suburban service district which encompasses the City of Los Altos and portions of Cupertino, Los Altos Hills, Mountain View, Sunnyvale and adjacent unincorporated areas of Santa Clara County. The service district delivers potable water to approximately 18,000 service connections (approximately 2,000 of which are located in Sunnyvale) and a population of approximately 70,000 customers.[16] Acquiring new property in the Los Altos Suburban service district is difficult, therefore, constructing the replacement well on a property that Cal Water already owns is preferable. In addition, the former well on-site produced good yields and the site is already connected to Cal Water's existing distribution system infrastructure. Therefore, drilling and installing a replacement well on-site is an expeditious and cost-effective solution to adding additional water supply to the Los Altos Suburban service district.

2. **Upgrade Cal Water's aged infrastructure in the Los Altos Suburban service district with a new well and water tank to maximize and improve the reliability of the water supply in the area.** Of the 20 groundwater wells operated by Cal Water in the Los Altos Suburban service district, 16 were installed before 1970 and are near the end of their anticipated service life. Aging infrastructure is at a higher risk to experience potential failures, including water quality issues, mechanical equipment failure, or structural issues in the well.

3. **Address potential drought emergency in the County of Santa Clara by generating an additional source of groundwater.**

4. **Address fire risk in the area generating an additional source of groundwater in the area that can be used in emergency scenarios.**

7.1.3 Feasibility of Alternatives

CEQA, the CEQA Guidelines, and case law interpreting CEQA and the CEQA Guidelines have found that feasibility can be based on a wide range of factors and influences. The CEQA Guidelines state that such factors can include (but are not limited to) the suitability of an alternate site, economic viability, availability of infrastructure, consistency with a general plan or with other plans or regulatory limitations, jurisdictional boundaries, and whether the project proponent can "reasonably acquire, control, or otherwise have access to the alternative site (Section 15126.6[f][1]).

7.2 PROJECT ALTERNATIVES

7.2.1 Project Alternatives Considered but Rejected

Several alternatives were considered for the proposed project and subsequently rejected from further analysis due to their infeasibility. These alternatives considered but rejected for further analysis are described below.

[16] California Water Service. *2020 Urban Water Management Plan – Los Altos Suburban District*. June 2021. Pages 24 to 27.

7.2.1.1 *Alternative Equipment Type or Drilling Method*

The first alternative that was considered but subsequently rejected, was one that would utilize alternative construction equipment types that could potentially generate less construction noise during the continuous drilling activities on-site. This potential alternative was rejected from further analysis as there were no known alternative equipment types (e.g., electric, lower horsepower, etc.) or equipment that would be capable of being used for the proposed drilling and construction activities. The project would utilize the reverse rotary drilling method during the well drilling process. According to Cal Water, who has expertise in drilling and installing water wells, the machinery required for this drilling method is standard and quieter models using alternative fuels or lower horsepower are not available. Other drilling methods such as the air rotary, cable tool, bucket auger, downhole, mud rotary, and direct rotary drilling methods are not to be as effective or efficient as the reverse rotary drilling method. Therefore, there are no alternative drilling methods suitable for the proposed project that would reduce noise or time required to reach the target depth, and this alternative was not considered feasible.

7.2.1.2 *Alternative Construction Schedule*

The second potential alternative that was considered but subsequently rejected would utilize a different construction schedule to avoid continuous drilling activities during the nighttime. However, as discussed in Section 2.2.3.9, continuous operation of construction equipment during the two drilling phases reduces the risk of borehole collapse and damage to construction equipment. If the project were to start and stop the drilling process multiple times to avoid drilling activities during the nighttime, the likelihood of the borehole collapsing would increase, which would increase the risk of equipment getting stuck in the borehole and compromising the site for future use as a groundwater extraction site. Pausing drilling activities each night would also extend the overall drilling phase of project construction, which would likely double the length of daytime drilling required. Therefore, this alternative was not considered feasible.

7.2.1.3 *Desalination Plant Alternative*

During the scoping meeting that was held on February 16, 2023, public input was received that suggested considering alternative utility infrastructure such as a saltwater desalination plant that could be used to supplement the available water supply for the Los Altos Suburban service district instead of the proposed well. This alternative would not be feasible, as it would not meet any of the basic objectives of the project, including Objective 2 as it would not be located within the Los Altos Suburban service district. In addition, construction and operation of desalination plants generally results in substantial impacts to multiple resources areas including air quality, biological resources, energy, and GHG emissions which may not be mitigable to less than significant levels.[17, 18] Therefore, it is likely that this alternative would result in greater impacts than the project. In addition, Cal Water is not in the desalination business. For these reasons, this alternative was considered but rejected.

[17] San Diego County Water Authority. *Supplement to the Precise Development Plan and Desalination Plant Project Final Environmental Impact Report (EIR 03-05). SCH#2004041081 and 2015091060*. August 2016.
[18] South Coast Water District. *Doheny Ocean Desalination Project Draft Environmental Impact Report.* SCH# 2016031038. May 17, 2018.

7.2.1.4 *Alternative Wholesale Water Suppliers*

One of the primary project objectives is to restore a source of groundwater that was previously active on-site in order to offset the potential shortfalls in supply from Valley Water over the next several years. Instead of constructing a replacement well on-site, an alternative was considered that would secure an alternative wholesale supplier for groundwater or utilize a different source of groundwater to supplement the overall groundwater supply available to Cal Water. The only alternative wholesale supplier with infrastructure in the region is the San Francisco Public Utilities Commission (SFPUC). However, according to Cal Water, given that the Los Altos Suburban service district is a private utility company and the SFPUC's existing contracts with other entities, Cal Water is unable to contract with the SFPUC to purchase groundwater. Therefore, Valley Water is the only wholesale supplier available to Cal Water and Valley Water is not a viable option to obtain additional water supply because they have projected shortfalls. For these reasons, this alternative was considered but rejected as infeasible.

7.2.1.5 *Alternative On-Site Well Location*

As discussed in Section 2.2.2, the proposed location of the well on-site was determined based on the separation requirements from the previously decommissioned well on-site and from sanitary sewer lines in the vicinity. In addition, the location of the proposed well would allow for necessary equipment to be installed in compliance with the City's property line setback requirements in order to minimize impact to neighboring properties. The City's required setbacks for this site are four-foot side setbacks (combined side setbacks must be a minimum 20 percent of the lot width or 10 feet, whichever is greater) and 20-foot rear and front yard setbacks. The proposed well would also need to be set back 50 feet from the old well location on-site and the sanitary sewer lines that are below the public right-of-way in Carlisle Way. Therefore, based on the restrictions in place and the need to accommodate the water tank on-site, the proposed location on-site is the only one that would work for the project, and no alternative on-site location would be feasible.

7.2.1.6 *Alternative Off-Site Well Location*

An alternative site may be considered when impacts of the project might be avoided or substantially lessened, and the project proponent can feasibly attain control of the site. Only alternative locations that would avoid or substantially lessen any of the significant effects of the project and meet most of the basic project objectives need to be considered for inclusion in the EIR (CEQA Guidelines Sections 15126.6(f) and 15126.6(f)(2)(A)). Cal Water does not currently have any alternative off-site properties that are viable for a new groundwater extraction well within the Los Altos Suburban service district, and the City does not have any similarly sized parcels of surplus land that could be used in exchange for the project site. For these reasons, an alternative off-site location was considered but rejected for further analysis.

7.2.2 Selected Alternatives

7.2.2.1 *No Project/No Redevelopment*

The CEQA Guidelines specifically require consideration of a "No Project" Alternative. The purpose of including a No Project Alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. The Guidelines specifically advise that the No Project Alternative is "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." The Guidelines emphasize that an EIR should take a practical approach, and not "…create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment (Section 15126.6[e][3][B])."

Under the No Project/No Redevelopment Alternative, the site would remain as it is today and continue to contain the old chemical storage buildings, inactive booster pump, and cellular communication tower.

Comparison of Environmental Impacts

Direct Impacts

Because the No Project/No Redevelopment Alternative would not result in changes to the existing conditions at the project site, this alternative would avoid the project's significant and unavoidable noise impact related to continuous construction activities on-site, as well as avoid all other less than significant impacts (including those from operational noise and those disclosed in Appendix A).

Indirect Impacts

The No Project/No Redevelopment Alternative, however, would have indirect impacts elsewhere as Cal Water would still need to secure a supplementary source of groundwater to continue to meet demand within the service area. For example, without the project, Cal Water may undertake a separate process to identify an alternative site to construct a new well. As explained in Section 7.2.1.6, an alternative off-site well location was considered but reject for further analysis because neither Cal Water or the City currently have control over an alternative site within the City or Los Altos service district. Therefore, it would be speculative to analyze an off-site well location alternative. However, if an alternative location was required, Cal Water has explained that a multi-year search for an appropriate site would likely ensue and the acquisition of a new site would have economic implications for Cal Water and its customers related to the cost of land that would not occur with the proposed project. Most of Cal Water's existing facilities are located within residential neighborhoods similar to the area surrounding the project site. It is likely that any new sites identified for acquisition would be in similar, developed areas. Therefore, the impacts discussed in this EIR and the Initial Study (Appendix A) may not be entirely avoided because they could occur in a similar residential area elsewhere in the service district and require a similar scale and duration of construction activity to reach groundwater depths with comparable yields to the proposed project site. Cal Water may also need to implement new water use restrictions for customers to offset the loss of available groundwater supply.

Without the proposed project, Cal Water may alternatively need to increase the amount of groundwater being pumped from other active well locations in the service district. According to Cal Water, active wells are designed and managed to produce maximum, sustainable yields. To increase that maximum yield from other active wells, infrastructure improvements may be required. As mentioned previously, most of Cal Water's existing well facilities are located in existing residential neighborhoods. Constructing infrastructure improvements to increase yields at existing wells, therefore, would expose existing residents in those locations to construction-related effects. In addition, according to Cal Water, over pumping active wells may increase the amount of sand pumped up into the well, which could accelerate the deterioration of the existing well casings. If the rate of infrastructure deterioration is increased at other existing well locations, then the operational lifespan of these active wells could be reduced. In which case, Cal Water may need to acquire new property (or properties) within the Los Altos Suburban service district to drill a new well (or wells) to compensate for the reduction in available groundwater. As discussed above, drilling additional wells at alternative locations could result in similar impacts as identified in this EIR and the Initial Study, but at different locations within the service district. Therefore, the impacts discussed in this EIR and the Initial Study for the project would not be entirely avoided.

Relationship to Project Objectives

The No Project/No Redevelopment Alternative would not meet any of the project objectives because it would not: replace the Cal Water supply well on-site (Objective 1), upgrade Cal Water infrastructure (Objective 2), or provide an additional source of water to address drought concerns or fire risk in the area (Objectives 3 and 4).

Conclusion

The No Project/No Redevelopment Alternative would avoid the project's impacts but would not meet any of the project objectives. In addition, the No Project/No Redevelopment Alternative could result in indirect impacts of the same magnitude as the proposed project in other areas within the service district as Cal Water would implement different strategies to secure additional groundwater supplies.

7.2.2.2 *No Project/Redevelopment*

Although Cal Water says it is unlikely, it is possible that Cal Water could sell the site if the proposed project did not move forward. The No Project/Redevelopment Alternative assumes that, if the proposed project were not approved, the site could be sold by Cal Water and redeveloped according to the existing General Plan designation and zoning for the site. As discussed in Section 2.1.6, the General Plan land use designation for the project site is Low Density Residential, which allows a maximum development intensity of zero to seven du/ac. The site has a zoning designation of R0/S (low-density residential) which primarily allows for the construction, use, and occupancy of no more than seven du/ac with the added requirement that the residences maintain the single-story character of the surrounding neighborhood. Other uses permitted in this zoning district include small-scale care facilities, small-scale boarding homes, and public parks and playgrounds. Additional uses such as agricultural facilities, primary and high schools, private parks, administrative offices, medical clinics, and public utility buildings and service facilities are allowed with a Use Permit.

If the site were to be sold, this alternative assumes future redevelopment on-site would be consistent with the surrounding neighborhood of low-density single-family residences. Based on the size of the project site and City development requirements, the site could theoretically support the development of four single-family residences. However, this redevelopment potential may be constrained by the requirements of the existing lease for the communication tower on-site. For the purposes of this analysis, it is assumed up to four single-family residences would be constructed on-site of similar scale and character of existing residences in the surrounding neighborhood, which are primarily single-story residences.

Comparison of Environmental Impacts

Direct Impacts

Construction of single-story residences would not require the drilling activities proposed by the project on-site; therefore, the project's significant and unavoidable noise impact would be avoided in this alternative. This alternative redevelopment would be required to comply with Chapter 16.08 of the SMC which limits construction activity to daytime hours. Construction of single-story residences on-site would still require noise-generating equipment, and it is possible the proximity of this equipment to surrounding residences during construction activities could result in temporary construction noise impacts. Therefore, it is possible that construction activities could still result in temporary significant noise impacts that would need to be mitigated, similar to the proposed project, though to a less than significant level.

Since redevelopment of the site with residential uses would also involve demolition and construction on the project site, this alternative would result in similar impacts as the proposed project to agriculture and forestry resources, cultural resources, geology and soils (and specifically a lesser, direct impact on subsidence), land use and planning, mineral resources, tribal cultural resources, and wildfire.

Based on environmental review completed for comparably sized residential projects in the region, the construction health risk effects and construction criteria pollutant emissions from this alternative would be less than significant (and lower than those of the proposed project) and the operational criteria air pollutants from this alternative would be below the Bay Area Air District (Air District) screening criteria (and therefore, less than significant). This alternative, like the project, would also still be required to implement mitigation measure LUTE DEIR MM 3.5.3 during construction. Therefore, this alternative would result in lesser air quality impacts compared to the proposed project; however, the impact conclusion would still be the same as the project – less than significant with mitigation incorporated.

The proposed project's GHG impacts were evaluated in the Initial Study based on Air District thresholds of significance adopted for stationary sources and were found to be less than significant. Under this alternative, the potential GHG impacts associated with the construction of four residences would be evaluated based on the Air District thresholds adopted for land use projects. It is assumed that the development under this alternative would adhere to the Air District's adopted thresholds by complying with the City's Reach Code, including off-street electric vehicle requirements in compliance with CALGreen Tier 2 standards, and achieving a reduction in project-generated vehicle miles traveled (VMT) that is 15 percent below the existing VMT per capita. In addition, it is assumed

that this alternative would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and would comply with applicable Climate Action Playbook's strategies and relevant General Plan policies. In addition, this alternative (like the project) would also implement mitigation measure LUTE DEIR MM 3.5.3 to limit GHG emissions during construction. Therefore, this alternative would result in less than significant GHG impacts with mitigation incorporated, which is the same impact conclusion identified for the proposed project.

Although this alternative would look substantially different than the proposed project, this alternative would comply with SMC Chapter 19.88 and General Plan Policies LT-4.3 and CC-1.3 by undergoing the City's design review process and complying with SMC Chapters 13.16 and 19.94 by replacing any trees removed during construction activities. Therefore, impacts related to aesthetics and biological resources would be the same (i.e., less than significant) as the proposed project.

The residential uses in this alternative would not include chemical storage tanks or a diesel-powered emergency generator, however, small amounts of common household hazardous materials (e.g., paints, fuel, cleaners) would be stored appropriately consistent with the requirements of SMC Chapter 16.52. Therefore, impacts related to hazards and hazardous materials would be similar to or less than the proposed project.

This alternative would result in additional residents on-site that would result in an incremental increase in population and demand for public services, recreational facilities, and utilities and service systems. However, the number of residents that would be generated by four new residences would not be substantial, therefore, the impacts would not be significant. Similarly, although this alternative would generate more vehicle trips and VMT than the proposed project, it is assumed the construction of four residences would only generate approximately 40 daily trips.[19] Therefore, this alternative would be assumed to result in less than significant transportation impacts, consistent with the screening criteria in the City's Transportation Analysis Guidelines, resulting in the same less than significant conclusion as the proposed project.

Unlike the project, which would increase the supply of groundwater available to meet demand for existing and planned development, this alternative would increase the demand for water supply. The nominal increase in water demand from this alternative would not have a substantial effect on the supporting utilities and service systems. This alternative, therefore, would result in the same less than significant impact conclusion as the project. This alternative would use substantially less groundwater than the proposed project and would comply with the same regulations regarding stormwater runoff; therefore, impacts to hydrology and water quality would be less than the proposed project, but still less than significant.

Indirect Impacts

Like the No Project/No Redevelopment Alternative, the No Project/Redevelopment Alternative would likely result in indirect impacts elsewhere as Cal Water would still need to secure a supplementary source of groundwater to continue to meet demand within the service area. Similar to

[19] Project trips were estimated using the Institute of Transportation Engineers (ITE) trip generation rates of 10 daily trips per dwelling unit, 0.7 AM peak-hour trips per dwelling unit, and 0.94 PM peak-hour trips per dwelling unit (Single-Family Detached Housing Land Use 210). Source: Institute of Transportation Engineers. *ITE Trip Generation Manual, 11th Edition*. 2021.

the discussion in Section 7.2.2.1, the impacts associated with the proposed project would be avoided or reduced on-site under the No Project/Redevelopment Alternative; however, they would likely be shifted to an alternative location as Cal Water could acquire an alternative off-site location to drill a new well and/or conduct infrastructure upgrades at other existing well locations to increase yield from other active wells. Therefore, the impacts discussed in this EIR and the Initial Study for the project would not be entirely avoided. The indirect impacts of this alternative are the same as disclosed in Section 7.2.2.1 for the No Project/No Redevelopment alternative.

Relationship to Project Objectives

The No Project/Redevelopment Alternative would not meet any of the project objectives because it would not: replace the Cal Water supply well on-site (Objective 1), upgrade Cal Water infrastructure (Objective 2), or provide an additional source of water to address drought concerns or fire risk in the area (Objectives 3 and 4).

Conclusion

The No Project/Redevelopment Alternative would avoid the project's significant and unavoidable construction noise impact and result in similar impacts to other resources. This alternative could result in marginally fewer construction criteria pollutant and GHG emissions and lesser effects on subsidence than the proposed project. This alternative, however, would not meet any of the project objectives. In addition, the No Project/Redevelopment Alternative would result in indirect impacts of similar magnitude as the proposed project in other areas within the service district as Cal Water would implement different strategies to secure additional groundwater supplies.

7.2.2.3 *Shallower Well Depth On-Site*

In order to reduce the significant and unavoidable noise impact related to continuous drilling activities on-site, a possible alternative could be to reduce the target depth of the groundwater well to reduce the amount of time that drilling would occur on-site. For the purposes of this analysis, it is assumed that the shallower well depth under this alternative would be approximately 600 feet bgs, as opposed to the 1,000 feet bgs for the proposed project. All other components of the proposed project, including the pump station, water storage tank, driveway, and landscaping improvements would remain the same under this alternative.

Comparison of Environmental Impacts

Direct Impacts

Drilling a shallower well under this alternative would reduce the amount of time that the drilling equipment would be operating on-site during construction activities. It is speculative to predict precisely how much drilling time would be reduced by drilling to a depth of 600 feet bgs instead of 1,000 feet bgs given the unknown lithology under the proposed well location; however, it is likely that the required drilling time would be reduced by several days compared to the proposed project. However, the drilling activities under this alternative would still be required to be conducted continuously for 24 hours a day (to prevent borehole collapse and damage to the construction equipment, as described in Section 7.2.1.2 Alternative Construction Schedule), and would likely still occur over the course of several weeks. Therefore, although the duration of the significant and

unavoidable noise impact would be reduced compared to the proposed project, this alternative would not avoid the significant and unavoidable noise level resulting from the continuous drilling activities on-site.

Because this alternative would still include drilling a new groundwater extraction well and constructing the associated infrastructure on-site, impacts to aesthetics, agriculture and forestry resources, biological resources, cultural resources, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire would be the same as those of the proposed project.

The slightly reduced drilling time under this alternative would shorten the overall construction timeframe, which would result in marginally lower criteria air pollutant and GHG emissions during construction. Like the project, this alternative would also be required to implement mitigation measure LUTE DEIR MM 3.5.3 during construction. Operational criteria pollutant emissions associated with the testing of the emergency generator would remain the same. Therefore, this alternative would result in reduced construction air quality impacts, but the overall air quality impact would remain less than significant with mitigation incorporated.

As discussed in Section 2.2.3.10 Construction, the target depth of 1,000 feet bgs for the proposed project was based on the data collected during operation of the previous well on-site. This depth on-site is proven to provide a certain groundwater yield and water quality level based on decades of collected data. Therefore, drilling a shallower well of 600 feet bgs on-site would introduce a level of risk and uncertainty related to the water quality and quantity compared to depth of the proposed (as well as previous) well. Under this alternative, it is possible that the well would be at a depth with a high level of clay in the lithology which would increase the amount of energy required to pump groundwater up into the well. If this were to occur, this alternative could result in higher operational energy use and GHG emissions compared to the proposed project, though the impact would likely be less than significant, similar to the proposed project. If the shallower well in this alternative were to be constructed, this would likely reduce the amount of groundwater pumped from the aquifers below the site, which would reduce potential geology and soils and hydrology and water quality impacts compared to the proposed project. However, these impacts would remain less than significant, which is the same as the proposed project.

Indirect Impacts

Drilling to and pumping from a shallower aquifer could also result in well that would produce a lower groundwater yield or worse water quality than the proposed project since there is no data to confirm that a depth of 600 feet bgs would provide a long-term source of contaminant-free groundwater for the service district. It is possible that this shallower well would be less successful than the proposed project, which could result in the same indirect impacts associated with drilling alternative wells elsewhere as discussed under Section 7.2.2.1 No Project/No Redevelopment.

Relationship to Project Objectives

The Shallower Well Depth Alternative would meet all of the project objectives because it would: replace the Cal Water supply well on-site (Objective 1), upgrade Cal Water infrastructure (Objective 2), and provide an additional source of water to address drought concerns or fire risk in the area (Objectives 3 and 4). However, it would meet these alternatives to a lesser extent than the proposed project because the shallower well depth would introduce additional risk to the project and could result in an unsuccessful groundwater extraction on-site if the depth of 600 feet bgs proves to result in contaminated groundwater or water that is more energy-intensive to extract.

Conclusion

The Shallower Well Depth Alternative would lessen, though not avoid, the project's significant and unavoidable construction noise impact because it would still require continuous drilling activities over several weeks. In addition, it would mostly result in similar less than significant or no impact to other environmental resource areas and could also potentially reduce construction air quality and GHG impacts and operational geology and soils and hydrology and water quality impacts. In addition, this alternative could result in indirect impacts of similar magnitude as the proposed project in other areas within the service district as Cal Water may need to implement different strategies to secure additional groundwater supplies if the shallower water well is not successful. This alternative would meet all four project objectives; however, it would meet them at a lesser extent than the proposed project.

7.2.3 Environmentally Superior Alternative

The impact determinations listed in Table 7.2-1 below for each of the selected alternatives were identified based on the direct impacts that would occur either on-site or directly adjacent to the site. However, as discussed above in Section 7.2.2 Selected Alternatives, the three selected alternatives could result in indirect impacts to other residential neighborhoods within the Los Altos Suburban service district because Cal Water would still need to secure a supplementary groundwater source to meet water demand. These potential indirect impacts are discussed above in Section 7.2.2 Selected Alternatives; however, they are not captured in Table 7.2-1 below.

Table 7.2-1: Impact Comparison for Project and Alternatives

	Proposed Project	No Project/No Redevelopment	No Project/ Redevelopment	Shallower Well Depth On-Site
Direct Impacts				
Noise	SU	**NI**	**LTSM**	SU
Aesthetics	LTS	**NI**	LTS	LTS
Agriculture and Forestry Resources	NI	NI	NI	NI
Air Quality	LTSM	**NI**	**LTSM**	**LTSM**
Biological Resources	LTSM	**NI**	LTSM	LTSM
Cultural Resources	LTSM	**NI**	LTSM	LTSM
Energy	LTS	**NI**	LTS	LTS
Geology and Soils	LTSM	**NI**	**LTSM**	**LTSM**
Greenhouse Gas Emissions	LTSM	**NI**	LTSM	LTSM
Hazards and Hazardous Materials	LTS	**NI**	**LTS**	LTS
Hydrology and Water Quality	LTS	**NI**	**LTS**	**LTS**
Land Use and Planning	LTS	**NI**	LTS	LTS
Mineral Resources	NI	NI	NI	NI
Population and Housing	LTS	**NI**	LTS	LTS
Public Services	LTS	**NI**	LTS	LTS
Recreation	LTS	**NI**	LTS	LTS
Transportation	LTS	**NI**	LTS	LTSM
Tribal Cultural Resources	LTS	**NI**	LTS	LTS
Utilities and Service Systems	LTS	**NI**	LTS	LTS
Wildfire	NI	NI	NI	NI
Indirect Impacts	NI	SU	SU	SU
Would the project objectives be met?				
Objectives 1, 2, 3, and 4	Yes	No	No	Yes, but to a lesser extent

Bold text indicates an environmentally superior impact compared to the proposed project

NI = No Impact; LTS = Less than Significant Impact; LTSM = Less than Significant Impact with Mitigation Incorporated; SU = Significant and Unavoidable Impact

The CEQA Guidelines state that an EIR shall identify an environmentally superior alternative. Based on the discussion of project alternatives, considering only the direct impacts of the alternatives, the environmentally superior alternative to the project is the No Project/No Redevelopment Alternative because it would avoid the project's significant environmental impacts. CEQA Guidelines Section 15126.6(e)(2) states that "[i]f the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

Therefore, in addition to the No Project/No Redevelopment Alternative, the No Project/Redevelopment Alternative would be the environmentally superior alternative to the project when only considering direct impacts as it would avoid the project's significant and unavoidable construction noise impact and result in lesser impacts to air quality, geology and soils, hazards and hazardous materials, and hydrology and water quality than the proposed project.

However, as discussed in Section 7.2.2 Selected Alternatives, both of the above identified alternatives would result in indirect impacts of the same magnitude as the proposed project to other residential neighborhoods within the Los Altos Suburban service district because Cal Water would still need to secure a supplementary groundwater source to meet water demand.

SECTION 8.0 REFERENCES

The analysis in this Environmental Impact Report is based on the professional judgement and expertise of the environmental specialists preparing this document, based upon review of the site, surrounding conditions, site plans, and the following references:

Behrens and Associates, Inc. *800 Carlisle Way Well & Water Tank Project Noise Assessment Report*. July 24, 2024.

California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. April 2020.

California Water Service. *2020 Urban Water Management Plan – Los Altos Suburban District*. June 2021.

City of Sunnyvale. *800 Carlisle Way Well & Water Tank Initial Study*. SCH# 2023020080. October 2024.

---. *Land Use and Transportation Element Final Environmental Impact Report*. SCH# 2012032003. January 2017.

---. *Sunnyvale General Plan*. July 26, 2011.

NSF International. "NSF/ANSI Standard 60: Drinking Water Treatment Chemicals – Health Effects" January 2017. Accessed June 19, 2024. https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects.

Santa Clara County Airport Land Use Commission. *Moffett Federal Airfield – Comprehensive Land Use Plan*. Amended November 2016.

Personal Communication

- Luis Zamudio, Assistant Engineer, California Water Service.

SECTION 9.0 LEAD AGENCY AND CONSULTANTS

9.1 LEAD AGENCY

City of Sunnyvale
Department of Community Development
- Trudi Ryan, Community Development Director
- Noren Caliva Lepe, Principal Planner
- Mary Jeyaprakash, Senior Planner

9.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners
- Kristy Weis, Vice President/Principal Project Manager
- Nick Towstopiat, Assistant Project Manager
- Ryan Osako, Graphic Artist

Archaeological/Historical Consultants
Archaeological Consultants
- Daniel Shoup, Principal/Owner
- Molly Fierer-Donaldson, Archaeologist

Cornerstone Earth Group, Inc.
Hazardous Materials Consultants
- Ron Helm, C.Hg., C.E.G, Senior Principal Geologist
- Stason Foster, Project Engineer

Geotechnical Consultants
- Jennifer Campbell, P.E.
- Matthew Schaffer, P.E. G.E.

EKI Environment & Water
Hydrology Consultants
- Anona Dutton, P.G., C.Hg.
- Sarah Hodson, P.E.
- Patrick O'Connell, P.G., C.Hg.

KYLE Groundwater, Inc.
Groundwater Consultants
- Russell J. Kyle, PG, CHG

Illingworth & Rodkin, Inc.
Acoustical and Air Quality Consultants
- Michael Thill, Principal
- James Reyff, Principal
- Casey Divine, Consultant
- Jordyn Bauer, Staff Consultant

Urban Tree Management, Inc.
Arborists
- Chris Stewart, Arborist
- Michael Young, Arborist

ACRONYMS AND ABBREVIATIONS

bgs	Below Ground Surface
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CLUP	Comprehensive Land Use Plan
dBA	Decibels A
DU/AC	Dwelling Units Per Acre
EIR	Environmental Impact Report
FAR	Floor Area Ratio
FTA	Federal Transit Administration
ips	Inches per second
MND	Mitigated Negative Declaration
NOD	Notice of Determination
NOP	Notice of Preparation
PPV	Peak Particle Velocity
RWQCB	Regional Water Quality Control Board
SMC	Sunnyvale Municipal Code
STC	Sound Transmission Class
USFWS	United States Fish and Wildlife Service
Valley Water	Santa Clara Valley Water District