Draft Initial Study Proposed Mitigated Negative Declaration for the Construction of Fire Station Well No. 38



December 2019

Lead Agency:

City of Santa Clara 1500 Warburton Ave Santa Clara, CA 95050

TABLE OF CONTENTS

TABLE OF CONTENTS	I
LIST OF TABLES	
LIST OF FIGURES	
APPENDICES	
1. PROJECT CONTACTS AND INFORMATION	1
GENERAL PLAN DESIGNATION AND ZONING	1
PROJECT LOCATION	1
2. PROJECT DESCRIPTION	3
2.1 ENVIRONMENTAL SETTING	3
2.1.1 GROUNDWATER SOURCE AND WATER QUALITY	
2.1.2 CITY OF SANTA CLARA MUNICIPAL WATER SYSTEM	4
2.1.3 PROPOSED WELL SITE	4
2.2 PROPOSED WELL DESIGNS	6
2.2.1 FIRE STATION NO. 5 WELL	6
2.2.3 Well Development and Testing	8
2.2.4 CONSTRUCTION	9
OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED.	
3. DETERMINATION	12
	10
EVALUATION OF ENVIRONMENTAL IMPACTS	
4. ENVIRONMENTAL CHECKLIST	14
	1/
4. BIOLOGICAL RESOLIECES	
5. CULTURAL RESOURCES	24
6. Energy	
7. GEOLOGY AND SOILS	
8. GREENHOUSE GAS EMISSIONS	
9. HAZARDS AND HAZARDOUS MATERIALS	
10. Hydrology and Water Quality	
11. Land Use and Planning	
12. MINERAL RESOURCES	
13. Noise	
14. POPULATION AND HOUSING	
15. Public Services	
16. RECREATION	
17. TRANSPORTATION	

18. TRIBAL CULTURAL RESOURCES	47 40
19. OTICITIES AND SERVICE SYSTEMS 20. WILDFIRE	48 50
4. MANDATORY FINDINGS OF SIGNIFICANCE	52
5. PREPARERS AND REFERENCES	53
Report Preparation	53
References	53
6. ACRONYMS AND ABBREVIATIONS	56
APPENDICES	58
LIST OF TABLES	
Table3.1: Standards and Attainment Status for Criteria Pollutants	18
Table 3.2: Total Construction and Operational Emissions for the proposed project and the associated BAAQMD thresholds.	20
LIST OF FIGURES	
Figure 1 Fire Station No. 5 Project Location	.2
Figure 2 Fire Station No. 5 Preliminary Site Layout	.5
Appendices	

Appendix A: CalEEMod Outputs

1. PROJECT CONTACTS AND INFORMATION

This Project Information, Description, and Environmental Checklist contained herein constitute the contents of an Initial Study in accordance with Section 15063 of the California Environmental Quality Act (CEQA) Guidelines:

Project Title:	Construction of Fire Station Well No 38
Lead Agency Contact and Address:	City of Santa Clara 1500 Warburton Ave Santa Clara, CA 95050
Project Sponsor's Name and Address:	City of Santa Clara 1500 Warburton Ave Santa Clara, CA 95050
Contact Person and Phone Number:	Nelson Lui, P.E. (408) 615-2000 Utility Operations Engineer City of Santa Clara Water & Sewer Utilities 1500 Warburton Avenue Santa Clara, CA 95050

General Plan Designation and Zoning:

• Fire Station No. 5: B-Public or Quasi-public, Very Low Density Residential

Project Location:

Refer to Figure 1, Fire Station No. 5 Location Map.

Fire Station No. 5 (APN 220-30-012) 1912 Bowers Avenue, Santa Clara, CA 95051

The proposed well No 38 at Fire Station No. 5 is located in Section 04, Township 07S, Range 01W of the San Jose U.S. Geological Survey (USGS) 7.5-minute quadrangle. More specifically, the proposed project site is located in the central portion of the City of Santa Clara west of the San Thomas Expressway and North of the El Camino Real on Bowers Avenue. The proposed well drilling and site improvement would be constructed near the southern end of an approximate 26,600 square foot lot. The Longitude and Latitude of the site is 37°21′29.0″ N 121°58′39.9″ W.



The proposed project is the installation of a municipal groundwater production well for the purpose of drinking water supply. The City has abandoned eight wells in the past, the new well installation will serve as replacement to augment the lost supply that was once provided by those abandoned wells. The City of Santa Clara has identified the Fire Station No. 5 site, out of a total of seven potential sites. Site-specific investigations included test hole drilling and monitoring to evaluate water quality and estimate well yield, and develop preliminary site layouts to determine project feasibility.

2.1 ENVIRONMENTAL SETTING

2.1.1 Groundwater Source and Water Quality

The City of Santa Clara is located within the Santa Clara Valley at the southern end of the San Francisco Bay. The valley is a structural trough formed by the Santa Cruz Mountains and the Diablo Range. Depth to bedrock is approximately 1,200-1,500 feet in Santa Clara. The proposed project well sites are located within the Santa Clara sub-basin of the San Francisco Hydrologic Region. The thickness of aquifer materials ranges from approximately 150 feet below the ground surface (bgs) near Coyote Narrows to more than 1,500 feet bgs in the interior of the sub-basin. The central portion of the basin contains a laterally extensive, low permeability aquitard that restricts vertical flow of groundwater. This aquitard varies in thickness from approximately 20-100 feet and occurs at depths between 100 to 200 feet bgs, separating the shallow and principal aquifer zones. The primary confined aquifer exists at depths between 200 and 1,000 feet.

Water quality within the basin has been monitored and evaluated for decades, with regular testing since the mid-1980s. Groundwater is typically very good quality, with very infrequent detections of parameters above maximum containment levels (MCL). Some areas within the shallow aquifer adjacent to salt ponds and tidal creeks near the bay have been affected by salt water intrusion. Saline intrusion into the shallow aquifer is attributed to incursion of sea water into tidal reaches of creeks and the subsequent transport to shallow groundwater through streambed percolation, improper abandoned wells, cathodic protection wells, and other vertical conduits. The salt water intrusion observed was exacerbated by land subsidence in the years following World War 2 causing further inland movement along tidal creeks. Historically, salt water intruded only a small portion of the principal aquifer zone, and chloride concentrations were relatively low. The mechanism of intrusion is assumed to be due to interaquifer transfer through improperly destroyed wells or other deep borings. Currently, the monitoring network present in the baylands area has limited coverage of the principal aquifer zone.

In 2019, Luhdorff and Scalmanini Consulting Engineers (LSCE) reviewed data on 22 city wells and found water quality produced by the wells to be very good. With the exception of one well, Well 32, there are no chemical contaminants present in concentrations greater than the MCL allowed by the State. Sampling from Well 32 in 2007, 2008, and 2011 had concentrations of manganese higher than the allowable MCL.

Groundwater levels in the Santa Clara Valley have recovered and stabilized since the historic lows in the 1960's which resulted in deep water levels and significant land subsidence in the valley. Generally, static water levels in the City of Santa Clara have been stable between 2004 and 2015. Reported static water levels range from tens of feet above ground surface to nearly 200 feet below ground surface. Most wells exhibit seasonal static water level variation between 50 to 80 feet. Typically, seasonal patterns result in

higher groundwater elevations in the spring when compared to the fall. Although in 2015, an atypical situation was observed where groundwater elevations were higher in the fall, it was subsequently attributed to community drought response.

2.1.2 City of Santa Clara Municipal Water System

The Santa Clara Valley Water District (SCVWD) manages water resources and wholesales treated water to 13 retailers in Santa Clara County, including the City of Santa Clara. The City of Santa Clara Water Utility (Water Utility) operates a public water distribution system that provides water to approximately 117,200 customers with approximately 25,889 service connections. The Water Utility water system consists of approximately 335 miles of water mains, 26 wells, 7 storage tanks with approximately 28.8 million gallons of capacity and four booster pump stations. These 26 wells provide 62 percent of the City's potable water supply with the remaining 38 percent being imported from two wholesale water agencies, the SCVWD and the San Francisco Hetch Hetchy System.

In 2018, approximately 42% of the water utilized in the City of Santa Clara was treated surface water purchased from the two wholesale suppliers. Generally, water from SCVWD serves the southwestern portion of the City while water from the Hetch-Hetchy System supplies potable water to the area north of Highway 101 and groundwater supplies the central portion of the City. A water recharge program is administered by SCVWD from local reservoirs, and imported water enhances the dependability of the underground aquifer. Artificial recharge from SCVWD facilities accounts for approximately 45% of all recharge to the aquifer.

For certain non-potable uses, recycled water from the San Jose/Santa Clara Regional Wastewater Facility is used. This is highly treated water delivered through separate pipelines. This source makes up about 16 percent of water sales in the City of Santa Clara. Recycled water offsets the use of potable sources in drought prone California and is a reliable source for irrigation for conservation of potable sources.

2.1.3 Proposed Well Site

The City of Santa Clara is primarily suburban in character, with nodes of higher density, urban development. The southern portion is highly developed, with a wide array of residential neighborhoods and the Santa Clara University while the northern central portion of the city is dominated by commercial and industrial development.

Fire Station No. 5:

The site is approximately 0.60 acres and is currently developed and occupied by the City of Santa Clara Fire Station No. 5, refer to **Figure 2**, **Fire Station No. 5 Preliminary Site Layout**. The fire station is active and functional with activities occurring daily. Currently, the site is occupied by the fire station near the northern portion, small storage sheds at the southern portion of the parcel, and a parking lot and access road south and west of the existing fire station. Landscaped areas containing trees, shrubs and manicured lawn surround the fire station on the eastern and northern sides of the existing building.

Fire Station No. 5 is located in a residential area on the corners of Bowers Avenue and Mark Avenue. Primary access is along the northwest corner of the site and a chain-link gate surrounds the site. A secondary access gate is located on the southeast corner of the lot. The site is approximately 26,600 square feet with the fire station building utilizing 6,800 square feet. This fire station is active and functional with no history of an active well.



2.2 PROPOSED WELL DESIGNS

In March 2019, LSCE prepared a New Well Siting Study summarizing their investigation of seven sites within the City of Santa Clara with regards to the installation of a new municipal well. The goal of the study was to evaluate the feasibility of installing new wells at each of the candidate sites and develop preliminary sight layouts for a new well at the Fire Station No. 5 site, if feasible.

Each of the candidate sites was the subject of an investigation with regards to constructability, the ability to site a well that could be permitted by State Water Resources Control Board, Division of Drinking Water (DDW), to estimate potential yield and water quality, proximity to existing distribution and utilities, and to identify any environmental or issues that may impact the ability to construct a well at a site. Preliminary Drinking Water Source Assessment and Protection (DWSAP) documents were also prepared for a subset of the candidate well sites.

Luhdorff and Scalmanini Consulting Engineers developed designs for the new well based on the information developed from the site investigations. The proposed well design meets the requirements of the Department of Water Resources Water Well Standards, Bulletin 74-81, 74-90; DDW, and accepted water well design standards.

2.2.1 Fire Station No. 5 Well

Fire Station No. 5 Well Design

The proposed Fire Station No. 5 municipal groundwater production well will be drilled using the reverse circulation drilling method, the final borehole will be 30-inches in diameter to a depth of 704 feet bgs. The conductor casing shall be installed in a 48-inch diameter borehole and cemented in place to a depth of 65 feet bgs. At a depth of 65 feet, the conductor will terminate in a clay layer which, along with the sanitary seal, will provide superior protection from surface contamination. The conductor casing shall be fabricated of a 36-inch outside diameter by 3/8-inch wall ASTM A-53 grade B steel. The conductor casing will stabilize the upper portions of the borehole during both drilling and well construction, while ensuring the requirements for a sanitary seal are met.

The well casing assembly will consist of 255 feet of 18-inch inside diameter by 3/8-inch wall ASTM A-53 Grade B steel with 0.2% copper, 40 feet of 18-inch inside diameter by 3/8-inch wall ASTM A-778 Type 316 stainless steel, 311 feet of 18-inch inside diameter by 5/16-inch wall ASTM A-778 Type 316 stainless steel, and an SE type end cap. Two, two-foot long sounding ports shall be installed from 272 to 274 feet bgs. A two-inch Schedule 40 black steel pipe sounding tube shall be connected to the sounding port for each of the two sounding tubes. A three-inch Schedule 40 black steel pipe gravel tube shall be installed to a depth of 285 feet bgs. Stainless steel casing was selected for use below a depth of 255 feet for compatibility with the stainless-steel material used for the well screens and to lengthen the service life of the well.

"Ful-Flo" louvered well screen was selected for this well because it provides an acceptable inlet velocity of 0.001 feet per second at the design capacity of 1,300 gallons per minute. The well screen will consist of 98 feet of 18-inch inside diameter ASTM A-778, Type 304 stainless steel. The slot size of the screens will be 0.070 inches. Well screen will be installed from 295-304, 322-330, 358-374, 530-555, 622-638, 656-666, and 680-694 feet bgs.

A gravel envelope will be installed from approximately 275 feet bgs to the terminus of the well. After a sieve analysis of selected formation samples was completed, a 6x12 Cemex graded gravel envelope material was selected. The specific gravel envelope material selected works well in fine sands and formations. The gravel chosen is three times larger than the smallest formation and the 0.070-inch screen slot size will retain 89-percent of the gravel material.

The annular seal will consist of 10.3 sack sand/cement grout and shall be placed from a depth of 275 feet bgs to the ground surface in one continuous lift.

Fire Station No. 5 Well Pump Station

After construction of the well, construction of a well pump station would commence. Work would include clearing and grading the area around the new well site. It is anticipated a fence and landscaping that includes trees would need to be removed along Bowers Avenue. This would be accomplished prior to construction of any underground facilities. The pump station would house a submersible pump, which includes the bowl assembly, discharge head, electric motor, submersible wire and water level measuring equipment.

The well, pump, and associated appurtenances will be housed on a 10 foot by 10-foot concrete apron as required by DDW well standards. The site will be remodeled in the next several years and the well will be constructed prior to the remodel. The proposed new Fire Station No. 5 will have paved access roads and parking areas adjacent to the new well. All valves, instruments, and controls will be housed above ground, as opposed to existing vaults at other City well pump station sites. All above and below ground pipe will be ductile iron. At this time, no chemical treatment is required, however, LSCE will include design provisions for future chlorine disinfection including station couplings for injector/sampling line, spare underground chemical conduit, electrical input/output slots, etc. The newly constructed well and pump will require the installation of a pipeline extending from the well to an existing potable water distribution system located in Bowers Avenue.

A drainage inlet will be installed at the site and plumbed into the existing storm drain system. Excess water generated by controlled source water testing, distribution system surges, and routine maintenance exercises will be discharged to the new facilities. Installation of a 460-volt, 60 hertz, 3-phase, 4-wire electrical service, including underground primary and secondary conduits and conductors from the transformer pad to the motor control center would be installed to provide power for the pump and operation of associated machinery. Additionally, conduits for the telemetry system and all wiring, heaters, fans, and switches will be installed.

The site will include an emergency backup generator and fuel storage (either subbase storage or a separate pad mounted fuel tank). The generator will be sized to meet the demand at the site in the event of a power outage. A 450-kilowatt genset manufactured by Cummins Power Generation (or equal) is anticipated to be used. The sizing and configuration of the emergency backup generator will need to be confirmed by the City as the generator may serve both the well and eventually the fire station after rebuild.

2.2.3 Well Development and Testing

Well Development

Well development is the process of removing drilling fluids and other materials deposited in the well borehole and structure as part of the normal well drilling and construction process. Well development will consist of initially airlifting drilling fluids from the well through an open ended pipe; swabbing, airlift pumping, and placement of Aqua Clear PFD or another approved dispersing agent in the screened section; installation of an engine driven turbine test pump; pumping and surging of the well until the well is fully developed and meets the requirements of minimum sand production, turbidity, and specific capacity; and bailing the well of materials introduced into the casing during development.

The intake screen and gravel envelope will be cleaned of all fluids, wall cake, and any substances that would impede flow of water into the well. Initially, within 24 to 36 hours after completion of the annular sealing operation, the well will be cleaned of residual drilling fluids by displacing the well through openended drill pipe or tube set in the well sump. The process will be conducted for a minimum of four hours and until the discharge is clear of residual drilling fluids. After drilling residues have been displaced from the well, a development tool will be installed in the well.

Swabbing and airlifting will be conducted over one length of drill pipe until that section of screen is fully developed. Swabbing and airlift pumping will be conducted from the top screen section and moving to the bottom section. The screened sections will be swabbed and pumped for a minimum of seven minutes per foot of well screen or until cleaned of all drilling fluids. During pumping, the drill pipe shall be continuously moved up and down to achieve a swabbing action and uniform pumping across the screened section.

After the initial swabbing-airlift pass, a solution of potable water and Baroid "Aqua Clear PFD" product, or approved equal, will be placed in the well. The solution will be injected evenly across each screened section of the well and the solution will be displaced by adding a volume of potable water equal to the inside of the drill pipe and swabbed without airlifting. After placement of the solution, the well will remain idle for 12 hours. Swabbing and airlift pumping of the well will resume from the top screened section to the bottom for a minimum of five minutes per foot of well screen. Additional swabbing and airlift pumping may be necessary if there continues to be circulation of sand, silt, or mud to the surface from the section of screen being cleaned.

Upon completion of swabbing and airlift pumping operations, a turbine pump and piping assembly will be installed. Development pumping will commence within 10 working days after the completion of initial development. Final development pumping will be initiated at the lowest rate possible with the installed pumping equipment. Throughout final development pumping, the well would be surged frequently to achieve maximum compaction of the gravel pack and to remove residual drilling fluids and wall cake. Surging and pumping will continue until the water produced is clear and sand free, at which time the pumping rate will be increased in increments of 250 gallons per minute and pumping and surging resumed. This process will be repeated until the capacity of the well achieves a minimum of 150 percent of the design capacity of the well unless directed by the Engineer to pump the well at lower capacities. Development records will be maintained at a frequency of at least every 30 minutes showing production rate, pumping water level, drawdown, sand production, and any other pertinent information concerning development of the well. Development pumping will continue until the specific capacity (gallons per minute per foot of drawdown) no longer increases at the design capacity of the well, and

the sand content for any five-minute period does not exceed five parts per million during the 30-minute test. Additionally, development pumping will be conducted for a minimum of 24 hours.

<u>Testing</u>

After final well development tests will be performed including an 8-hour step pumping test at capacities of 50, 75, 100, 125, and 150 percent of the final design capacity of the well and a 12-hour aquifer test at the final design capacity. Additionally, sand testing utilizing a Rossum Centrifugal Sand Sampler will be performed. The sand test will take place prior to well testing and during a short constant rate discharge test at the design capacity of the well. The sand content will be measured and recorded every minute over the first 30 minutes of pumping after start-up. The average sand content for any 5-minute period shall not exceed five parts per million during the 30-minute test.

At the start of each day of pumping, the static water level in the wells will be recorded. At all other times, the static water level will be considered to be attained when three successive water level measurements spaced ten minutes apart show no appreciable change.

During each pumping test, the discharge of the pump shall be measured with an accurate calibrated totalizing flow meter. The discharge rate will be maintained at all times during the test within plus or minus five percent of the pump test rate by means of an approved gate valve in concert with engine speed. Prior to the start of the first test, the pump shall be adjusted to each of the prescribed pumping rates in order to determine the appropriate engine revolutions per minute and discharge valve positions to facilitate rapid adjustment of the pump at the start of testing. Throughout the test, the flow rate and totalizer readings will be frequently recorded to assure the pumping rate remains constant. The depth to water will be measured to the nearest 0.01 feet at various intervals. During constant rate testing of the wells water samples will be collected by the City Engineer or appointed representative.

Additionally, the plumbness and alignment of the wells will be tested in accordance with the American Water Works Association Standards for Water Wells A100-84, Section 8. Alignment will be tested utilizing a section of 40-foot pipe or a dummy of the same length. The outer diameter will not be more than 0.5 inches smaller than the inside diameter of that part of the well being tested. The 40-foot length of pipe or dummy will be lowered to the top of the screened section. If the pipe or dummy fail to move freely throughout the well then it may be rejected. The test for plumbness will be conducted utilizing a digital gyroscopic deviation probe capable of measuring inclination and direction of drift. The plumbness of the wells will be determined in 10-foot intervals from the ground surface to the bottom of the well. The maximum allowable horizontal deviation of the well from vertical shall not exceed two thirds of the smallest inside diameter of the part of the well being tested per 100 feet of depth.

2.2.4 Construction

In coordination with the City of Santa Clara, all construction activities would include implementation of stormwater pollution prevention Best Management Practices (BMPs) designed to reduce potential impacts to water quality during construction of the project which may include but not be limited to: preserving existing vegetation on-site where possible, scheduling work during the dry season when possible, stabilizing construction access, protecting storm drains, etc.

All work would be performed according to City standards which are between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday other than holidays and between 9 a.m. and 6:00 p.m. on Saturdays which are not holidays. The only exception to the designated work hours would be made for the

purpose of drilling the borehole and construction the well. For this operation, continuous work (up to 24 hours a day) would be necessary to protect the integrity of the well structure. It is expected this phase of work will take no more than seven days. A temporary sound wall and appropriate muffler devices would be used at the Fire Station No. 5 site to mitigate noise impacts of the drilling operation on the surrounding residential area.

Construction Phasing and Timing

It is anticipated that project construction will fall into two overlapping phases. The first phase involves the production well design and construction which includes the well construction and testing. Well construction and testing is anticipated to take approximately 18 weeks.

The second phase is the pump station design and construction which includes pump station design, geotechnical and survey base map investigation, construction specifications, a bidding period, and pump station construction and commissioning. It is anticipated this phase will take approximately eight months.

<u>Equipment</u>

During drilling operations, the following equipment is anticipated to be utilized: drill rig, pipe trailer, generator, crane, compressor, fluid circulation tanks, fluid storage tanks, lights, storage trailer, fluid conditioning system, backhoe or forklift, and personal work trucks. During pump testing operations a crane, test engine, and personal work vehicles are anticipated to be necessary. During pump station construction a backhoe, forklift, crane, generator, and personal work trucks will be necessary to complete the project.

Construction Considerations

Fire Station No. 5

The Fire Station No. 5 site presents several challenges with regard to construction including the small available working area for well construction, proximity to overhead powerlines and residences, fire station operations, and flowing artesian conditions. It is anticipated the existing fence and landscaping along Bowers Avenue will need to be removed to allow for construction. At a minimum, temporary sound walls will be installed on the west side of the work area. However, this may be complicated due to the presence of overhead powerlines. Additionally, coordination with the Fire Department will be necessary to confirm drilling operations do not impact their operations and readiness. Luhdorff and Scalmanini Consulting Engineers and/or project construction contractors, in coordination with the City, will work with the Fire Department to establish acceptable working area restrictions to ensure drilling and daily operations at the station do not interfere with each other. As evidence by the test well, flowing conditions must be expected on the site at any time. Ideally, the well would be constructed during the fall when artesian pressures are typically at their lowest. The construction specifications will include a drilling fluid program designed by a drilling fluid specialist to address flowing conditions. The specifications will require that the drilling fluid specialist be available to monitor conditions and adherence to the drilling fluid program. Additionally, the contractor will be required to have materials and proper equipment on site and ready to address flowing conditions, if needed.

Other Public Agencies Whose Approval is Required

State

• State Water Quality Control Board, Division of Drinking Water – Well Siting/Design Concurrence, Amended Water Supply Amendment

Local

- County of Santa Clara Environmental Health Department Site Inspection and Siting Approval
- Valley Water District Drilling Permit
- City of Santa Clara Water & Sewer Compliance Department Discharge Permit to Sanitary Sewer and Storm water system.
- City of Santa Clara Public Works Department Encroachment and Traffic Control Permits for pipeline installation at Fire Station No. 5
- State Water Resource Control Board, Environmental Review Unit Approval of CEQA documents and adoption of declaration.

Regulatory Guidance

This document is an Initial Study, prepared pursuant to the California Environmental Quality Act (CEQA), for the proposed municipal groundwater well project. This Initial Study has been prepared in accordance with CEQA, Public Resources Code Sections 21000 et seq. and the CEQA Guidelines found in Chapter 14 of the California Code of Regulations (CCR).

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with CEQA Guidelines Section 15064(a)(1), an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed project under review may have a significant effect on the environment. A negative declaration may be prepared if the lead agency finds that there is no substantial evidence, in light of the whole record, that the project may have a significant effect on the environment. A negative declaration is a written statement describing the reasons why a proposed project will not have a significant effect on the environment and, therefore, why the proposed project will not require the preparation of an EIR (CEQA Guidelines Section 15371). Furthermore, CEQA Section 15070 indicates that a public agency shall prepare a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when the initial study has identified significant effects, but:

(1) Revisions in the project plans or proposals in accordance with the CEQA Guidelines Section 15070(b) made by or agreed to by the applicant before the proposed mitigated negative declaration and initial study is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.

3. DETERMINATION

Environmental Factors Potentially Affected:

The environmental factors checked below could be potentially affected by this project; however, with the incorporation of mitigation measures,* potentially significant impacts are reduced to less than significant level by the project" (CEQA Guidelines Section 15382).

Aesthetics Biological Resources	Agricultural/Forestry Resources Cultural Resources	Air Quality Energy
Geology/Soils Hydrology/Water Quality	Greenhouse Gas Emissions Land Use/Planning	Hazards/Hazardous Materials Mineral Resources
Noise	Population & Housing	Public Services
Recreation Utilities/Service Systems	Transportation Wildfire	Tribal Cultural Resources Mandatory Findings of Significance

Determination:

On the basis of this initia,I evaluation: .

D I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

 $D\ \mbox{I}$ find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

D I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

□ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed <u>upon the propo</u> e project, nothing further is required.

12-//11 Date

Prepared by: NorthStar, Maft Rogers, Associate Planner

Reviewed By: City of Santa Clara

Date

City of San/a Clara Municipal Well Installation Project

Evaluation of Environmental Impacts:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards, (e.g., the project will not expose sensitive receptors to pollutants based on a project-specific screening analysis.)
- 2) All answers must take account of the whole action involved including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (C)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used: Identify and state where they are available for review.
 - b) Impacts Adequately Addressed: Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures: For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) The explanation of each issue should identify:
 - a) The significance criteria or threshold, if any, used to evaluate each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4. ENVIRONMENTAL CHECKLIST

1. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Have a substantial adverse effect on a scenic vista?				х
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				х
 c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? 				x
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			x	

<u>Setting</u>

The City of Santa Clara 2035 General Plan is the primary source for identifying and determining scenic resources within the City. The General Plan does not identify any scenic vistas or viewsheds within the City. Several natural resources are identified in the General Plan Integrated Environmental Impact Report such as the Diablo Range, the Santa Cruz Mountains, the Guadalupe River and San Tomas Aquino Creek as "visual resources" within the City limits.

Additionally, the California Department of Transportation (Caltrans) Scenic Highway Program has not designated any scenic highways or potentially eligible scenic highways in the project's vicinity. The City is served by four freeways: US 101 traverses east-west through the center of the City, while State Route 237 is located to the north and Interstates 880 and 280 skirt the southeast and southwest corners of the City, respectively and these segments have not been officially designated as scenic highways by the Caltrans.

The City of Santa Clara is primarily suburban in character, with nodes of higher density, urban development. Visual character is typical of surrounding cities and contains developed land uses consisting of primarily residential, commercial, industrial, recreational, public, institutional, airport, utility, and transportation land uses.

<u>Fire Station No. 5:</u> This site is located in a residential zone, on the corner of Bowers Avenue and Mark Avenue. Fire Station No. 5 occupies the property, including the station, parking area, and associated landscaping. The site comprises a total area of 26,600 square feet, with the fire station building totaling 6,800 square feet. The proposed well would be located in the southern portion of the parcel. Primary

access is located along the northwest corner of the property and a chain-link gate surrounds the site. A secondary access gate is located on the southeast corner of the lot.

Discussion

- a) No Impact. The proposed project involves the installation of a new well within an area that has been previously developed. The proposed project will not change regulations or policies (or their implementation) relative to aesthetic/visual resources. The addition of a new well would not change the visual character of the surrounding area. In addition, natural visual resources within the City limits are not visible the proposed project site. The project site is not located in close proximity to any natural or historical features that would be considered resources by the City of Santa Clara. Therefore, this project would not significantly affect scenic vistas nor have a negative aesthetic effect.
- b) No Impact. No scenic resources have been identified near the proposed project well site. The proposed project would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway corridor. The addition of this well will not result in the damage or degradation of existing features. The proposed well location is on developed/disturbed land. The proposed well at Fire Station No. 5 would be located on an already developed site used for public services. Additionally, the City of Santa Clara does not have a designated scenic highway.
- **c)** No Impact. The proposed project well is located on a developed/disturbed parcel. The installation of a well and the associated appurtenances at Fire Station No. 5 location will not degrade the existing visual character or quality of the site. The project would be consistent with the existing visual character of the site as it is already developed/disturbed.
- d) Less Than Significant. The proposed project site is located in a developed urban environment that has existing sources of light and glare associated with street lights, neighboring land uses, and fire station activities. As described in Section 2.2.4, Project Construction, construction activities typically would occur between the hours of 7:00 a.m., and 6:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturdays (excluding holidays). However, during the initial installation of the well, 24-hour work would be required for drilling the final borehole, installing the well casing and annular fill materials, and testing. It is expected that this phase of work will take no more than seven days, during which night lighting would be required. Lighting would consist of typical construction site lighting and would be short-term and would not substantially increase light in the project area, impacts would be less than significant.

Lighting at the site would be installed as needed for safety, maintenance and operational purposes. Light locations and fixtures would be selected that are consistent with existing ordinances and lighting in the area that have minimal impact on nighttime views in the area and on other people and properties outside of the immediate project area. Lighting would be similar to what currently exists on the site; therefore, impacts would be less than significant.

Mitigation

None Required.

2. Agricultural and Forestry Resources

Would the project:	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Convert Farmland (Prime, Unique or of Statewide Importance) pursuant to the Farmland Mapping and Monitoring Program of the CA Resources Agency, to non-agricultural use?				х
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				х
 c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? 				x
d) Result in the loss of forest land or conversion of forest land to non-forest use?				х
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				х

<u>Setting</u>

To characterize the environmental baseline for agricultural resources, Important Farmland Maps produced by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) are typically reviewed. Important Farmland maps show categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance (if adopted by the county), Grazing Land, Urban and Built-up Land, Other Land, and Water. Prime Farmland and Farmland of Statewide Importance map categories are based on qualifying soil types, as determined by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), as well as current land use.

The project sites are identified by the Department of Conservation as containing lands classified as *Urban and Built-up Land,* which is defined as:

Urban and Built-up Land: Land used for residential, industrial, commercial, construction, institutional, public administrative purpose, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are also included in this category.

Discussion

a-e) No Impact. The proposed project site consists of a developed/disturbed parcel and is in an urban and residential setting. There are no lands designated as an agricultural classification (i.e.,

Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) or forestland/timberland production within the City of Santa Clara city limits. The proposed project site is designated as zone B-Public or Quasi-Public by the City of Santa Clara Planning Division. This zoning classification is intended to provide for public, quasi-public and public park facilities. Therefore, the proposed project would not convert farmland to non-agricultural use, would not conflict with zoning for agricultural uses, forestland or convert forestland to non-forest use. This project would have no effect on farmland or any property subject to a Williamson Act contract as the site is not under a Williamson Act contract. Therefore, the project would have no impact to agriculture and forestry resources.

Mitigation

None Required.

3. Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			х	
 b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? 		х		
c) 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?		х		
d) Expose sensitive receptors to substantial pollutant concentrations?			х	
 e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? 			x	

<u>Setting</u>

The proposed project well site is located in the San Francisco Bay Area Air Basin in the City of Santa Clara in Santa Clara County. The climate is affected by its proximity to both the Pacific Ocean and the San Francisco Bay, which has a moderating influence. The bay cools the air during warm weather and warms the air during cold weather. During the afternoon and early evening, a north-northwesterly sea breeze often flows from the Bay through the Santa Clara Valley, and a light South-southeasterly breeze often occurs during the late evening and early morning hours.

The valley has a large population and the largest complex of mobile sources in the Bay Area making it a major source of particulate and photochemical air pollution. In addition, photochemical precursors from San Francisco, San Mateo, and Alameda counties can be carried along by the prevailing winds to the

Santa Clara Valley making it a major ozone receptor. Geographically, the Valley tends to channel pollutants to the south-southeast with its northwest/southeast orientation, and concentrate pollutants by its narrowing to the southeast. Meteorologically, on high-ozone low-inversion summer days, the pollutants can remain within the Valley as a result of the prevailing northwesterly winds in the afternoon and the light south-westerly breeze in the late evening and early morning, which recirculate the air instead of blowing it out of the Valley, therefore, increasing the impact of emission significantly.

Particulate matter is another problematic air pollutant in the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less and fine particulate matter where particles that have a diameter of 2.5 micrometers or less. Evaluated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide emissions and localized emissions. High particulate matter levels can have major adverse effects on human health and wellness.

Regulatory Overview

The California Air Resources Board (CARB) coordinates and oversees both state and federal air quality control programs in California. The CARB establishes state air quality standards, monitors existing air quality, limits allowable emissions from mobile and stationary sources, and is responsible for developing that State Implementation Plan (SIP). The CARB had divided the state into many single and multi-county air basins. The city of Santa Clara is located in Santa Clara County, which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) in the San Francisco Air Basin. CARB has identified the following persons who are most likely to be affected by air pollution: infants, children under 18, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, churches and places of assembly, and parks. The nearest sensitive receptors to the proposed new well locations are approximately 75 feet west of Fire Station No. 5 and approximately 50 feet

In April of 2017, the BAAQMD's Board of Directors adopted an air quality and climate plan, the 2017 Clean Air Plan, entitled *Spare the Air-Cool the Climate*, which addresses air quality improvement and greenhouse gas reduction for the nine-county Bay Area Region. The 2017 Plan addresses ozone, particulate matter (PM), and toxic air contaminants (TACs), the air pollutants of greatest concern for protecting public health. Air quality standards for criteria pollutants are generally defined in terms of ambient concentrations of a pollutant in the atmosphere. Standards are expressed either in terms of a *parts per million* ratio (ppm), or a *mass per volume* basis (μ g/m³). Table 3.1 summarizes current national and state standards and Air District attainment status for the six criteria pollutants.

Pollutant	California Standard	Attainment Status	National Standard	Attainment Status
Ozone - 1 Hr	.09 ppm	Non-Attainment	N/A	
Ozone - 8 Hr	.070 ppm	Non-Attainment	.070	Non-Attainment
CO – 1 Hr	20 ppm	Attainment	35 ppm	Attainment
CO – 8 Hr	9 ppm	Attainment	9 ppm	Attainment
PM _{2.5} – 24 Hr			35 μg/m ³	Non-Attainment

Table 3.1: Standards and Attainment	Status for Criteria Pollutants
Tuble 3.1. Standards and Attainment	

PM _{2.5} - Annual	12 μg/m³ -3-year max	Non-Attainment	12 μg/m ³ -3-Year Avg	Attainment
PM ₁₀ – 24 Hr	50 μg/m³	Non-Attainment	150 μg/m³	Unclassified
PM ₁₀ – Annual	20 μg/m ³	Non-Attainment	N/A	
SO ₂ -1 Hr	.25 ppm	Attainment	75 ppb	Unclassified
SO ₂ -24 Hr	.04 ppm	Attainment	.14 ppm	Attainment
NO ₂ -Annual	.030 ppm	Attainment	.053 ppm	Attainment
NO ₂ -1 Hr	.18 ppm	Attainment	100 ppb	Unclassified
Lead- 3 Mo. Rolling Avg.			.15 μg/m³	Attainment

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The significance thresholds for construction and operational emissions identified by BAAQMD are found in their CEQA Air Quality Guidelines issued in 2017. If the project meets the screening criteria, construction and operation would result in less that significant impact to air quality from criteria pollutants and precursor emissions.

Discussion

- a) Less Than Significant Impact. The proposed project would be required to comply with all applicable rules, regulations and control measures including permitting, prohibitions, and limit to emissions that would reduce air pollution throughout California. The installation and operation of the proposed municipal water well would not impede or conflict with the implementation of the BAAQMD Clean Air Plan because the project would not affect population as it does not include new housing or create a major source of employment.
- **b)** Less Than Significant Impact with Mitigation Incorporated. The Bay Area is considered a nonattainment area for ground-level ozone and particulate matter 2.5 microns under both the federal and state air acts. The area is also considered non-attainment for particulate matter 10 microns under the state Clean Air Act. The area is under attainment for CO. As part of an effort to attain and maintain ambient air quality standards for ozone and particulate matter the BAAQMD has established thresholds of significance for air pollutants. Additionally, the district has established screening criteria for projects for construction and operational emissions. The proposed project is expected to produce emissions in two ways; 1) through construction related emissions during well drilling and construction, and 2) indirectly during operations of the wells through the use of electricity.

Both construction and operational emissions were modeled utilizing the California Emissions Estimator Model (CalEEMod). Construction emissions were estimated in tons per year as well as pounds per day. The construction and operational emissions as well as the BAAQMD thresholds are presented in Table 3.2. See **Appendix A** for the projects CalEEMod outputs.

 Table 3.2: Total Construction and Operational Emissions for the proposed project and the associated

 BAAQMD thresholds.

Description	ROG Emissions	NOx Emissions	PM10 Exhaust Emissions	PM2.5 Exhaust Emissions
Total Construction Emissions (tons)	0.0026	0.03	0.0017	0.0013
Average Daily Construction Emissions (Ibs/day)	0.74	8.93	0.48	0.35
Total Operational Emissions (tons/year)	0.09	0.23	0.01	0.01
Average Daily Operational Emissions (lbs/day)	0.63	1.79	0.09	0.09
BAAQMD Thresholds (lbs/day	54	54	82	54
Significant	No	No	No	No

Construction activities would generate dust, the amounts would be highly variable and dependent on the size of the area being disturbed, soil conditions, local weather conditions, etc. Construction emissions would be intermittent and temporary in nature and as previously shown will not exceed the BAAQMD thresholds for criteria air pollutants. Additionally, operational emissions which would be produced through the new well pumps using electricity will not exceed the BAAQMD thresholds.

Although the project would not generate emissions during construction that would exceed the BAAQMD thresholds, to address and control construction-related emission of non-exhaust fugitive dust, the BAAQMD recommends that projects implement a set of Basic Construction Mitigation Measures as best management practices regardless of whether or not construction-related emissions exceed applicable thresholds. Implementation of the *Basic Construction Mitigation Measures* would prevent any construction related emissions from reaching thresholds of significance.

c) Less Than Significant With Mitigation Incorporated. According to the BAAQMD, no single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards for regional criteria pollutants. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. There are many projects throughout San Francisco Bay Area that have been identified as having significant and unavoidable operational and construction-related regional pollutant impacts. Consequently, for assessment of cumulative regional pollutant impacts, BAAQMD has developed a methodology of assessing whether a project would have a cumulatively considerable contribution. According to the

BAAQMD *Justification Report*, if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (BAAQMD, 2009).

As described above, criteria pollutant emissions generated by short-term construction and longterm operations of the project would not exceed the BAAQMD significance thresholds. Thus, the project would have a less than significant cumulative impact in relation to regional emissions. As presented in above, Air Quality MM-1 would ensure that impacts associated with fugitive dust emissions would be less than significant.

- d) Less Than Significant Impact. Operation of the proposed project is not expected to cause any localized emissions that would expose sensitive receptors to unhealthy air pollutant levels. Construction activity would generate dust and equipment exhaust on a temporary basis. Because impacts related to equipment exhaust emissions would be minor, and because construction activities tend to be relatively short, impacts to sensitive receptors would be less than significant.
- e) Less Than Significant Impact. Future use of the project site would not create objectionable odors. The project would generate localized emissions during construction activities. These emissions would be temporary and are not likely to adversely affect people off site by resulting in confirmed odor complaints. According to the BAAQMD 1999 CEQA Guidelines, land uses associated with odor complaints typically include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical and fiberglass manufacturing facilities, painting/coating operations (e.g., auto body shops), rendering plants, and coffee roasters (BAAQMD, 1999). The proposed project does not include any land uses identified by BAAQMD as being associated with odors.

Mitigation

Air Quality MM – 1:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All vehicle speeds on unpaved roads shall be limited to 15 mph.

4. 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.

5. 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.

6. 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.

7. 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.

4. Biological Resources

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		x		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				х
c) Have a substantial adverse effect on protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				х
d) 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?				х
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				х
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				x

<u>Setting</u>

The proposed well site is surrounded by industrial, commercial, and recreational, and residential development. The entirety of Fire Station No. 5 is developed with small portions of landscaped areas along the periphery of the parcel containing lawn, shrubs, and trees. The site does not contain any bodies of water, water courses, wetlands, or aquatic features.

Due to the low amount of natural vegetation on the site and the urban character of the location, the possibility of the site being utilized by special-status plant and wildlife species is non-existent. Generally, wildlife habitat in urban areas are very low in species diversity and are utilized by habitat generalists. Species that could utilize the project location would be urban adapted bird species such as European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), northern mockingbird (*Mimulus polyglottus*), house sparrow (*Passer domesticus*), house finch (*Haemorhous mexicanus*). Raptors and other bird species could utilize the trees present or surrounding the new well location for nesting or as a roost. Raptors and migratory birds are protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503.5.

<u>Discussion</u>

- a) Less Than Significant Impact with Mitigation. Due to the highly developed nature of the proposed well site and lack of suitable habitat for special-status species, no special-status plants or animals are expected to occur. However, it is possible that on-site trees could provide suitable nesting or roosting habitat for birds protected by the Migratory Bird Treaty Act (MBTA). The incorporation of Biological Resources MM 1 would ensure that impacts to bird species protected under the MBTA would be less than significant.
- **b)** No Impact. The proposed new well location is developed and does not contain riparian habitat or sensitive natural habitats. There is no aquatic or wetland habitats within the project site. Implementation of the project would not directly or indirectly impact any sensitive natural communities as they do not occur within the area.
- c) No Impact. As previously mentioned, the project site is developed and surrounded by residential development. There are no water courses, wetlands, or any other potential aquatic features within the proposed project site. The project would not result in direct removal, filling or hydrological interruption or any indirect impacts to jurisdictional wetlands.
- **d)** No Impact. The project site is developed and surrounded by similar uses which preclude any major wildlife movement. The site is adjacent to major roadways that are heavily traveled, and the vicinity is constrained by a lack of continuously connected natural areas that could be utilized by wildlife.
- e) No Impact. The proposed project will not conflict with any ordinance protecting biological resources. Additionally, the proposed project does not involve the removal of trees.
- f) No Impact. The Santa Clara Valley Habitat Plan of 2012 includes the County of Santa Clara, the City of San Jose, the City of Morgan Hill, the City of Gilroy, the SCVWD, and the Santa Clara Valley Transportation Authority. The Santa Clara Valley Habitat Plan (Plan) provides a framework for promoting the protection and recovery of natural resources, including endangered species, while streamlining the permitting process for planned development, infrastructure, and maintenance activities. The Plan will protect, enhance, and restore natural resources in specific areas of Santa Clara County and contribute to the recovery of endangered species. The study area (519,506 acres) is located in Santa Clara County in the central California Coast Range. The primary valley in the study area is the Santa Clara Valley, which stretches from San Francisco Bay to San Benito County. Although the plan includes the majority of the City of Santa Clara, the project site is outside of the defined Plan study area. The project will not be in violation of this Habitat Plan.

Mitigation

Biological Resources MM - 1: If well installation activities occur during the nesting season for birds protected under the MBTA and California Department Fish & Game Code (approximately March 1 – August 31), the project proponent shall retain a qualified biologist to perform preconstruction surveys for nesting bird species within 250 feet of the well site. Surveys to identify active bird nests shall be conducted within the project area, along the project periphery, and along Bowers Avenue. At least one survey shall be conducted no more than 7 days prior to the initiation of construction activities. If installation stops during the construction period for more than 15 days, another survey shall be conducted within 7 days prior to the continuation of construction activities. If nesting raptors or birds protected by Fish and Game Code and MBTA are found within or adjacent to the footprint of proposed construction, the project proponent, in consultation with a qualified biologist, shall:

- 1. Locate and map the location of the nest site;
- 2. Establish a reasonable no-disturbance buffer around all active raptor or migratory bird nest.
- 3. Within 2 working days of the survey, prepare a report and submit to the City and CDFW. The report will include the results of survey, location(s) of nests, and location of no disturbance buffers;
- 4. If construction activities continue for longer than the anticipated five days for installation then on-going weekly surveys shall be conducted to ensure that the no disturbance buffer is maintained until construction is complete;
- 5. Construction can resume within the no disturbance buffer when a qualified biologist has confirmed that the nest is no longer active.
- If construction activities occur during the non-breeding season September 1 to February 28 no additional mitigation is necessary.

5. Cultural Resources

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations, Section 15064.5?		x		
 b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CA Code of Regulations, §15064.5? 		х		
c) Directly or indirectly destroy a unique paleontological resource or site, or unique geological feature?		х		

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
d) Disturb any human remains, including those interred outside of dedicated cemeteries?		X		

<u>Setting</u>

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC Section 21084.1). "Substantial adverse change," according to PRC Section 5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." Therefore, a substantial adverse change upon a historically significant resource would be one wherein the resource is demolished or materially altered so that it no longer conveys its historic or cultural significance in such a way that justifies its inclusion in the California Register of Historical Resources or such a local register (CEQA Guidelines Section 15064.5, subd. (b)(2)). Cultural resources include prehistoric and historic period archaeological sites; historical features, such as rock walls, water ditches and flumes, and cemeteries; and architectural features. Cultural resources consist of any human-made site, object (i.e., artifact), or feature that defines and illuminates our past. Often such sites are found in foothill areas, areas with high bluffs, rock outcroppings, areas overlooking deer migratory corridors, or near bodies of water.

Discussion

a) Less Than Significant With Mitigation. The proposed project site has been disturbed, cleared and compacted by past human activities; the parcel has been significantly altered and developed for public facilities (fire station). Historical or archaeological resources with any integrity on the ground surface within the proposed project site is unlikely. Thus, the installation of the proposed well will not cause a substantial adverse change to any known historical resources or archaeological resources.

However, if buried cultural materials are discovered during any site preparation activities associated with installation of the well, **Cultural Resources MM – 1** will ensure potential impacts to archaeological resources are less than significant.

- b) Less Than Significant With Mitigation. Although the new well site is previously disturbed by development, well drilling activities and utility trenching have the potential to uncover historic or prehistoric cultural resources located below the surface. The incorporation of Cultural Resources MM 1 will ensure potential impacts to archaeological resources are less than significant.
- c) Less Than Significant With Mitigation. The project site has been previously disturbed for construction of the existing structures present. Implementation of the project would require ground disturbing activities with well drilling below ground surface. In the event paleontological resources are discovered during construction, the implementation of Cultural Resources MM 1 would ensure impacts would be less than significant.
- d) Less Than Significant With Mitigation. The project site has been previously disturbed for construction of Fire Station No. 5. Although unlikely, it is possible that unmarked burials maybe unearthed during well drilling and project implementation. In the event that human remains are

discovered during construction, the project applicant would comply with California Health and Safety Code Section 7050.5 regarding human remains, and the California Public Resources Code Section 5097.98 regarding the treatment of Native American remains. The implementation of **Cultural Resources MM – 1** would ensure impacts to human remains are less than significant.

Mitigation

Cultural Resources MM - 1: Should construction activities reveal the presence of prehistoric, historic cultural resources (i.e. artifact concentrations, including arrowheads and other stone tools or chipping debris, cans glass, etc.; structural remains; human skeletal remains), or paleontological resources work within 50 feet of the find shall immediately cease until a qualified professional archaeologist can be consulted to evaluate the find and implement appropriate mitigation procedures. Should human skeletal remains be encountered, State law requires immediate notification of the County Coroner ((408) 793-1900). Should the County Coroner determine that the remains are in an archaeological context, the Native American Heritage Commission shall be notified immediately, pursuant to State Law, to arrange for Native American participation in determining the disposition of such remains." The provisions of this note shall be followed during construction of the new well.

6. Energy

Wo	ould the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?				х
b) (Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				х

Discussion

a and b) No Impact. During construction there would be a temporary consumption of energy resources required for the movement of equipment and well drilling and installation; however, the duration is limited, and the areas of construction are minimal. Compliance with local, State, and federal regulations (e.g., limit engine idling times, require the recycling of construction debris, etc.) would reduce short-term energy demand during the project's construction to the extent feasible, and project construction would not result in a wasteful or inefficient use of energy.

Mitigation

None Required.

7. Geology and Soils

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
 a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: 				
 i.) Rupture of a known earthquake fault, as delineated on the Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. 				х
ii.) Strong seismic ground shaking?				Х
iii.) Seismic-related ground failure/liquefaction?				Х
iv.) Landslides?				Х
b) Result in substantial soil erosion or the loss of topsoil?			x	
c) Be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse?			x	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			х	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				x

<u>Setting</u>

The proposed project is located in Santa Clara in the Coast Range geomorphic province of California. The Coast Range forms a nearly continuous topographic barrier between the California coastline and the San Joaquin Valley. The Coast Range in this region is a double chain of mountains running north-northwest. Three prominent geologic blocks dominate the San Francisco Bay Area: the Santa Cruz Mountains (western block), the San Francisco Bay (central block), and the East Bay Hills/Diablo range (eastern block). Alluvial deposits are interbedded with bay and lacustrine deposits in the north- central region. The valley sediments were deposited as a series of coalescing alluvial fans by streams that drain the adjacent mountains. These alluvial sediments make up the groundwater aquifers on the area. Soil types in the area include clay in the low-lying central areas, loam and gravely loam in the upper portions of the valley, and eroded rocky clay loam in the foothills. Site specific soil conditions include water bearing alluvium (sand and gravels) at depth overlaid by clay layers.

No known active or potentially active faults cross the proposed project site, and the project site is not within an Earthquake Fault Zone as delineated by the Alquist-Priolo Earthquake Fault Zoning Act. While the project is not within an Alquist-Priolo Zone, the region has several known seismically active faults, as such, the area is subject to strong ground shaking in the event of an earthquake.

Liquefaction Zones

Liquefaction occurs when vibrations or water pressure within a mass of soil cause the soil particles to lose contact with one another. As a result, the soil behaves like a liquid, has an inability to support weight and can flow down very gentle slopes. This condition is usually temporary and is most often caused by an earthquake vibrating water-saturated fill or unconsolidated soil. Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The project site is located within the County of Santa Clara Seismic Hazard Zone for liquefaction with soils that possess a high susceptibility to liquefaction. Fluctuations in groundwater levels are common and generally are higher in the spring and lower in the fall. The groundwater levels are influenced by season, precipitation, underground drainage patterns, regional fluctuations, and a wide variety of other factors

Discussion

a i – a iv) No Impact. The nearest faults to the proposed project site are the Silver Creek Fault and the San Jose Fault, the nearest known active faults are the Hayward Fault and the San Andreas Fault located approximately 10 miles northeast and southwest of the project site, respectively. The site is not within a currently established state Earthquake Fault Zone or Santa Clara County Geological Hazard Zone for surface fault rupture. No active or potentially active faults are known to pass directly beneath the site. The potential for surface rupture due to faulting occurring below the site is low. Due to the distance from known active faults and the fact the project does not involve the construction of dwelling units, implementation of the project would not exposed people and buildings to known risks of fault rupture.

Earthquakes along several nearby active faults in the region could cause moderate to strong ground shaking at the project site. The intensity of the earthquake ground motions and the damage done by shaking would depend on the characteristics of the generating fault, distance to the fault and rupture zone, earthquake magnitude, earthquake duration, and site-specific geologic conditions. Given that the entire San Francisco Bay Area region is subject to strong seismic ground shaking during a large earthquake event, the project would not expose people or structures to any greater risks involving seismic ground shaking than would other development located in the region. The project would not directly or indirectly cause potential substantial adverse effects. While ground shaking cannot be eliminated, the well would be constructed to comply with the California Building Code (CBC) and other applicable standards and practices for earthquake proof construction. Compliance with these standards would ensure impacts from seismic ground shaking would be less than significant.

Soil liquefaction is a condition where saturated granular soils near the ground surface undergo a significant loss of strength during seismic events. Loose, water saturated soils are transformed from a solid to a liquid state during ground shaking. Liquefaction can result in significant deformations and ground rupture. Soils most susceptible to liquefaction are loose, uniformly

graded, saturated, fine-grained sands that lie close to the ground surface. According to the Alquist-Priolo Earthquake Fault Zoning Map, the Fire Station No. 5 site is also atop and surrounded by liquefaction zones. As previously mentioned, project construction would be in compliance with the CBC, including all applicable seismic standards. Compliance with the CBC would ensure impacts from liquefaction would be less than significant.

The project site and the surrounding area are topographically relatively flat and do not have steep slopes or hillsides that could be susceptible to landslides. The project would not be exposed to landslide related hazards.

- b) Less Than Significant. Project construction would involve ground disturbing activities that would temporarily expose soils and increase the potential for soil erosion from wind or stormwater runoff. The project site is level greatly reducing the potential for erosion. During construction related activities specific erosion control and surface water protection methods would be implemented on the project site to ensure well drilling "spoils" are contained. The type and number of measures implemented would be based upon location specific attributes (i.e. slope, soil type, weather conditions). These control and standard best management practices will be utilized to minimize soil erosion and water quality degradation. The implementation of standard construction best management practices (BMPs) would reduce the potential for any substantial soil erosion or the loss of topsoil.
- c) Less Than Significant. Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat alluvial material toward an open face, such as a steep creek bank. There are no stream channels on or adjacent to the proposed new well location that would be subject to lateral spreading. The project would be designed and constructed in accordance with standard engineering safety techniques and in conformance with the CBC. The project is not located on an unstable geologic unit or soil and will not cause instability that would result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- d) Less Than Significant. Unstable soils would be subject to potential landslides, lateral spreading, subsidence, liquefaction, collapse, shrink/swell, soil creep, and erosion. However, new construction would be required to comply with the CBC, which contains building criteria and standards that are designed to reduce geologic risks to acceptable levels, and the County of Santa Clara Grading Ordinance, which establishes requirements for grading work that reduces the potential for soil erosion and soil sediment transport.
- e) No Impact. The proposed projects do not involve the construction of septic or alternative wastewater disposal systems.

Mitigation

None Required

8. Greenhouse Gas Emissions

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Generate greenhouse gas emissions, directly or indirectly, that may have a significant impact on the environment?			х	
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			x	

<u>Setting</u>

The earth's atmosphere naturally contains a number of gases, including (but not limited to) carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), which are collectively referred to as greenhouse gases (GHGs). GHG emissions are generally numerically depicted (when applicable) as carbon dioxide equivalents (CO₂e). CO₂e represents CO₂ plus the additional warming potential from CH₄ and N₂O. The common unit of measurement for carbon dioxide equivalents is in metric tons (MTCO₂e).

These gases trap some amount of solar radiation and the earth's own radiation, preventing it from passing through earth's atmosphere and into space. Greenhouse gases (GHG) are vital to life on earth; without them, earth would be an icy planet. For example, CO_2 is an element that is essential to the cycle of life. In general, CH_4 and N_2O have 21 and 310 times the warming potential of CO_2 , respectively. Human-made emissions of GHG occur through the combustion of fuels, as well as a variety of other sources.

Section 15183.5(b) of Title 14 of the California Code of Regulations states that a GHG Reduction Plan, or a Climate Action Plan, may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation provided the CAP does the following:

- A. Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- B. Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
- C. Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- D. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- E. Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and

F. Be adopted in a public process following environmental review.

BAAQMD has adopted thresholds of significance to assist in the review of operational GHGs under CEQA. BAAQMD has not adopted a threshold for construction-period GHG emissions, as GHG emission impacts reflect the long-term and cumulative effect of GHG on a global scale, while construction-period emissions are intermittent and temporary. These thresholds are designed to establish the level at which GHG emissions would cause significant environmental impacts. The significance thresholds identified by BAAQMD are consistency with qualified GHG Reduction Strategy, Emissions below 1,100 MT of CO2e per year per project, or emissions below 4.6 MT CO2e per service population per year.

However, the current thresholds set by BAAQMD, and the goals of Santa Clara's Climate Action Plan, were established to achieve the state's 2020 GHG reduction target. Because the project is not anticipated to be operational until 2020, an analysis of consistency with the state's post-2020 GHG reduction goals is appropriate. While the achievement of 2020 GHG reduction goals could – in part – reasonably be attained through local reductions in GHGs, such as those outlined in CAPs, the attainment of 2030 goals and beyond increasingly requires sector-wide and statewide policy changes to address GHG emissions. Many of these actions are outside of the jurisdiction and/or capacity of individual municipalities. For example, in the energy sector, renewable energy production sources (such as wind and solar energy) must comprise 50 percent of all retail sales statewide by 2030. Additionally, the post-2020 Cap and Trade program has been designed to capture 80 percent of statewide GHG emissions. A number of plans, policies, and regulations have been adopted by agencies at the national, state, and local levels to control GHG emissions including California Assembly Bill 32, Executive Order B-30-15 and Senate Bill 350, Senate Bill 32, the City of Santa Clara General Plan, and the City of Santa Clara Climate Action Plan.

Discussion

a and b) Less Than Significant. The implementation of the project would produce GHG emissions in two ways, through construction of the new well and indirect operation of the pump at the well. Construction activities would create greenhouse gas emissions, primarily from the use of equipment for drilling the new well. This is expected to be temporary in nature lasting approximately seven days, and consisting of just one drilling rig. Project operation would generate direct emissions through the consumption of electricity by well pumps.

Construction: BAAQMD has not established a threshold for construction GHG emissions, therefore construction emissions are described in this section and compared to thresholds for air quality on an informational basis for context. Construction related emissions would be generally minor and would not exceed the BAAQMD thresholds for localized air quality. Daily construction emissions of NOx would be a maximum of 8.9 pounds per day and there would be no noticeable sources of CO. Total construction GHG emissions are estimated to be 3.2 metric tons of CO2e. Based on BAAQMD guidelines and the project specific information, GHG emissions during construction would be minor and temporary and thus, less than significant.

Operational:

The project would not conflict with an applicable plan, policy, or regulation adopted for the purposed of reducing GHG emissions. The key planning and policy documents in Santa Clara include the Climate Action Plan and the General Plan. The CAP recommends a citywide reduction target of 15 percent below the 2008 baseline by 2020. The CAP identifies measures to close the local emissions reduction gap and achieve emissions reduction target consistent with

AB32. A measure relevant to the project is coal-free and large renewables. Reducing the rate of emissions associated with electricity production is a critical measure in the City's CAP. Silicon Valley Power is switching to renewable energy sources as an alternative to fossil fuels has reduced their emissions substantially. Continued migration to renewable energy sources will reduce emissions from electrical generation into the future. Well pumps consume electricity, therefore, reducing GHG emissions from electricity production indirectly reduces the emissions from these types of projects. The project's electricity is provided by Silicon Valley Power, making the operation of the project consistent with the CAP.

Mitigation

None required.

9. Hazards and Hazardous Materials

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			х	
 b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? 				x
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			Х	
 d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? 				x
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				x
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				х

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				х
 h) Expose people or structures either directly or indirectly, to significant risk of loss, injury or death involving wildland fires? 				х

<u>Setting</u>

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. According to California Health and Safety Code Section 25501(o), "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the workplace or the environment.

Within Santa Clara, a number of local, state, and federal regulations govern the use, transport, and storage of hazardous materials. A Hazardous Materials Business Plan is generally required of any facility which generates any quantity of hazardous waste or which handles hazardous materials in amounts greater than 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases. The implementation and enforcement of these local, and state and federal regulations regarding the use, storage and transport of hazardous materials (including setbacks for flammable storage from property lines) reduce the potential for impacts to off-site land uses, in the event of an accidental release.

Two groundwater contamination sites are located in close proximity to the Fire Station No. 5. According to GeoTracker, one contamination site is located approximately 2,700 feet east, while the other is located approximately 2,500 feet south of the fire station. The constituent of concern at both locations is PCE. According to available data, the extent of soil and groundwater contamination is shallow (less than 20 feet below ground surface). Additionally, the consultant for the site located to the west of Fire Station No. 5 has requested a modification to the property deed that was put in place by the Regional Water Quality Control Board (Water Board) restricting future property use and development, and the Water Board responded with no objection to this request, meaning that attenuation of contamination has reached a sufficient level for the Water Board to modify its original deed restriction.

The proposed well site is approximately 2.25 miles outside of the airport's noise impact area.

Discussion

a) Less Than Significant Impact. The proposed project does not involve the routine use, transport, or disposal of hazardous materials. Construction activities associated with the installation of the proposed well would involve the use of potentially hazardous materials, including, vehicle fuels, oils, transmission fluids, and drilling fluid additives. Containment of these materials would follow
all application storage, usage and clean up regulatory requirements. Project operations would not involve the routine transport, use, or disposal of hazardous materials.

- b) No Impact. Project operation would not involve the routine transportation, use, or disposal of hazardous materials. However, the transportation, use, or disposal of hazardous materials would comply with all applicable federal, state, and local regulations to ensure the project will be operated in a non-hazardous manner. Therefore, the proposed project would not create a permanent significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.
- c) Less Than Significant Impact. The nearest school to the Fire Station No. 5 location is Bowers Elementary School, located at 2755 Berkley Avenue, located Approximately 200 meters away from the project site. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations.
- d) No Impact. A search of the state and federal agency databases for hazardous materials sites within one-mile of the proposed well locations was performed and the proposed locations are not located within a hazardous materials site.
- e) No Impact. The San Jose International Airport, a city owned public airport, is located approximately 2.25 miles east from the Fire Station No. 5 proposed well site. Additionally, the proposed new well site is outside of the airport's traffic pattern zone so the areas are not routinely overflown with aircraft operating in the normal traffic pattern. The potential for aircraft accidents is low and the need for land use restrictions is minimal. Thus, these projects would not result in safety hazards to people working on the project site.
- **f)** No Impact. No known private airstrips have been identified within two miles of the project site. Thus, no safety hazards associated with airport operations are anticipated to affect people working or residing within the project site.
- **g)** No Impact. The proposed project does not involve any changes to the existing public roadways that provide emergency access to the sites or the surrounding areas. It does not include any actions that physically interfere with any emergency response or emergency evacuation plans. Operation of the project would not require any additional employees and there would not be an increase in demand for emergency access. Area roadways and intersections would continue to operate at an acceptable level of service.
- h) No Impact. The proposed new well location is in developed urban areas and contain no wildland areas. There are no natural areas that would be subject to wildland fires and the project would not result in significant exposure of people or structures to wildland fires. Additionally, the project does not involve the construction of significant structures.

Mitigation

None Required.

10. Hydrology and Water Quality

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Violate any water quality standards or waste discharge requirements?			х	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			x	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on- or off-site?			х	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site?			х	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				х
f) Otherwise degrade water quality?				Х
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				Х
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				х
 i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result as a failure of a levee or dam? 				Х
j) Inundation by seiche, tsunami, or mudflow?				х

<u>Setting</u>

The City of Santa Clara is located in the Santa Clara Valley at the southern end of the San Francisco Bay. The valley is a structural trough formed by the Santa Cruz Mountains to the west and the Diablo Range to the east. Depth to bedrock is estimated to be approximately 1200-1500 feet in the Santa Clara Area. The oldest formation in the valley, which lies on the bedrock basement, is the Plio-Pliestocene Santa Clara Formation which is only exposed on the margins of the valley. The Pliestocene-Holoscene alluvium (alluvium) lies on top of the older Santa Clara Formation and is the major water bearing unit in the valley. Most wells in the valley are completed in the alluvium. Natural recharge to the alluvium is predominantly from streams on the periphery of the valley and percolation of precipitation on the valley floor. Artificial recharge from SCVWD facilities accounts for approximately 45% of all recharge to the alluvium (California Department of Water Resources, Bulletin 118).

Santa Clara operates 26 wells that tap underground aquifers and make up about 62 percent of Santa Clara's potable water supply. A water recharge program is administered by SCVWD from local reservoirs, and imported water enhances the dependability of the underground aquifer. The remainder of Santa Clara's water supply consists of water imported from two wholesale water agencies. For certain non-potable uses, recycled water from the San Jose/Santa Clara Regional Wastewater Facility is used. This is highly treated water delivered through separate pipelines. This source makes up about 18 percent of water sales in Santa Clara. Recycled water offsets the use of potable sources in drought prone California and is a reliable source for irrigation for conservation of potable sources.

The SCVWD and the City of Santa Clara approved and adopted an updated Urban Water Management Plan (UWMP) in 2015. The City of Santa Clara UWMP includes projected increases in water demand due to densification and intensification of both residential and non-residential land uses.

Discussion

a) Less than Significant Impact. Potential water pollutants may be generated during construction activities associated with the installation of the new well and pump, which may include sediment and petroleum-based fuels and lubricants. Construction activities have the potential to temporarily increase the sediment load of stormwater runoff from construction areas (i.e., disturbing soil at work area, the staging area, access road, etc.). Excess sediment in surface drainage pathways can alter and degrade the aquatic habitat in nearby surface water channels. In addition, if construction equipment or workers inadvertently release pollutants such as hydraulic fluid or petroleum to the surface water, these materials could be entrained by stormwater and discharged into surface water features causing water quality degradation.

As discussed in Section 4.6 – Geologic Processes, the physical characteristics of the soil at the project site indicate that susceptibility to erosion is slight. During construction-related activities, specific erosion control and surface water protection methods for each construction activity would be implemented on the project site. The type and number of measures implemented would be based upon location-specific attributes (i.e., slope, soil type, weather conditions). These control and protection measures, or BMPs, are standard in the construction industry and are commonly used to minimize soil erosion and water quality degradation.

b) Less Than Significant Impact. The addition of the new well would increase groundwater extraction; however, the well installation serves as a replacement to augment supplies lost through the abandonment of eight City wells (wells 1,3,6,9,14,19,20-02 and 22-03). Additionally,

the most recent information from DWR indicates the Santa Clara sub-basin is a medium priority sub-basin based on criteria that includes overlying population, projected growth, number of wells, irrigation acreage, groundwater reliance, and groundwater impacts. According to the UWMP, the sub-basin is not listed as overdrafted. Even when the City was at the historic peak for groundwater extraction in 1986/87, the basin was not approaching overdraft. The SCVWD monitors for local subsidence and works with various water retailers in the area to prevent subsidence and overdraft. In addition, SCVWD operates the basin to maintain or increase storage through managed recharge with local supplies augmented with imported raw water. The City's wells are strategically distributed around the city, the distribution adds to the reliability and minimizes overdrafting. To eliminate the possibility of long-term overdraft conditions, the City monitors groundwater levels and meters the groundwater pumping at all production wells. The City of Santa Clara UWMP includes the production of the City's wells and the depth to water for 2010 to 2015. Seasonal fluctuations are seen but there is no evidence of a declining water table or over-drafting. Additionally, LSCE reviewed static and pumping levels for 31 city wells from 2004 to 2015. Generally, static water levels in the City wells have been stable for the period and based on available data pumping water levels have been relatively stable for each well with no indication of declining pumping levels. As such, it is anticipated SCVWD and the City of Santa Clara would have sufficient water supply. The project would not directly interfere with groundwater recharge, through the addition of significant amounts of impervious surface.

- c) Less Than Significant Impact. Ground disturbance during well installation would not alter existing drainage pathways so as to make surface soils more susceptible to erosive forces (i.e., overland flow). The project site is flat, in an urbanized area, and no drainage pathways are located on-site. As discussed in section a), above, implementation of erosion control measures and BMPs during construction activities and storage of spoil piles would minimize soil erosion and water quality degradation.
- d) Less Than Significant Impact. Construction activities associated with the proposed project would not alter drainage patterns such that they would cause on- or off-site flooding. The project site is flat (Fire Station No. 5 is mostly cement) and no drainage-ways are located on-site. Limited soil disturbance would occur during installation of the well, which would result in the temporary storage of soil piles on-site. However, implementation of standard construction BMPs would minimize the potential for surface runoff and reduce the potential for flooding.
- e) No Impact. The proposed project will not create an increase in runoff that would result in an exceedance of runoff to stormwater facilities.
- **f)** No Impact. The proposed projects would not result in potential surface water pollution beyond the issues discussed in section a), above. Therefore, the proposed projects would not otherwise degrade water quality.
- **g and h) No Impact.** Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater. The Federal Emergency Management Agency (FEMA) is responsible for mapping areas subject to flooding during a 100-year flood event (i.e., 1 percent chance of occurring in a given year). According to floodplain mapping of the project

area (map # 06085C0226H), the site is within flood Zone X. Zone X applies to areas that have been determined outside the 0.2 percent chance of flood every year. The project site is not located within a 100-year flood hazard area and there would be no impact related to the placement of housing or structures within a 100-year flood hazard area.

- i) No Impact. No reservoirs or dams exist within the project area that, if catastrophic failure occurs, would affect the project site. There are no levees which that would create flooding impacts to the project site.
- **j)** No Impact. The project site is not located in areas that would be impacted by a seiche, tsunami, or mudflows.

Mitigation

None Required.

11. Land Use and Planning

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Physically divide an established community?				Х
b) Cause a significant environmental impact due to a conflict with any land use plan adopted for the purpose of avoiding or mitigating an environmental effect?				х
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				х

Discussion

- a) No Impact. The proposed project involves the installation of a new well and associated site improvements within the boundaries of the existing systems and would not physically divide a community. The proposed new well location is within developed areas of the City of Santa Clara. The Fire Station No. 5 is surrounded by residential development. The project is consistent with the pattern of surrounding land uses.
- **b)** No Impact. The proposed project involves the installation of a new municipal well within a developed parcel. The proposed project would not conflict with any applicable plan, land use policy or regulation with jurisdiction over the project.
- c) No Impact. The proposed project site is not subject to any adopted habitat conservation plans or natural community conservation plans. Therefore, no impact would occur.

Mitigation

None Required.

12. Mineral Resources

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				х
b) Result in the loss of availability of a locally-important mineral resource recovery site on a local general plan, specific plan or other land use plan?				х

Setting

The State Office of Mine Reclamation's list of mines (the AB 3098 List) regulated under the Surface Mining and Reclamation Act (SMARA) does not include any mines within the City of Santa Clara. The project site is within a highly developed urban area. No record exists of gravel or other mineral resource extraction in the project route area.

Discussion

a and b) No Impact. The project site is not located within a designated area containing mineral deposits of regional significance and therefore, would not result in the loss of availability of a known mineral resource. For these reasons, the proposed project would not result in impacts to mineral resources.

Mitigation

None required.

13. Noise

Would the project result in:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) 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?		x		
b) Generation of excessive ground borne vibration or groundborne noise levels?		x		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			х	

Would the project result in:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
 d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project? 		x		
e) 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?			x	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				х

<u>Setting</u>

Noise is typically described as any unwanted or objectionable sound and is technically described in terms of the loudness of the sound (amplitude) and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). However, because the human ear is not equally sensitive to sound at all frequencies, the A-weighted decibel scale (dBA), which gives greater weight to the frequencies of sound to which the human ear is most sensitive, was devised to relate noise to human sensitivity.

The dBA measurement system is not an effective way to measure noise levels within a community, since community noise is always fluctuating and changing. Therefore, other methods of describing noise levels have been developed, the most common of which are the Community Noise Equivalent Level (CNEL) and the Day-Night Noise Level (L_{dn}). CNEL is an average of all noise levels recorded over a 24-hour period. L_{dn} is an average that is similar to CNEL, but it also includes a 10-dB penalty for nighttime noise that occurs between 10:00 p.m. and 7:00 a.m.

Santa Clara's General Plan identifies noise and land use compatibility standards for various land uses in the City. The noise standard is 70 CNEL for industrial land uses and 55 dBA CNEL for residential land uses. Noise levels exceeding 70 dBA CNEL are considered incompatible with residential land uses.

The City's Noise Ordinance allows construction activities within 300 feet of any residentially zoned properties between the hours of 7:00 A.M. to 6:00 P.M. on weekdays other than holidays, and within the hours of 9:00 A.M. to 6:00 P.M. on any Saturday which is not a holiday. Quantitative noise limits for construction are not established in the ordinance.

Discussion

a) Less Than Significant With Mitigation. Noise levels contributed by the proposed project would be from construction noise which is temporary in nature, however, initial well drilling will take place 24 hours a day until completed to maintain the integrity of the borehole. The Fire Station No. 5 project site is located within a residential area with sensitive receptors located in close

proximity to the project area (approximately 60 feet). Noise generated from well drilling at this location may exceed City noise standards. The implementation of **Noise MM** – **1** would ensure that noise related impacts from initial well drilling would be less than significant.

- b) Less Than Significant Impact With Mitigation. Drill rigs can result in vibration measuring 0.089 in/sec Peak particle Velocity (PPV) at a distance of 25 feet (FTA, 2006). The nearest sensitive receptor to the proposed well location is approximately 60 feet south of the subsurface well drilling area. At 70 feet, vibration levels from well drilling and development activities would be attenuated to approximately 0.02 in/sec PPV, which is below the threshold for damage to fragile historic buildings of 0.12 in/sec PPV established by Caltrans as well as below the "strongly perceptible" threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance. Operation of the well pump would generate vibration measuring up to 0.28 PPV. At 70 feet, vibration levels would be attenuated to approximately 0.02 in/sec PPV which is below the "strongly perceptible" threshold. The implementation of Noise MM-1 would ensure that ground borne noise related impacts from initial well drilling would be less than significant.
- c) Less Than Significant Impact. The proposed project would not substantially increase the permanent ambient noise levels in the project vicinity. The project would include a well pump that would occasionally run. Small vertical turbine pumps generate an upper end noise level of 70 dBA at 1 meter at 3600 revolutions per minute, however, the pump that will be used is submersible and will be located below the ground surface within the well shaft. Therefore, it is anticipated the noise generated by the proposed pump would be less than a vertical turbine style pump. The nearest sensitive receptor is approximately 60 feet away, the noise level generated by a vertical turbine pump would be attenuated to 43 dBA, the submersible pump is expected to be less than 43 dBA, which is below the City standards.
- d) Less Than Significant With Mitigation. As previously mentioned, implementation of Noise MM

 1 would ensure the project would not substantially increase temporary or periodic ambient noise levels at the project site.
- e) Less Than Significant Impact. The proposed project site is outside the two-mile radius of the San Jose International Airport. Although air-craft related noise is occasionally audible at the project site, noise from aircraft would not increase ambient noise levels substantially. The project is outside of the 65 dBA CNEL 2022 noise contours and exterior and interior noise levels resulting from aircraft would be compatible with the project.
- f) No Impact. The project is not located near a private airstrip.

Mitigation

Noise MM – 1: At the Fire Station No. 5 proposed well site, temporary sound attenuation sound walls, capable of reducing sound generated during well drilling operations will be installed, as indicated on the project's plans. The length of sound attenuation structure will be approximately 200 linear feet and the walls will be a minimum of 16 feet high.

Although notification as a mitigation does not result in lowered construction noise levels, early communication can result in lessening the adversity of the impact at a given receptor by allowing them to prepare for impending construction activities. Residents and other sensitive receptors within 300 feet of a nighttime construction area shall be notified of the construction

location, nature of activities, and schedule, in writing at least 14 days prior to the commencement of construction activities. The project applicant or the contractor(s) shall designate a construction disturbance coordinator who would be responsible for responding to construction complaints. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem.

14. Population and Housing

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				x
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				х

<u>Setting</u>

According to the City of Santa Clara General Plan (2011), Santa Clara County is the fifth most populous County in the State, with a population of 1.8 million persons. The City has a population of approximately 115,500 residents, representing 6.3 percent of the total population in Santa Clara County (DOF 2008). ABAG's Projections 2007 indicates that the population in both the County and the City has continued to grow over the past five years, though at a slower rate than in the previous decade after the 'dot-com' bust/recession that occurred early in the decade.

Santa Clara County had an average household size of 2.9 persons in 2000, while households in the City of Santa Clara were smaller with 2.6 people. There was a gradual increase in household size in the City from 1990 to 2000. The median age of the County population in 2000 (34.0) was slightly higher than that for the City of Santa Clara (33.4). As with household size, the median age of the population increased from 32.4 in 1990 to 33.4 in 2000, reflecting the aging trend that is taking place throughout the Bay Area and the country overall (US Census 2007).

Discussion

- a) No Impact. The proposed well project would result in the development of one new municipal groundwater well. The proposed project involves the installation of a new municipal well within the City limits. Previously, the City abandoned eight wells, the proposed well will serve to augment water supply lost from the abandonment of those eight wells. The project does not involve any residential development which could induce population growth within the City.
- **b)** No Impact. The Fire Station No. 5 does contain temporary housing for the firemen working at the station during their shifts. However, construction and operation of the project would not displace existing housing or people necessitating construction of replacement housing elsewhere.

Mitigation

None Required.

15. Public Services

Would the project: result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Fire protection?			Х	
b) Police protection?				Х
c) Schools?				Х
d) Parks?				Х
e) Other public facilities?				Х

<u>Setting</u>

The following section describes the existing fire, police, schools, and community facilities within the City of Santa Clara and the environmental effects of implementation of the proposed Draft 2010-2035 General Plan (2011):

Fire

The Santa Clara Fire Department headquarters is located at Benton and Alviso streets. The Department has 10 fire stations consisting of eight engines, two trucks, 1 rescue/light unit, three ambulances, one hazardous materials unit, and one command vehicle. The department is comprised of 180 personnel and is supplemented by over 60 volunteer firefighters.

Police

The Santa Clara Police Department (SCPD) has maintained a relatively low crime rate since the mid-1980s. Most common concerns expressed by residents and business representatives are graffiti, vandalism and drug activity. The Department currently has two police stations: the headquarters located on El Camino Real at Benton Street/Railroad Avenue and a substation in Rivermark, near Agnew Road and Montague Expressway. The SCPD also operates the Firearms Training Center, Tech Service Center, and 911 Dispatch.

Schools

Schools that serve children in grades K-12 who reside in the City of Santa Clara are operated by six school districts: Santa Clara Unified School District, San José Unified School District, Cupertino Union

School District, Fremont Union High School District, Campbell Union School District, and Campbell Union High School District. In addition, the City of Santa Clara houses a number of private and charter schools serving these same grades.

Public Facilities

Existing libraries in Santa Clara are the Central Park Library, the Main Library, located on Homestead Road, and the Mission Library Family Reading Center, located in the historic core of the City. The Santa Clara Parks and Recreation Department provides parks and recreational services in Santa Clara. The Department is responsible for maintaining and programming the various parks and recreation facilities, and works cooperatively with public agencies in coordinating all recreational activities within Santa Clara. Overall, as of July 2018, the Department maintains and operates a total of 38 parks throughout Santa Clara.

Discussion

- a) Less Than Significant Impact. Implementation of the proposed project would not increase the need for fire protection beyond existing conditions. However, coordination is needed with the operators of Fire Station No. 5, as temporary construction of the well will be located on the fire station's parcel.
- **b)** No Impact. Implementation of the proposed project would not increase the police service calls to the vicinity beyond existing conditions. The proposed project does not involve the construction of residential, commercial, industrial, or recreational uses.
- c) No Impact. Development at the site would not result in an incremental demand for school facilities in the area as the project does not involve residential development.
- **d)** No Impact. The project would result in the development of a municipal well, which would not create significant impacts to area parks and facilities. See discussion 4.15 Recreation for more detail.
- e) No Impact. The proposed project involves the installation of a new municipal drinking water well and not would result in added need for County services, such as law enforcement, fire protection, general services, libraries, and roads.

Mitigation

None Required.

16. Recreation

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				х

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				х

<u>Setting</u>

The City of Santa Clara Parks and Recreation Department provides parks and recreational services in Santa Clara. The department is responsible for maintenance of city owned parks and recreational facilities as well as, coordinating recreational activities for the public. The nearest park to the proposed project is Bowers Park located approximately 0.15 miles east of the proposed project site.

Discussion

- a) No Impact. Increase in the demand for recreational facilities is typically associated with substantial increases in population. As discussed in Section 4.13 Population and Housing, the proposed projects do not involve the construction of residences and would not induce population growth in the area. The project would not result in a substantial increase in demand for recreational facilities or adversely affect park/population standards.
- **b)** No Impact. The proposed project does not include plans for additional recreational facilities nor would it require expansion of existing recreational facilities. Therefore, the proposed project would not result in any adverse physical effects on the environment from construction or expansion of recreational facilities.

Mitigation

None required.

17. Transportation

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			х	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				х
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				х

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
d) Result in inadequate emergency access?				х

<u>Setting</u>

A key goal of the City of Santa Clara 2010-2035 General Plan is to ensure the accommodation of all users and multiple travel modes, while maintaining a system that provides for the safe and efficient movement of people and goods. The circulation network serving the City of Santa Clara consists of roadways, transit, bicycle and pedestrian facilities.

Regional access to the project is provided by US-101 and Interstate 280. US-101 is located north of the project site and Interstate 280 is found south of the project site. Local access to sites is provided to the Serra Tanks by the Lawrence Expressway and Stevens Creek Boulevard. While local access to Fire Station No. 5 is provided by Bowers Avenue, Mark Avenue, Francis Avenue, and Barkley Avenue.

Discussion

- a) Less than Significant. Construction of the proposed project would temporarily increase local traffic due to the transport and delivery of construction equipment and materials as well as from daily worker trips for the duration of drilling the well and installing the pump. There will be no post- construction impacts circulating systems.
- **b)** No Impact. Section 15064.3 concerns whether a project impacts "vehicle miles traveled." The proposed project is the installation of a new municipal water well and pump and will not impact vehicle miles traveled by city residents.
- c) No Impact. The proposed project would not change the alignment of area roadways and would not introduce types of vehicles that are not already traveling within the vicinity of the site.
- **d)** No Impact. The proposed project involves installation of a new water well and pump and will not result in inadequate emergency access.

Mitigation

None Required.

18. Tribal Cultural Resources

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i.) 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), or			х	
 ii.) A resource 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. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe 		x		

Discussion

- i. Less Than Significant. As part of the CEQA process, the City of Santa Clara will send letters to the Native American Tribes in the area. The letters contain information about the project, an inquiry regarding any unrecorded Native American cultural resources or other areas of concern within or adjacent to the project, and a solicitation of comments, questions, concerns with the project.
- Less Than Significant With Mitigation. In accordance with Section 21080.3.1 of the California Public Resources Code and AB 52, the City of Santa Clara has provided a Notice of Opportunity to Native American tribes to request consultation for projects occurring within the City. To date, the City has not received any requests from regional tribes to be included in the AB 52 list. In addition to tribal consultation, the implementation of Cultural Resources MM 1 will ensure any previously unidentified Native American resources or remains encountered during construction are less than significant.

Mitigation

None Required

19. Utilities and Service Systems

Would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?				x
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				x
c) Result in a determination by the wastewater treatment provider which serves/may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				x
 d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? 				x
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				x

Setting

Potable Water

The City of Santa Clara operates a public water supply and distribution system that provides water to approximately 117,200 customers in Santa Clara County with approximately 25,889 service connections. The City of Santa Clara Water District operates 26 wells and 7 storage tanks with approximately 28.8 million gallons of capacity. These 26 wells provide 62 percent of the City's potable water supply with the remaining 38 percent being imported from the SCVWD and the San Francisco Hetch Hetchy System. Artificial recharge from SCVWD facilities accounts for approximately 45% of all recharge to the aquifer. Approximately 16 percent of the City's water use is composed of recycled water.

Wastewater

Wastewater from Santa Clara is collected and treated at the San Jose-Santa Clara Regional Wastewater Facility. The San Jose-Santa Clara Regional Wastewater Facility is jointly owned by the Cities of San Jose and Santa Clara and is operated by the City of San Jose's Department of Environmental Services. The wastewater facility provides primary, secondary, and tertiary treatment of wastewater and has capacity to treat 167 million gallons per day, with an average of 110 million gallons per day.

Santa Clara owns and operates the wastewater collection system within the City. The system includes approximately 270 miles of sewer mains and seven pump stations to convey an average of 15 million gallons per day of wastewater to the regional wastewater facility.

Recycled Water

Santa Clara's fourth source of water consists of tertiary treated (recycled) water which accounts for 16 percent of the Santa Clara's water use. Recycled water within Santa Clara is supplied from the jointly owned San Jose-Santa Clara Regional Wastewater Facility. Recycled water from the plant is delivered to Santa Clara through 33 miles of pipeline. The City uses recycled water in order to conserve the use of potable water. Generally, recycled water is used for irrigation, however industries use recycled water in processes, cooling towers, or flushing toilets in buildings with dual plumbing.

Solid Waste

Solid waste collection services are provided by the Mission Trail Waste System, they also provide yard waste collection services throughout the City. Santa Clara has an arrangement with the owners of the Newby Island Landfill, located in San Jose, to provide disposal capacity for Santa Clara through 2024. Recycling services are provided through Stevens Creek Disposal and Recycling.

Electricity and Gas

Electricity is provided by Silicon Valley Power while gas service is provided by Pacific Gas & Electric, respectively. Silicon Valley Power owns more than 510-MW of electric-generating resources supplemented by purchase agreement for 261-MW of additional capacity for a total capacity of 771 MW. This capacity far exceeds Santa Clara's current peak electricity demand of approximately 585-MW. No new generation peak capacity is necessary to meet the capacity requirements of new construction.

Discussion

- **a & b) No Impact**. This project proposes the construction of a new municipal well and operation pump. The installation and development of a new well would fulfill current and future water needs. Development of these facilities would not cause a significant environmental effect if the recommended mitigation measures as identified in previous sections are implemented.
- **c)** No Impact. As previously discussed in the Hydrology and Water Quality section, the proposed project would not increase stormwater runoff. The proposed project will not require the construction of new storm drainage facilities.
- **d & e)** No Impact. The project would not have an impact on an existing wastewater or solid waste facilities because no wastewater or solid waste will be generated as part of this project.

Mitigation

None Required.

20. Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
 a) Substantially impair an adopted emergency response plan or emergency evacuation plan? 				х
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				х
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				х
 d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, poste-fire slope instability, or drainage changes? 				x

Setting

Wildfire continues to be a threat to communities across the United States; in the last few years, California has experienced the largest wildfires in its history. Wildfires with a broad range of sizes and locations have destroyed hundreds of homes; the cost to suppress wildfires across the nation typically exceeds one billion dollars annually.

Because wildfires often threaten areas much larger than individual communities, it is critically important that planning for the occurrence of wildfire occurs within communities and between communities. In recognition of the advantages of a broader scope of wildfire preparation, multijurisdictional agencies, organizations, and residents have joined together to develop this plan, the Santa Clara County Community Wildfire Protection Plan. This larger scale of planning increases the level of coordination and cooperation among stakeholders which can lead to broader and more efficient wildfire risk mitigation measures.

Discussion

a thru d) No Impact. The project involves the drilling and installation of a new municipal water well and pump. The project would not have potential to impair an adopted emergency response plan or emergency evacuation plan for a wildland area and would not involve or modify wildlands and thus would have no potential to increase the overall risk of wildfire. The proposed project would not result in development in or adjacent to wildlands, and would not require installation or maintenance in wildlands, potentially increasing wildfire risks. Additionally, the project would not construct housing or relocate populations and therefore would not expose people or structures to risk associated with accelerated post-fire slope instability, or drainage changes.

Mitigation

None Required

Mandatory Findings of Significance	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant	No Impact
 a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? 		x		
 b) Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? 			х	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		x		

4. MANDATORY FINDINGS OF SIGNIFICANCE

Discussion

a) Less Than Significant With Mitigation. Based upon background research and site visits, with implementation of mitigation measures identified in this Initial Study, the project does not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Any potential short-term increases in potential effects to the environment during construction are mitigated to a less-than-significant level, as described throughout the Initial Study.

- b) Less Than Significant. In accordance with CEQA Guidelines Section 15183, the environmental analysis in this Initial Study was conducted to determine if there were any project-specific effects that are peculiar to the project or its site. No project-specific significant effects peculiar to the project or its site were identified that could not be mitigated to a less-than-significant level. The proposed project would not contribute to environmental effects in the areas of biological resources, cultural resources, air quality, temporary increases in construction-generated dust and noise, geological resources and potential hazardous materials considerations with construction equipment and materials. Mitigation measures incorporated herein mitigate any potential contribution to cumulative impacts associated with these environmental issues to a less-than-significant level and would preclude the projects from making a substantial contribution to cumulative impacts. Therefore, the proposed project does not have impacts that are individually limited, but cumulatively considerable.
- c) Less than Significant with Mitigation. As previously discussed, the project would not result in significant impacts on humans with the implementation of mitigation measures identified within this initial study. Mitigation measures are identified in this initial study to reduce potential impacts related to air quality, biological resources, cultural resources, and noise which could affect humans. Mitigation measures identified in this Initial Study would reduce the effects to less than significant level.

5. PREPARERS AND REFERENCES

Report Preparation

Kamie Loeser, Principal Planner, NorthStar, Reviewer Matt Rogers, Associate Planner/Biologist, NorthStar, Preparer Alyson Johnson, Assistant Environmental Scientist, NorthStar, Preparer Scott Lewis, Principal Geologist, Luhdorff & Scalmanini, Reviewer

References

Bay Area Air Quality Management District. 2017. BAAQMD CEQA Air Quality Guidelines.

- California Department of Conservation. *Fault Activity Map of California Map.* Accessed July 2019. Available at: maps.conservation.ca.gov/cgs/fam/
- California Department of Conservation. *California Important Farmland Finder*. Accessed July 2019. Available at: maps.conservation.ca.gov/ciff/ciff.html
- California Department of Conservation. 2012. *Fifty-Year Aggregate Demand Compared to Permitted Aggregate Reserves*. Available at www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS 52 2012.pdf
- California Department of Toxic Substance Control. 2009. *Envirostor Database*. Accessed July 2019. Available at: http://www.envirostor.dtsc.ca.gov/public
- California Department of Resources Recycling and Recovery. Solid Waste Information System, Newby Island Sanitary Landfill. Available at : http://www2.calrecycle.ca.gov/SWFacilities/Directory/43-AN-003/Detail

- California Department of Transportation. *California Scenic Highway Mapping System*. Available at: http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html
- City of Santa Clara City Code. Chapter 9.10: *Regulation of Noise and Vibration*. Available: http://www.codepublishing.com/CA/SantaClara/#!/SantaClara09/SantaClara0910.html. Accessed: August, 2019.
- City of Santa Clara Water & Sewer Utilities. Recycled Water Utility. Available at: http://santaclaraca.gov/government/departments/water-sewer-utilities/recycled-water-utility. Accessed August, 2019.
- City of Santa Clara Water & Sewer Utility. Available at: http://santaclaraca.gov/government/departments/water-sewer-utilities/recycled-water-utility. Accessed: July, 2019.
- City of Santa Clara Water & Sewer Utility. Fact Sheet. Available at: http://santaclaraca.gov/government/departments/water-sewer-utilities/fact-sheet. Accessed: August, 2019.
- City of Santa Clara Water and Sewer Utilities. 2015. Urban Water Management Plan. Available at: http://santaclaraca.gov/home/showdocument?id=48088. Accessed: August, 2019.
- City of Santa Clara. 2010. 2010-2035 General Plan. Available at: http://santaclaraca.gov/government/departments/community-development/planningdivision/ general-plan-and-specific-plans. Accessed: August, 2019.
- City of Santa Clara. 2013. *Climate Action Plan.* Available at: http://santaclaraca.gov/home/showdocument?id=10170. Accessed: August, 2019.
- Federal Emergency Management Agency. 2009. Flood Insurance Rate Map.
- Luhdorff & Scalmanini. 2019. New Well Siting Study. Evaluation and Feasibility of Installing New Wells at Seven Sites in the City of Santa Clara.

Luhdorff & Scalmanini. 2019. Draft Fire Station No. 5 Summary and Design Report.

- Santa Clara Fire Department. History of the Fire Department. Available at: http://santaclaraca.gov/government/departments/fire/about-us/history. Accessed: August, 2019.
- Santa Clara Police Department. About Us. Available at: http://santaclaraca.gov/government/departments/police-department/about-us. Accessed: August, 2019.
- Santa Clara Unified School District. Our Schools. Available at: http://www.santaclarausd.org/schools.cfm. Accessed: August, 2019.

Santa Clara Valley Water District. 2015. Urban Water Management Plan.

Santa Clara Valley Water District. 2019. *Groundwater Condition Report, Santa Clara County*. Available at: https://www.valleywater.org/sites/default/files/2019-08/Final_Aug_2019_Report.pdf

6. ACRONYMS AND ABBREVIATIONS

BAAQMD	Bay Area Air Quality Management District
Caltrans	California Department of Transportation
CARB	California Air Resources Board
City	City of Santa Clara
County	County of Santa Clara
DDW	State Water Resources Control Board Division of Drinking Water
DFG	(California) Department of Fish and Game
DWR	(California) Department of Water Resources
DTSC	(California) Department of Toxic Substances Control
ЕРА	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
NRCS	Natural Resource Conservation Science
SCVWD	Santa Clara Valley Water District
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
<u>Guidelines, Policies, Programs,</u>	Regulations:
СВС	
CCR	
CEQA	California Environmental Quality Act
CFR	
CWA	Clean Water Act
EIR	Environmental Impact Report
ESA	Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
НСР	Habitat Conservation Plan
МВТА	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
OCAP	(SWP) Operations Criteria and Plan
PRC	Public Resources Code
SIP	State Implementation Plan
SWP	State Water Project
UWMP	Urban Water Management Plan
	0

Agencies, Boards, Commissions, Districts:

Miscellaneous:

AF	Acre-feet
Bgs	Below ground surface
BMPs	Best Management Practices
CH4	Methane
CNEL	Community Noise Equivalent Level
CO ₂	Carbon Dioxide
CO2e	Carbon dioxide equivalents
dBA	A weighted decibel
dB	Decibel(s)
FIRM	Flood Insurance Rate Map
GHG	Green House Gases
I-280	Junipero Serra Freeway
kWh	Kilowatt hours
L _{dn}	Day-Night Noise Level
LSCE	Ludhorff and Scalmanini Consulting Engineers
MTCO ₂ e	Metric Tons of Carbon dioxide equivalents
N ₂ O	Nitrous oxides
PM	Particulate Matter
Ppm	Parts per Million
PPV	Peak Particle Velocity
TACs	Toxic Air Contaminants

APPENDICES

Santa Clara Municipal Well Project - Santa Clara County, Winter

Santa Clara Municipal Well Project

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	10,000.00	User Defined Unit	0.22	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	5			Operational Year	2020
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Santa Clara Municipal Well Project - Santa Clara County, Annual

Santa Clara Municipal Well Project

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	10,000.00	User Defined Unit	0.22	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Jrban Wind Speed (m/s)		2.2	Precipitation Freq (Days)	58
Climate Zone	5			Operational Year	2020
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

CalEEMod Version: CalEEMod.2016.3.1

Santa Clara Municipal Well Project - Santa Clara County, Annual

Project Characteristics - Construction to begin in 2019 and finish in 2020

Land Use - Project area is approximately 10,000 square feet

Construction Phase - Well Drilling and installation will take at the most 7 days.

Off-road Equipment - Drill Rig will be utilized to install new well

Grading - Site ground disturbance will be minimal and located at the new well locations.

Vehicle Emission Factors -

Solid Waste - Neal Road Landfill captures and recovers approximately 90-95 percent of the gas emitted by the landfill

Operational Off-Road Equipment - Operational equipment are 15 horsepower electrical pumps for wells

Stationary Sources - Emergency Generators and Fire Pumps -

Construction Off-road Equipment Mitigation -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Stationary Sources - User Defined -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	1.00	7.00
tblConstructionPhase	PhaseEndDate	9/2/2019	9/10/2019
tblGrading	AcresOfGrading	3.50	0.50
tblLandUse	BuildingSpaceSquareFeet	0.00	10,000.00
tblLandUse	LandUseSquareFeet	0.00	10,000.00
tblLandUse	LotAcreage	0.00	0.22
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperHorsePower	84.00	15.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	OperationalYear	2018	2020

Page 3 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT	Г/yr				
2019	2.5800e- 003	0.0313	0.0150	4.0000e- 005	4.0000e- 004	1.2900e- 003	1.6900e- 003	7.0000e- 005	1.1800e- 003	1.2500e- 003	0.0000	3.1874	3.1874	9.7000e- 004	0.0000	3.2117
Maximum	2.5800e- 003	0.0313	0.0150	4.0000e- 005	4.0000e- 004	1.2900e- 003	1.6900e- 003	7.0000e- 005	1.1800e- 003	1.2500e- 003	0.0000	3.1874	3.1874	9.7000e- 004	0.0000	3.2117

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr									MT	Г/yr					
2019	2.5800e- 003	0.0313	0.0150	4.0000e- 005	2.6000e- 004	1.2900e- 003	1.5400e- 003	5.0000e- 005	1.1800e- 003	1.2300e- 003	0.0000	3.1874	3.1874	9.7000e- 004	0.0000	3.2117
Maximum	2.5800e- 003	0.0313	0.0150	4.0000e- 005	2.6000e- 004	1.2900e- 003	1.5400e- 003	5.0000e- 005	1.1800e- 003	1.2300e- 003	0.0000	3.1874	3.1874	9.7000e- 004	0.0000	3.2117

Santa Clara Municipal Well Project - Santa Clara County, Annual

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	35.00	0.00	8.88	28.57	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2019	9-30-2019	0.0345	0.0345
		Highest	0.0345	0.0345

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category		_			ton	s/yr		_					MT	/yr		
Area	0.0530	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.0372	0.2312	0.1805	4.1000e- 004		0.0116	0.0116		0.0116	0.0116	0.0000	26.2418	26.2418	3.0500e- 003	0.0000	26.3180
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0902	0.2320	0.2730	4.2000e- 004	0.0000	0.0119	0.0119	0.0000	0.0119	0.0119	0.0000	26.4205	26.4205	3.5300e- 003	0.0000	26.5086

Page 5 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NC)x (00	SO2	Fugit PM	tive 10	Exhaust PM10	PM10 Total	Fug PN	itive E 12.5	xhaust PM2.5	PM2.5 Total	Bio	- CO2	NBio- CO2	? Total	CO2	CH4	N2O	CC)2e
Category							tons	s/yr										MT/yr				
Area	0.0530	8.500 00)0e- 0.(4	0925	1.0000e- 005			3.3000e- 004	3.3000e- 004		3	.3000e- 004	3.3000e- 004	0.	0000	0.1787	0.1	787 4	.8000e- 004	0.0000	0.19	907
Energy	0.0000	0.00	00 0.0	0000	0.0000	 		0.0000	0.0000	+ 		0.0000	0.0000	0.	.0000	0.0000	0.0	000 (0.0000	0.0000	0.0	000
Mobile	0.0000	0.00	00 0.0	0000	0.0000	0.00	000	0.0000	0.0000	0.0	000 (0.0000	0.0000	0.	.0000	0.0000	0.00	000 (0.0000	0.0000	0.0	000
Offroad	0.0372	0.23	0.1	1805	4.1000e- 004	+ 	+	0.0116	0.0116	+ 		0.0116	0.0116	0.	0000	26.2418	26.2	2418 3	.0500e- 003	0.0000	26.3	180
Waste		+ 	+			+ 		0.0000	0.0000	+ 	+-	0.0000	0.0000	0.	.0000	0.0000	0.00	000 (0.0000	0.0000	0.0	000
Water		+ ! !	+	 		+ 		0.0000	0.0000	+ 	+-	0.0000	0.0000	0.	0000	0.0000	0.00	000 (0.0000	0.0000	0.0	000
Total	0.0902	0.23	20 0.2	2730	4.2000e- 004	0.00	000	0.0119	0.0119	0.0	000	0.0119	0.0119	0.	0000	26.4205	26.4	205 3.	.5300e- 003	0.0000	26.5	086
	ROG		NOx	С	0 S	02	Fugi PM	itive Exh 110 Pl	aust Pl M10 T	M10 otal	Fugitive PM2.5	e Exh PN	aust Pl 12.5 T	M2.5 otal	Bio- C	O2 NBio	-CO2	Total CO	2 CH	4 N	20	CO2e
Percent Reduction	0.00		0.00	0.	00 0	.00	0.0	00 0	.00 0	0.00	0.00	0.	.00	0.00	0.0	0 0.	00	0.00	0.0	0 0	00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2019	9/10/2019	5	7	

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Page 6 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
	Count	Number	Number	Number	Length	Length	Length	Class	Vehicle Class	Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

Page 7 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Fugitive Dust					2.7000e- 004	0.0000	2.7000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5200e- 003	0.0312	0.0145	3.0000e- 005		1.2900e- 003	1.2900e- 003		1.1800e- 003	1.1800e- 003	0.0000	3.0646	3.0646	9.7000e- 004	0.0000	3.0888
Total	2.5200e- 003	0.0312	0.0145	3.0000e- 005	2.7000e- 004	1.2900e- 003	1.5600e- 003	3.0000e- 005	1.1800e- 003	1.2100e- 003	0.0000	3.0646	3.0646	9.7000e- 004	0.0000	3.0888

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e- 005	5.0000e- 005	4.9000e- 004	0.0000	1.4000e- 004	0.0000	1.4000e- 004	4.0000e- 005	0.0000	4.0000e- 005	0.0000	0.1229	0.1229	0.0000	0.0000	0.1230
Total	6.0000e- 005	5.0000e- 005	4.9000e- 004	0.0000	1.4000e- 004	0.0000	1.4000e- 004	4.0000e- 005	0.0000	4.0000e- 005	0.0000	0.1229	0.1229	0.0000	0.0000	0.1230

Page 8 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	7/yr		
Fugitive Dust					1.2000e- 004	0.0000	1.2000e- 004	1.0000e- 005	0.0000	1.0000e- 005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5200e- 003	0.0312	0.0145	3.0000e- 005		1.2900e- 003	1.2900e- 003		1.1800e- 003	1.1800e- 003	0.0000	3.0646	3.0646	9.7000e- 004	0.0000	3.0888
Total	2.5200e- 003	0.0312	0.0145	3.0000e- 005	1.2000e- 004	1.2900e- 003	1.4100e- 003	1.0000e- 005	1.1800e- 003	1.1900e- 003	0.0000	3.0646	3.0646	9.7000e- 004	0.0000	3.0888

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e- 005	5.0000e- 005	4.9000e- 004	0.0000	1.4000e- 004	0.0000	1.4000e- 004	4.0000e- 005	0.0000	4.0000e- 005	0.0000	0.1229	0.1229	0.0000	0.0000	0.1230
Total	6.0000e- 005	5.0000e- 005	4.9000e- 004	0.0000	1.4000e- 004	0.0000	1.4000e- 004	4.0000e- 005	0.0000	4.0000e- 005	0.0000	0.1229	0.1229	0.0000	0.0000	0.1230

4.0 Operational Detail - Mobile

Page 9 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	7/yr		
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Ave	rage Daily Trip Ra	ate	Unmitigated	Mitigated		
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT		
User Defined Industrial	0.00	0.00	0.00				
Total	0.00	0.00	0.00				

4.3 Trip Type Information

	Miles				Trip %		Trip Purpose %			
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by	
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0	

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Page 10 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category		_			ton	s/yr			_			_	MT	/yr	_	
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	 	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Page 11 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr					ton	s/yr							MT	/yr		
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGa s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr		-	-		ton	s/yr	_						MT	/yr		
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000	 	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Page 12 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	ī/yr	
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		ΜT	/yr	
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Page 13 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	ſ/yr		
Mitigated	0.0530	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907
Unmitigated	0.0530	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory					ton	s/yr							MT	/yr		
Architectural Coating	5.2100e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.7000e- 003	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907
Total	0.0530	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907

Page 14 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory					ton	is/yr							MT	/yr		
Architectural Coating	5.2100e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.7000e- 003	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907
Total	0.0530	8.5000e- 004	0.0925	1.0000e- 005		3.3000e- 004	3.3000e- 004		3.3000e- 004	3.3000e- 004	0.0000	0.1787	0.1787	4.8000e- 004	0.0000	0.1907

7.0 Water Detail

7.1 Mitigation Measures Water

Page 15 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

	Total CO2	CH4	N2O	CO2e
Category		MT	ſ/yr	
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		MT	/yr	
User Defined Industrial	0/0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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Page 16 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		MT	/yr	
User Defined Industrial	0/0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
		MT	ſ/yr	
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Page 17 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		MT	/yr	
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		MT	/yr	
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Page 18 of 18

Santa Clara Municipal Well Project - Santa Clara County, Annual

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Pumps	2	8.00	260	15	0.74	Electrical

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type					ton	s/yr							MT	/yr		
Pumps	0.0372	0.2312	0.1805	4.1000e- 004		0.0116	0.0116		0.0116	0.0116	0.0000	26.2418	26.2418	3.0500e- 003	0.0000	26.3180
Total	0.0372	0.2312	0.1805	4.1000e- 004		0.0116	0.0116		0.0116	0.0116	0.0000	26.2418	26.2418	3.0500e- 003	0.0000	26.3180

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

	Equipment Type Number Hours/Day Hours/Year Horse Power Load Factor	Fuel Type
--	--------------------------------------------------------------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	
----------------	--

Number

11.0 Vegetation

CalEEMod Version: CalEEMod.2016.3.1

Santa Clara Municipal Well Project - Santa Clara County, Winter

Project Characteristics - Construction to begin in 2019 and finish in 2020

Land Use - Project area is approximately 10,000 square feet

Construction Phase - Well Drilling and installation will take at the most 7 days.

Off-road Equipment - Drill Rig will be utilized to install new well

Grading - Site ground disturbance will be minimal and located at the new well locations.

Vehicle Emission Factors -

Solid Waste - Neal Road Landfill captures and recovers approximately 90-95 percent of the gas emitted by the landfill

Operational Off-Road Equipment - Operational equipment are 15 horsepower electrical pumps for wells

Stationary Sources - Emergency Generators and Fire Pumps -

Construction Off-road Equipment Mitigation -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Stationary Sources - User Defined -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	1.00	7.00
tblConstructionPhase	PhaseEndDate	9/2/2019	9/10/2019
tblGrading	AcresOfGrading	3.50	0.50
tblLandUse	BuildingSpaceSquareFeet	0.00	10,000.00
tblLandUse	LandUseSquareFeet	0.00	10,000.00
tblLandUse	LotAcreage	0.00	0.22
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperHorsePower	84.00	15.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	OperationalYear	2018	2020

Page 3 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
Year		lb/day											lb/day					
2019	0.7397	8.9317	4.2833	0.0101	0.1168	0.3675	0.4843	0.0191	0.3381	0.3572	0.0000	1,003.386 4	1,003.386 4	0.3064	0.0000	1,011.047 0		
Maximum	0.7397	8.9317	4.2833	0.0101	0.1168	0.3675	0.4843	0.0191	0.3381	0.3572	0.0000	1,003.386 4	1,003.386 4	0.3064	0.0000	1,011.047 0		

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year		_	_	-	lb/	day							lb/	day		
2019	0.7397	8.9317	4.2833	0.0101	0.0752	0.3675	0.4426	0.0146	0.3381	0.3527	0.0000	1,003.386 4	1,003.386 4	0.3064	0.0000	1,011.047 0
Maximum	0.7397	8.9317	4.2833	0.0101	0.0752	0.3675	0.4426	0.0146	0.3381	0.3527	0.0000	1,003.386 4	1,003.386 4	0.3064	0.0000	1,011.047 0

Santa Clara Municipal Well Project - Santa Clara County, Winter

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	35.66	0.00	8.60	23.60	0.00	1.26	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category		-		-	lb/	day			-			-	lb/e	day	-	
Area	0.3392	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.2862	1.7784	1.3884	3.1300e- 003		0.0889	0.0889		0.0889	0.0889		222.5124	222.5124	0.0258		223.1584
Total	0.6255	1.7879	2.4159	3.2100e- 003	0.0000	0.0926	0.0926	0.0000	0.0926	0.0926		224.7009	224.7009	0.0317	0.0000	225.4936

Page 5 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/	day							lb/d	day		
Area	0.3392	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.2862	1.7784	1.3884	3.1300e- 003		0.0889	0.0889	 	0.0889	0.0889		222.5124	222.5124	0.0258		223.1584
Total	0.6255	1.7879	2.4159	3.2100e- 003	0.0000	0.0926	0.0926	0.0000	0.0926	0.0926		224.7009	224.7009	0.0317	0.0000	225.4936
	ROG	N	IOx C	:0 S	O2 Fug	itive Exh	aust PN	110 Fug	itive Exh	aust PM2	2.5 Bio-	CO2 NBio-	CO2 Total	CO2 CH	14 N2	20 CO2

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2019	9/10/2019	5	7	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Page 6 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
	Count	Number	Number	Number	Length	Length	Length	Class	Vehicle Class	Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

Page 7 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/e	day							lb/o	day		
Fugitive Dust					0.0758	0.0000	0.0758	8.1800e- 003	0.0000	8.1800e- 003			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e- 003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e- 003	0.0758	0.3672	0.4430	8.1800e- 003	0.3378	0.3460		965.1690	965.1690	0.3054		972.8032

Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/d	day							lb/o	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	 	0.0000	0.0000	0.0000		0.0000
Worker	0.0202	0.0148	0.1425	3.8000e- 004	0.0411	2.6000e- 004	0.0413	0.0109	2.4000e- 004	0.0111		38.2174	38.2174	1.0600e- 003		38.2438
Total	0.0202	0.0148	0.1425	3.8000e- 004	0.0411	2.6000e- 004	0.0413	0.0109	2.4000e- 004	0.0111		38.2174	38.2174	1.0600e- 003		38.2438

Page 8 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/e	day							lb/o	day		
Fugitive Dust					0.0341	0.0000	0.0341	3.6800e- 003	0.0000	3.6800e- 003			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e- 003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e- 003	0.0341	0.3672	0.4013	3.6800e- 003	0.3378	0.3415	0.0000	965.1690	965.1690	0.3054		972.8032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/o	day							lb/o	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	 	0.0000	0.0000	0.0000		0.0000
Worker	0.0202	0.0148	0.1425	3.8000e- 004	0.0411	2.6000e- 004	0.0413	0.0109	2.4000e- 004	0.0111		38.2174	38.2174	1.0600e- 003		38.2438
Total	0.0202	0.0148	0.1425	3.8000e- 004	0.0411	2.6000e- 004	0.0413	0.0109	2.4000e- 004	0.0111		38.2174	38.2174	1.0600e- 003		38.2438

4.0 Operational Detail - Mobile

Page 9 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/e	day							lb/d	day		
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Ave	rage Daily Trip Ra	ate	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	se %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50 7.30 7.30			0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785

Page 10 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day												lb/d	day		
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Page 11 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr		lb/day											lb/c	lay		
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGa s Use	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr		lb/day											lb/c	lay		
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	 	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Page 12 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	Ib/day												lb/e	day		
Mitigated	0.3392	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353
Unmitigated	0.3392	9.4900e- 003	1.0275	8.0000e- 005	 	3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory		Ib/day											lb/c	Jay		
Architectural Coating	0.0286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0967	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353
Total	0.3392	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353

Page 13 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory					lb/e	day							lb/e	day		
Architectural Coating	0.0286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000	 	 	0.0000			0.0000
Landscaping	0.0967	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003	 	3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353
Total	0.3392	9.4900e- 003	1.0275	8.0000e- 005		3.6800e- 003	3.6800e- 003		3.6800e- 003	3.6800e- 003		2.1885	2.1885	5.8700e- 003		2.3353

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Pumps	2	8.00	260	15	0.74	Electrical

Page 14 of 14

Santa Clara Municipal Well Project - Santa Clara County, Winter

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day												lb/d	day		
Pumps	0.2862	1.7784	1.3884	3.1300e- 003		0.0889	0.0889		0.0889	0.0889		222.5124	222.5124	0.0258		223.1584
Total	0.2862	1.7784	1.3884	3.1300e- 003		0.0889	0.0889		0.0889	0.0889		222.5124	222.5124	0.0258		223.1584

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Boilers						
Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type	
User Defined Equipment						
Equipment Type	Number					
		-				

11.0 Vegetation