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SAN JOSE WATER

WATER SUPPLY ASSESSMENT

STACK TRADE ZONE PARK PROJECT

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SAN JOSE WATER

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1 **STACK TRADE ZONE PARK PROJECT - PROJECT SITE**

Established in 1866, San Jose Water (SJW) is one of the largest privately owned water systems in the United States, providing high-quality water and exceptional service to approximately one million residents of Santa Clara County.

BACKGROUND & PURPOSE

This Water Supply Assessment (WSA) was requested on September 21, 2022 by City of San José (City) and is associated with the STACK Trade Zone Park Project (Project). The project site is located on two parcels in San José, Santa Clara County.

The STACK Trade Zone Park would be located on two parcels of land encompassing approximately 9.8 acres at the corner of Trade Zone Boulevard and Ringwood Avenue (2400 Ringwood Avenue and 1849 Fortune Drive) in San Jose. The site's Assessor's Parcel Numbers are 244-17-009, and 244-17-014. STACK Infrastructure (STACK) is proposing to develop the Trade Zone Boulevard Technology Park (Trade Zone Park) which will include an Advanced Manufacturing Building (AMBBM), the SVY Data Center (SVYDC) and the SVY Backup Generating Facility (SVYBGF).

The proposed STACK Trade Zone Park would include one, four-story advanced manufacturing building (approximately 135,000 square feet), two, three-story data center buildings (approximately 527,000 square feet), a parking garage, related utility infrastructure, and a backup generating facility with a generation capacity of up to 90 MW.

Neither the AMB nor the SVYDC will require water to cool the facility. The buildings will utilize air cooled chillers for office and critical cooling. For the SVYDC, the facility water use will be limited to occupant domestic water use and process water for humidifiers within the critical spaces to maintain design conditions. The primary water reduction feature for the project is the use of air cooled chillers which do not use water for cooling the data center high cooling demands.

This WSA describes the relationship between existing and future water supplies and presents SJW's ability to provide a diverse water supply to match build-out water demands under both normal and dry years. This supply consists of treated surface water from Valley Water's local and imported supplies, groundwater, local surface water from Saratoga Creek and Los Gatos Creek watersheds, and non-potable recycled water. Based on water supply projections reported in Valley Water's 2020 Urban Water Management Plan,[1] conservation methods currently employed, and SJW's active commitment to these methods, SJW expects to be able to meet the needs of the service area through at least 2045 for average and single-dry years without a call for mandatory water use reductions.[2] This assumes reserves are at

[1] https://www.valleywater.org/your-water/water-supply-planning/urban-water-management-plan
[2] San Jose Water 2020 Urban Water Management Plan

healthy levels at the beginning of the year and that projects and programs identified in Valley Water's Water Supply Master Plan 2040 (WSMP 2040)[3] are implemented.

In multiple-dry year periods, there may be up to a 20 percent mandatory call for conservation to meet supply deficits. Valley Water has established a level of service goal to provide 100 percent of annual water demand during non-drought years and 80 percent during drought years, to minimize shortages and mandatory water use reductions during droughts while preventing overinvestment in water supply projects. SJW is committed to actively working with Valley Water in the development of water supply projects and programs. Projects and programs may include additional long-term water conservation savings, water recycling, recharge capacity, stormwater runoff capture, reuse, out of area water banking, and storage.

This WSA is written in response to California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221); legislation which requires water retailers to demonstrate whether their water supplies are sufficient for certain proposed subdivisions and large development projects subject to the California Environmental Quality Act. SB 610 includes the requirements for detailed water supply assessments and SB 221 includes the requirement for written verification of sufficient water supply based on substantial evidence. SB 610 requires that a WSA be prepared by the local water retailer and submitted within 90 days to the requesting agency. SJW's adoption and submittal of this assessment does not create a right or entitlement to water service or impose or expand SJW's obligation to provide water service. The City of San José has an independent obligation to assess the sufficiency of water supply for this project. SB 610 provides that the City of San José is to determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the proposed project, in addition to existing and planned future uses.

Service Area & Population

SJW's service area spans 139 square miles, including most of the cities of San José and Cupertino, the entire cities of Campbell, Monte Sereno, Saratoga, the Town of Los Gatos, and parts of unincorporated Santa Clara County.

The population of SJW's service area, including growth associated with this Plan Area, is shown in the following table. These projections are based on the Association of Bay Area Governments (ABAG) population projections and were included in SJW's 2020 Urban Water Management Plan.

[3] https://www.valleywater.org/your-water/water-supply-planning/water-supply-master-plan

Table 1: Current and Projected SJW Service Area Population

2020	2025	2030	2035	2040	2045
997,817	1,069,633	1,127,593	1,191,337	1,261,145	1,335,044

CLIMATE

Santa Clara County experiences cool, wet winters and warm, dry summers. From 1950-2020, the county received an annual average precipitation total of 23.2 inches. Most precipitation in the region occurs between the months of November and April. Temperature is typically moderate. Maximum monthly average temperatures range from 55.7°F to 83.4°F. Minimum monthly average temperatures range from 37.9°F to 56.6°F. The annual average evapotranspiration rate is 49.6 inches.[4] Summarized temperature and precipitation data is presented in Chart 1.

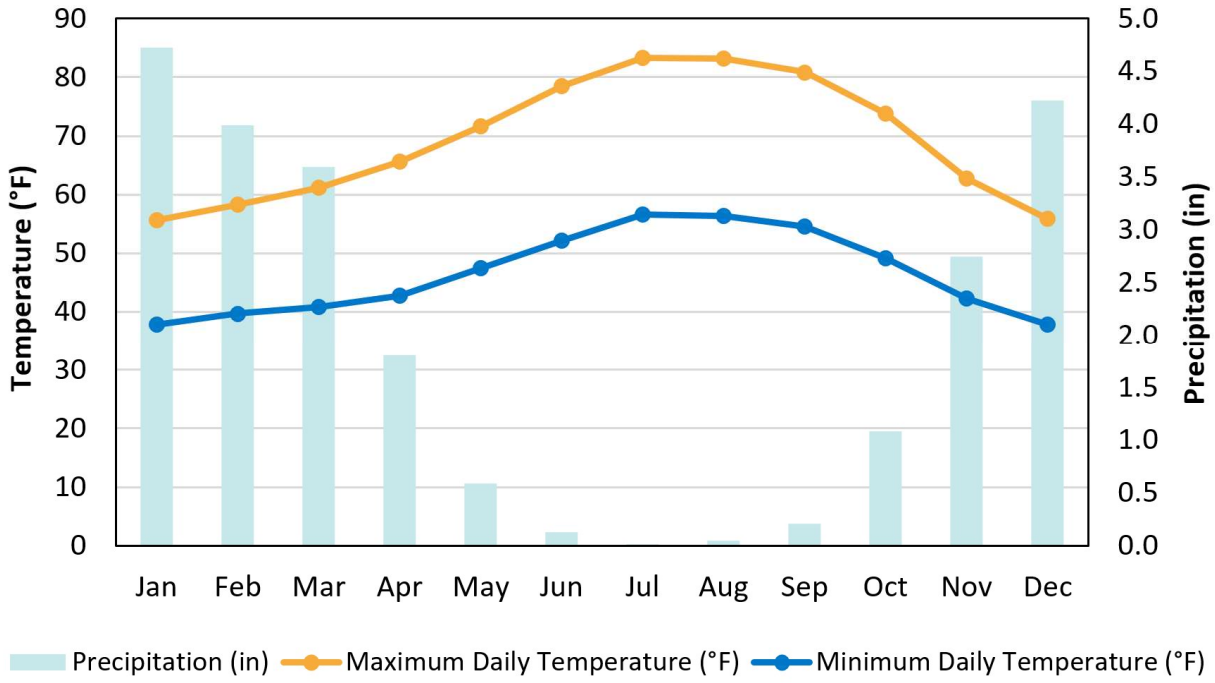


Chart 1: Historical Average Monthly Temperature and Precipitation (1950-2020)

[4] Rainfall and temperature data provided by National Oceanic and Atmospheric Administration. Evapotranspiration data comes from California Irrigation Management Information System (Archived San José Station).

Past, Current, and Future System Water Use

The majority of connections to SJW's distribution system are either residential or commercial. SJW also provides water to industrial, institutional, landscape, and governmental connections. Projections from ABAG analyzing the share of single-family versus multi-family development units within SJW's service were used to determine single- and multi-family demand split within the residential sector. The resale category represents the small mutual water companies, in which SJW provides a master water service and where the mutual water company is responsible for distributing the water.

SJW has developed demand projections from 2025 to 2045 based on population and per capita usage projections. ABAG census tract population projections were used to estimate population growth. Daily per capita water usage for SJW's service area in 2020 was 108 gallons per capita per day (gpcd). It was assumed that all developments after 2020 would require high water efficiency fixtures. Therefore, a lower daily per capita water use of 60 gpcd across all water sectors was applied to new population growth after 2020. For the existing 2020 population, it was assumed that the 108 gpcd from 2020 to 2025 would increase slightly by 1 percent per year, based on the rebounds in demand that have been observed following the past drought. Following the start of compliance with State conservation mandates (SB 606 and Assembly Bill 1668) in 2025, per capita water use is expected to decrease. It was assumed that the per capita water use for the existing population would experience a decline of 0.8 percent per year from 2025 to 2045.

SJW's total demand includes water losses, which are separated into two categories: apparent losses and real losses. Apparent losses include all types of inaccuracies associated with customer metering as well as data handling errors. Real losses are physical water losses from the pressurized system and the utility's storage tanks, up to the customer meter. These can include lost water through leaks, breaks, and overflows.

Across the last four water loss audits that have been validated and submitted to Department of Water Resources (DWR), SJW water loss is, on average, 7.3 percent of potable water supplied. SJW's distribution system has had consistently low water losses due to SJW's proactive approach to reducing leaks, including investments in acoustic leak detection technology and a water main replacement program that prioritizes pipelines for replacement based on their propensity to leak.

Table 2: Demands for Potable and Non-Potable Water (excluding Recycled Water) (AF/yr)

Customer Type	2020	2025	2030	2035	2040	2045
Single Family	59,497	53,877	53,877	54,187	54,411	54,550
Multi Family	24,744	35,255	35,255	35,308	36,161	36,959
Commercial	14,255	18,073	18,073	18,146	18,364	18,551
Industrial	528	718	718	721	730	737
Institutional/ Governmental	5,183	6,607	6,607	6,635	6,715	6,785
Landscape	7,353	7,964	7,964	7,994	8,093	8,176
Sales / Transfers / Exchanges	522	568	568	571	580	586
Other Potable[1]	344	417	417	417	420	424
Water Losses	9,078	9,296	9,296	9,332	9,443	9,541
Total	121,504	132,776	132,776	133,312	134,918	136,308

[1]Other potable includes portable meter and unbilled unmetered use. Unbilled unmetered use includes use for construction activities, tank/reservoir cleaning, irrigation at SJW stations, hydrant testing, meter testing, etc.

ESTIMATED PROJECT WATER USE

Total water usage for the Project is estimated at 199,250 gallons per day (gpd), which is equivalent to an annual usage of about 223 acre-feet of water. The site has an existing water usage of 14 acre-feet per year. Therefore, the annual net demand increase in water usage associated with this project is 209 acre-feet and represents a 0.17 percent increase over the system wide 2020 water production of 121,504 acre-feet. The projected water demand for the Project is within normal growth projections for water demand in SJW's system.

Table 3: Total Water Demand Estimated for the Project

Industrial Space (SF) [(a)]	Commercial/ Retail Space (SF)[(b)]	Total Project Demand (gpd)	Existing Site Demand (gpd)[(c)]	Net Project Demand (AF/yr)
135,000	527,000	199,250	12,472	209

[(a)] Industrial space assumes a water demand factor of 0.5 gpd per SF.

[(b)]Commercial/retail space assumes a water demand factor of 0.25 gpd per SF.

[(c)] Existing daily demand based on usage for the last full calendar year facilities appeared to be in service.

SYSTEM SUPPLIES

This section describes and quantifies the current and projected sources of water available to SJW. A description and quantification of recycled water supplies is also included.

Imported Treated Surface Water – On average, purchased water from Valley Water makes up over half of SJW's total water supply. This water originates from several sources including Valley Water's local reservoirs, the State Water Project and the federally funded Central Valley Project San Felipe Division. Water is piped into SJW's system at various turnouts after it is treated at one of three Valley Water-operated water treatment plants. In 1981, SJW entered into a 70-year master contract with Valley Water for the purchase of treated water. The contract provides for rolling three-year delivery schedules establishing fixed quantities of treated water to be delivered during each period. SJW and Valley Water currently have a three-year treated water contract for fiscal years 2020/2021 – 2022/2023, with contract supplies of 70,723 AF in 2020/2021, 70,723 AF in 2021/2022, and 71,858 AF in 2022/2023. The actual amount of water delivered depends on considerations including hydrologic variability, interruptions in Valley Water facility operations, and water quality.

Groundwater – SJW draws water from the Santa Clara Subbasin, which is part of the larger Santa Clara Valley Basin. The Santa Clara Subbasin consists of unconsolidated alluvial sediments and covers a surface area of 297 square miles in the northern part of Santa Clara County. The subbasin is not adjudicated. Valley Water is responsible for maintaining the subbasin and ensuring the subbasin does not become overdrafted. Aquifers in the subbasin are recharged naturally by rainfall and streams and artificially mainly by recharge ponds operated by Valley Water. Due to different land use and management characteristics, Valley Water further delineates the Santa Clara Subbasin into two groundwater management areas: the Santa Clara Plain and Coyote Valley. SJW draws groundwater from the Santa Clara Plain portion, which covers a surface area of 280 square miles and has an operational storage capacity estimated to be 350,000 AF.

Chart 2 shows groundwater elevation in the Santa Clara Plain since the mid 1930's using well surface elevation as the datum. Although groundwater levels declined during the recent 2012-2016 drought, groundwater levels in the Santa Clara Subbasin quickly recovered after the drought due largely to Valley Water's proactive response and comprehensive water management activities.

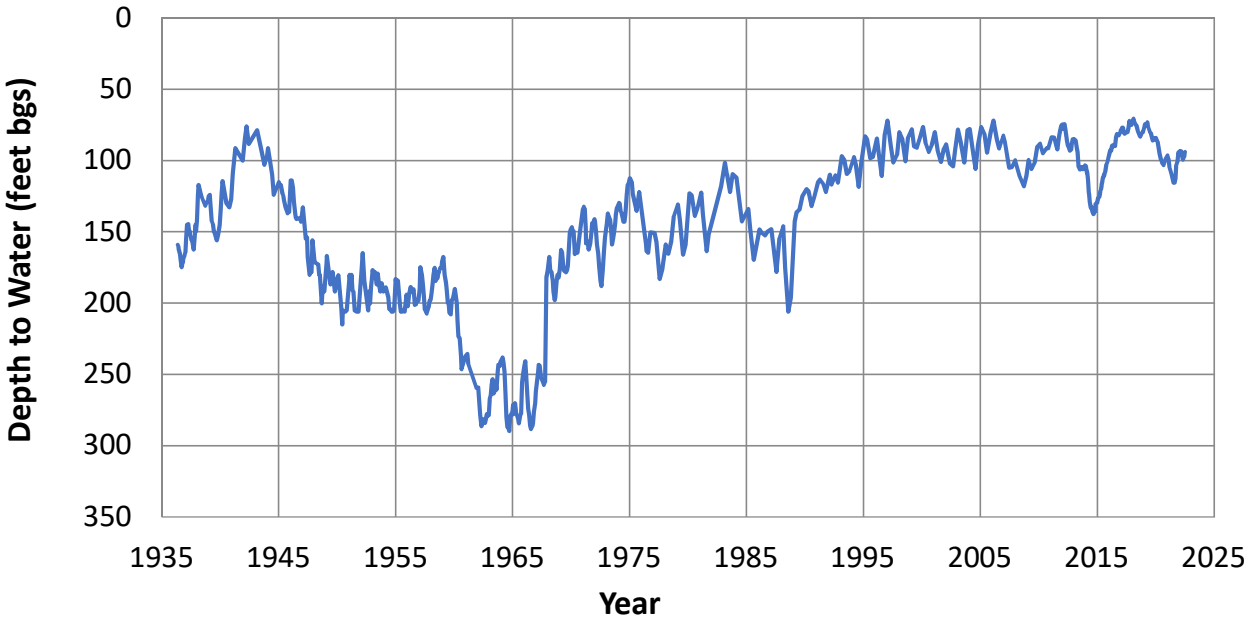


Chart 2: Groundwater Elevation in Santa Clara Subbasin (Well ID: 07S01W25L001)

On average, groundwater from the subbasin accounts for 30 to 40 percent of SJW's total water supply. The following table shows the groundwater SJW pumped from 2016 to 2020.

Table 4: Amount of Groundwater Pumped by SJW (AF/yr)

Basin Name	2016	2017	2018	2019	2020
Santa Clara Subbasin	32,644	42,194	36,075	32,825	53,276
Groundwater as a percent of total potable water supply	31%	37%	31%	28%	43%

Surface Water – SJW has "pre-1914 water rights" to surface water in Saratoga Creek, Los Gatos Creek, and associated watersheds, totaling approximately 72 million gallons per day, based on capacity of

diversion works from Initial Statements of Water Diversion and Use. SJW also filed for licenses in 1947 and was granted license number 4247 in 1956 by SWRCB to draw 1419 AF/year (462 MG/year) from Saratoga Creek, and license number 10933 in 1979 to draw 6,240 AF/year (2,033 MG/year) from Los Gatos Creek.

Recycled Water – South Bay Water Recycling (SBWR) has been serving Silicon Valley communities since 1993 with a sustainable, high-quality recycled water supply. SBWR was created to reduce the environmental impact of freshwater effluent discharge into the salt marshes located at the south end of the San Francisco Bay, and to help protect the California clapper rail and the salt marsh harvest mouse.

In 1997, SJW entered into a Wholesaler-Retailer Agreement with the City of San José to provide recycled water to SJW's existing and new customers nearby SBWR recycled water distribution facilities; whereas, the City of San José is the wholesaler and SJW is the retailer. At the time, the involvement of SJW was largely to assist the City in meeting its wastewater regulatory obligations. In accordance with the terms of this agreement, SJW allowed SBWR to construct recycled water pipelines in its service area, SJW would only own the recycled water meters, while SBWR would own, operate, and maintain the recycled water distribution system.

In 2010, this Wholesaler-Retailer Agreement was amended to allow SJW to construct recycled water infrastructure that would be owned, operated, and maintained by SJW. Then in 2012, this Wholesaler-Retailer Agreement was again amended to allow SJW to construct additional recycled water infrastructure.

Summary of Existing and Planned Sources of Water – SJW and Valley Water have worked to develop a variety of local and imported water supplies to meet demands. As demands increase with the region's growth, and imported water supplies potentially become more restricted, these planned supplies will increase in importance. In particular, groundwater, which has historically been a vital source of supply for SJW, was all the more critical during the recent drought. The following table shows the actual amount of water supplied to SJW's distribution system from each source in 2020 as well as projected amounts until 2045.

Table 5: Current and Projected Water Supplies[a] (AF/yr)

	2020	2025	2030	2035	2040	2045
Valley Water Treated Water	64,290	76,799	76,713	77,041	78,023	78,877
SJW Groundwater	53,276	48,623	48,568	48,777	49,400	49,937
SJW Surface Water	3,937	7,494	7,494	7,494	7,494	7,494
Recycled Water	2,449	2,731	3,100	3,649	3,661	3,649
Total System Supply	123,952	135,648	135,875	136,961	138,579	139,957

[a]Projected surface water supply volume held constant at the 10-year production average (2011-2020). Remaining potable demands made up by purchased water and groundwater, based on the 10-year historical average (2011-2020) of distribution between these two sources of supply. Projected recycled water supplies are based on projected recycled water demands.

WATER SUPPLY VULNERABILITY

SJW has identified multiple sources of water for the Project, which would provide a high quality, diverse and redundant source of supply. For added backup, SJW incorporates diesel-fueled generators into its facilities system, which will operate wells and pumps in the event of power outages. Since Valley Water influences on average about 90 percent of SJW's annual water supply, SJW will continue to work with Valley Water to ensure its water supply is reliable, while the impact to the existing Santa Clara Subbasin is minimal.

TRANSFER AND EXCHANGE OPPORTUNITIES

SJW's distribution system has interties with the following retailers: California Water Service Company (Los Altos District), City of San José Municipal Water, City of Santa Clara, City of Sunnyvale, City of Milpitas, and Great Oaks Water. SJW currently has no plans to use these interties for normal system operation as they are exclusively used for potential emergencies.

WATER SUPPLY RELIABILITY

SJW has three sources of potable water supply: purchased water, groundwater, and local surface water. These three sources of supply are constrained in one or more ways, driven by legal, environmental, water quality, climatic, and mechanical conditions. Additionally, there is a potential for interruption of supply caused by catastrophic events.

Purchased Water Supply Reliability – SJW relies on Valley Water for purchased water supplies, which make up over half of SJW's total water supplies. Constraints to purchased water supplies from Valley Water include climate change impacts, reductions in imported water supplies, and threats to infrastructure, as detailed below.

- *Climate Change – Climate change is anticipated to result in warming temperatures, shrinking snowpack, increasing weather extremes, and prolonged droughts. Valley Water's water supply vulnerabilities to climate change include decreases in the quantity of Delta-conveyed imported water supplies, decreases in the ability to capture and use local surface water supplies due to shifts in the timing and intensity of rainfall and runoff, increases in irrigation and cooling water demands, decreases in water quality, and increases in the severity and duration of droughts.*
- *Reductions in Imported Water Supplies – Valley Water's State Water Project and Central Valley Project water supplies are also subject to a number of additional constraints, including conveyance limitations and regulatory requirements to protect fisheries and water quality in the Delta. Delta-conveyed supplies are also at risk from Delta levee failures due to seismic threats and flooding, sea level rise and climate change, declining populations of protected fish species, and water quality variations (including algal blooms). Many water quality variations are addressed by blending sources and/or switching sources to Valley Water's three water treatment plants. Algae and disinfection byproduct precursors have been especially challenging during recent drought conditions.*
- *Threats to Infrastructure* – Valley Water's imported supply infrastructure must travel large distances to reach turnouts. As California is a seismically active state, infrastructure could be damaged and the result would be a disruption to water supply availability. California's water supply infrastructure is also potentially a target for acts of terrorism.

SJW actively worked with Valley Water during the development of their WSMP 2040 to ensure the following principles were considered:

- Promotion of additional sources of local water supply, such as indirect potable reuse, direct potable reuse, desalination, additional conservation, and an expanded recycled water distribution system
- Coordination of operations with all retailers and municipalities to ensure as much surplus water as possible is available for use in dry years
- Pursuit of innovative transfer and banking programs to secure more imported water for use in dry years

Valley Water's previous call for a 30 percent reduction during the 2012-2016 drought highlights that more investments in local water sources are necessary to ensure a reliable source of supply during multiple-dry water years. Valley Water plans short- and long-term investments with the goal of requiring no more than

a 20 percent water use reduction from the community during a multi-year drought as outlined in its 2040 Water Supply Master Plan. Valley Water has sources of backup supply outside the County and has always relied on multiple supply sources, such as imported water contracts, to supplement existing long-term resources when necessary.

Groundwater Supply Reliability – Groundwater supplies are often a reliable supply during normal and short-term drought conditions because supplies are local and large aquifer storage capacity means that groundwater supplies will still be available when surface flows become limited. However, groundwater supply availability can become threatened when overdraft occurs and when recharge and inflow decrease. Water quality is another potential constraint of this source of supply. Threats to groundwater supplies are detailed below.

- *Overdraft* – Under extended supply pressures, groundwater basins can enter overdraft conditions, which can have a series of consequences including land subsidence. Threat of overdraft conditions were witnessed in the recent 2012-2016 drought when groundwater levels declined. However, groundwater levels in the Santa Clara Subbasin quickly recovered after the drought due to Valley Water's proactive response.
- *Climate Change* – Climate change could increase the potential for overdraft by increasing demand, reducing other sources of supply, and reducing natural recharge and inflows from surface water and precipitation.
- *Regional Growth* – Population growth could increase demands on groundwater supplies, potentially creating risk of overdraft. Regional growth could also increase the amount of contaminants entering groundwater basins as a result of increased urban runoff or industrial or other activities. Growth can also impact recharge areas by expanding impervious surfaces into areas that would otherwise represent entry points for surface water recharging local aquifers.
- *Aging Infrastructure and High Land Costs* – In 2020, SJW prepared a Groundwater Well Asset Management Plan. Findings from the plan showed that SJW's groundwater well system is vulnerable due to the age of the well infrastructure. Two-thirds of the wells are 50 years or older and were installed with low carbon steel casing using a cable tool drilling method. A low carbon steel casing is susceptible to corrosion and damage in the event of an earthquake. Furthermore, many of SJW's older cable tool drilled wells were installed without sanitary seals as newer wells are, and as such, are more vulnerable to acting as conduits for downward migration of surface contaminants into the aquifer. Space for replacement wells at SJW's existing groundwater stations is limited, and thus, the majority of future wells will need to be located on new properties. However, favorable sites are limited, as they must meet certain production yield and water quality requirements. Furthermore, land prices in the Bay Area are high and present another challenge for SJW to address its aging well infrastructure.

- *Water Quality* – The presence of per- and polyfluoroalkyl substances (PFAS) in groundwater supplies is prompting interest and concern nationwide. Out of an abundance of caution, SJW has been proactively notifying customers and removing wells from service where PFAS has been detected above the State-defined Notification Levels. SJW is in the process of studying its options for removing PFAS. In addition, because SJW depends on multiple sources of supply that use different disinfectants, maintaining a stable disinfectant residual is problematic when system operations require the blending of chlorinated water with chloraminated water to meet demands. Blending sources, depending on each source's volume and residual concentration, can result in the loss or significant decrease in disinfectant residual levels.

The Santa Clara Subbasin is able to store the largest amount of local reserves and Valley Water, as the groundwater management agency for Santa Clara County, is tasked with maintaining adequate storage in this basin to optimize reliability during extended dry periods. As groundwater is pumped by SJW and other retailers and municipalities in Santa Clara County, Valley Water influences groundwater pumping reductions and thus reliability through financial and management practices to protect groundwater storage and minimize the risk of land subsidence.

Local Surface Water Supply Reliability – Local surface supplies are highly variable depending on hydrologic conditions. In years of limited local surface water supplies, SJW relies more heavily on groundwater. Threats to local surface water supplies are detailed below.

- *Climate Change* – SJW's local surface water supplies are subject to the same climate change impacts as Delta-conveyed supplies and Valley Water's local surface water supplies, which can result in decreased surface water supplies. During heavy rain events, the quantity of surface water that can be conveyed and treated may be limited by the raw water system hydraulics, high turbidity levels, and WTP capacity. Increased weather extremes and changing precipitation patterns as a result of climate change may prevent surface water supplies from being fully utilized during heavy rain events, and may result in lower surface water supplies during other times of the year.
- *Environmental Regulations* – SJW has bypass flow requirements at its surface water reservoirs and intakes. These requirements establish flow rates that must be released past diversion points to preserve downstream habitat. SJW also maintains minimum levels in reservoirs for habitat preservation. These environmental regulations limit the amount of surface water that SJW is able to divert for water supply.
- *Water Quality* – SJW owns approximately 6,000 acres of land in the watersheds and manages these watershed lands to protect water supplies**.** Contamination of surface water supplies from upstream activities (animal grazing, residential septic systems, stormwater runoff) is a potential threat, although a low one as there is limited development in the watershed.

- *Aging Infrastructure* – Some of SJW's raw water infrastructure was constructed in the late 1800s or early 1900s and is in need of renewal to ensure reliability of surface water supplies.

Supply Reliability by Type of Water Year – Valley Water's Urban Water Management Plan identified average, single-dry, and multiple-dry years for water supply reliability planning. According to Valley Water, these years correspond to:

- Average Year (1922-2015): Average supply over the 94 years of 1922-2015.
- Single-Dry Year (1977): Within the historic hydrological record, this was the single driest year.
- Multiple-Dry Years (1988-1992): The 2012-2016 drought was the most recent multiple dry year period that put severe strain on Valley Water's supplies. However, because imported water allocations are not currently available for the 2012-2016 drought from DWR's modeling, Valley Water used the 1988-1992 drought, another severe multiple year drought in the historic hydrological record.

Water supplies presented below are based on Valley Water's Water Evaluation and Planning system model. According to Valley Water, this model simulates their water supply system comprised of facilities to recharge the county's groundwater basins, local water systems including the operation of reservoirs and creeks, treatment and distribution facilities, and raw water conveyance systems. The model also accounts for non-Valley Water sources and distribution of water in Santa Clara County such as imported water from San Francisco Public Utilities Commission, recycled water, and local water developed by other agencies.

Table 6: Basis of Water Year Data

Year Type	Base Year	% of Average Supply
Average Year	1922-2015	100%
Single-Dry Year	1977	80%
Multiple-Dry Years 1st Year	1988	78%
Multiple-Dry Years 2nd Year	1989	83%
Multiple-Dry Years 3rd Year	1990	77%
Multiple-Dry Years 4th Year	1991	78%
Multiple-Dry Years 5th Year	1992	77%

Average Water Year – The average water year represents average supply over the hydrologic sequence of 1922 through 2015. SJW anticipates adequate supplies for years 2025 to 2045 to meet system demand under average year conditions.

Table 7: Supply and Demand Comparison – Average Water Year (AF/yr) [(a)]

	2025	2030	2035	2040	2045
Demand	135,648	135,875	136,961	138,579	139,957
Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
Demand Met by Conservation	0	0	0	0	0

[(a)]Includes demands associated with the Project.

Single-Dry Water Year – The single-dry year was the year with the lowest amount of total supply. Table 10 shows that supplies, with the use of reserves, can meet demands during a single-dry year through 2045, assuming reserves are at healthy levels at the start of a year and projects and programs identified in Valley Water's WSMP 2040 are implemented. If reserves are low at the beginning of a single-dry year, Valley Water may call for water use reductions in combination with using reserves. As later discussed within the Water Demand Management Measures section, SJW has filed with the California Public Utilities Commission (CPUC) water-waste provisions promoting conservation that would go into effect during a

drought. These provisions would result in a reduction in anticipated demand due to conservation such that demand equals available water supplies.

Table 8: Supply and Demand Comparison – Single-Dry Water Year (AF/yr) [(a)]

	2025	2030	2035	2040	2045
Demand	135,648	135,875	136,961	138,579	139,957
Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
Demand Met by Conservation	0	0	0	0	0

[(a)]Includes demands associated with the Project.

Multiple-Dry Water Years – The multiple-dry year period used in this analysis assumes a repetition of the hydrology that occurred in 1988 to 1992. During multiple-dry year droughts, a call for up to mandatory 20 percent conservation may be needed. Valley Water will continue to work on reducing multiple-dry year deficits by securing more reliable and/or diverse water supplies.

Valley Water has established a level of service goal of 100 percent during non-drought years and 80 percent during drought years to minimize water rates, and thus there can be up to a 20 percent call for mandatory conservation to meet this deficit (or more short-term conservation until additional water supplies are secured). Over the next 20 – 30 years, Valley Water is pursuing over $1 billion in water supply projects to meet the 80 percent level of service goal for all drought years.

Table 9: Supply and Demand Comparison – Multiple-Dry Water Years (AF/yr)[a][b]

		2025	2030	2035	2040	2045
First Year	**Demand**	135,648	135,875	136,961	138,579	139,957
	Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
	Demand Met by Conservation	0	0	0	0	0
Second Year	**Demand**	135,648	135,875	136,961	138,579	139,957
	Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
	Demand Met by Conservation	0	0	0	0	0
Third Year	**Demand**	135,648	135,875	136,961	138,579	139,957
	Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
	Demand Met by Conservation	0	0	0	0	0
Fourth Year	**Demand**	135,648	135,875	136,961	138,579	139,957
	Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
	Demand Met by Conservation	0	0	0	0	0
Fifth Year	**Demand**	135,648	135,875	136,961	138,579	139,957
	Demand Met by Water Supply	135,648	135,875	136,961	138,579	139,957
	Demand Met by Conservation	0	0	0	0	0

[a]Includes demands associated with the Project.

[b]Table 9 is solely based on SJW's Urban Water Management Plan, which follows State requirements and utilizes Valley Water estimates which may not reflect actual water supply and demand conditions.

Regional Supply Reliability – Valley Water's Ensure Sustainability water supply strategy has three key elements:

1. Secure existing supplies and facilities
2. Optimize the use of existing supplies and facilities
3. Expand water use efficiency efforts

As part of this strategy, Valley Water's WSMP 2040 includes developing at least 24,000 AF/yr of additional recycled water (above and beyond the current target of 33,000 AF/yr of non-potable reuse) by 2040. Developing these local sources and managing demands reduces reliance on imported water supplies. In addition, Valley Water is working with multiple water agencies to investigate regional opportunities for collaboration to enhance water supply reliability, leverage existing infrastructure investments, facilitate water transfers during critical shortages, and improve climate change resiliency. Projects to be considered will include interagency interties and pipelines; treatment plant improvements and expansion; groundwater management and recharge; potable reuse; desalination; and water transfers. This program may result in the addition of future supplies for Valley Water.

WATER DEMAND MANAGEMENT MEASURES

SJW is a signatory of the California Urban Water Conservation Council (CUWCC) and signed the CUWCC Memorandum of Understanding (MOU) in February 2006. The CUWCC is a partnership of water suppliers, environmental groups, and others interested in California water supply who have come together to agree on a set of Best Management Practices (BMPs) for water conservation in the state. Additionally, SJW has its own water-waste provisions that come into effect when there is a water shortage. The CPUC has set forth the rules regarding water waste and water shortages governing investor owned utilities such as SJW. The CPUC rule relating to this is Rule 14.1.[5] This rule states that when there is a low-level water shortage that prompts a call for voluntary conservation by customers, a list of water-waste provisions goes into effect. Rule 14.1 also has provisions for high-level water shortages when mandatory conservation measures are deemed necessary.

SJW provides a full range of water conservation services to customers. The cornerstone of SJW's conservation programs is the CATCH program. The CATCH program empowers customers to understand and optimize their water use. With this free program, a water efficiency expert will check for customer leaks and recommend critical water and money-saving improvements.

Valley Water offers conservation programs, such as rebates for high efficiency toilets and washing machines. SJW takes advantage of all regional rebate programs and all of Valley Water's rebate programs are offered to SJW customers. Typically, customers are directed to specific rebate programs during the course of a water audit based on a customer's need. Customers can also access rebates directly from retail outlets when purchasing equipment such as high efficiency washing machines. SJW collaborates with Valley Water on public outreach and education including such items as customer bill inserts and conservation campaign advertising.

[5] https://www.sjwater.com/customer-care/help-information/tariff-book

SJW has also increased the outreach and educational programs on outdoor water use. SJW constructed a water-smart demonstration garden that is open to the public. Customers can visit the garden in person or take a virtual tour on SJW's website. SJW also developed a dedicated water wise landscaping website where customers can access a plant information database that includes hundreds of low water use plants as well as a photographic database of water wise gardens in the San José-Santa Clara County area. The landscaping website and demonstration garden tour is accessible from SJW's homepage.

In addition to these programs, SJW engages in other activities that contribute to the overall goal of reducing water waste, but are not specifically designated as conservation or water management programs. These include SJW's meter calibration and replacement program, corrosion control program, valve exercising program and metering all service connections.

SUMMARY

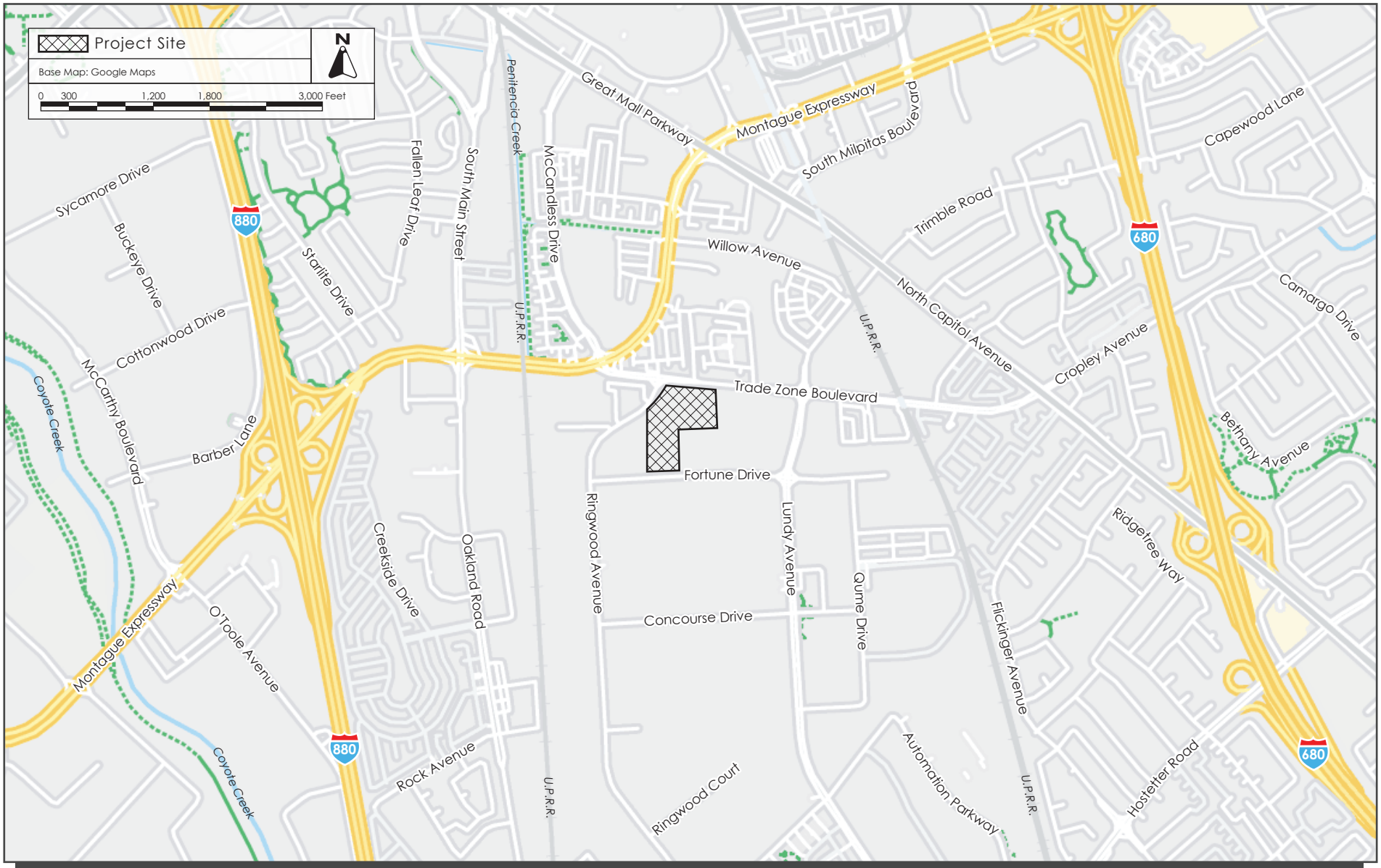
This Water Supply Assessment represents a comprehensive water supply outlook for the STACK Trade Zone Park Project. In summary:

(1) Total net potable water demand for the Project is estimated at 209 acre-feet per year and represents a 0.17 percent increase in total system usage when compared to SJW's 2020 potable water production. The increased demand is consistent with forecasted demands represented in SJW's 2020 Urban Water Management Plan, which projected a 12.2 percent increase in total system demand between 2020 demand and projected 2045 demand.

(2) SJW currently has contracts or owns rights to receive water from the following sources:
   1. Groundwater – from the Santa Clara Subbasin
   2. Imported and local surface water – from Valley Water
   3. Local surface water – from Los Gatos Creek, Saratoga Creek, and local watersheds
   4. Recycled water – from South Bay Water Recycling

(3) SJW works closely with Valley Water to manage its demands and imported water needs. The projected water demand for this development is within previously determined growth projections for water demand in SJW's system.

As described in this WSA and based on Valley Water's water supply plans and Urban Water Management Plan projections, SJW expects to be able to meet the needs of the service area through at least 2045 for average and single-dry years without a call for water use reductions. The impact of this project is not consequential and SJW has the capacity to serve this project through buildout based on current water supply capacity and Valley Water's proposed water supply projects. Valley Water is pursuing water supply solutions to meet the established level of service goal to provide 80 percent of annual water demand for drought years. SJW is committed to working with Valley Water to meet future demands and mitigate shortages. After comparing estimated demand associated with this project to water supplies, based on both the SJW and Valley Water Urban Water Management Plans, SJW has determined that the water quantity needed is within normal growth projections and expects for there to be sufficient water available to serve the Project. However, due to factors that affect water supply and demand projections including climate change, there is no guarantee that the projections provided in Valley Water's Urban Water Management Plan will be met, nor is there a guarantee that the water supply projects and programs identified by Valley Water will be implemented.



VICINITY MAP

FIGURE 2.2-2