SJW Group

SOURCE TO TAP

2019 Sustainability Report

SJWgroup.com

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HUMAN RIGHT TO WATER

Whereas, SJW Group believes that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes, consistent with the United Nation's Resolution 64/292 that recognizes the human right to water and sanitation and acknowledgement that clean drinking water and sanitation are essential to the realization of all human rights;

Whereas, the California Public Utilities Commission, The Public Utility Commission of Texas, Connecticut Public Utilities Regulatory Authority, and Maine Public Utilities Commission are responsible for ensuring that investor-owned water utilities deliver clean, safe, and reliable water to their customers at reasonable rates;

Whereas, SJW Group's mission is trusted professionals, passionate about delivering life sustaining, high quality water and exceptional service to families and communities while protecting the environment and providing a fair return to shareholders;

It is the policy of all SJW Group's water utilities to provide a reliable supply of safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes in accordance with State and Federal statutes, laws, and regulations at rates established by our governing Public Utility Commissions.

LETTER FROM THE CEO

2019 has been a truly exciting year for SJW Group. In October, we completed our combination with Connecticut Water Service, Inc. forming the third largest pure play investor-owned water utility based on rate base in the United States. Together, we will serve more than 1.5 million people with over 700 employees across California, Connecticut, Maine and Texas. We are well positioned to deliver significant benefits to all of our stakeholders.

While our company is growing, our commitment to sustainability remains a key part of our business ethos. SJW Group understands that all water is local and our environmental stewardship efforts guide everything we do.

In this vein, we are working to significantly reduce our carbon footprint. Actively lowering our greenhouse gas (GHG) emissions included changing our energy supplier to one more committed to renewable energy, using biofuels in our diesel fleet, piloting electric vehicles, and looking at other operational efficiencies that save both water and energy.

Looking towards future sustainability, we completed a Tactical Asset Management Plan for nearly all of our water storage assets. Every tank and reservoir was extensively evaluated using detailed probability of failure and consequence of failure analyses based on the asset's condition, age, presence of safety equipment, and compliance with current water quality regulations and building code requirements. We are striving for innovation in how we manage our assets to ensure our customers benefit from the most reliable infrastructure today, and a century from now.

In California, the threat of a possible earthquake looms large over all of us, amid the fear of a potential water supply cutoff. Our customers should know that we are prepared. From using earthquake-resistant pipe to preparing back-up power sources for our facilities and building new reservoirs, we are making sure our local customers are protected.

2020 will be a year in which we incorporate the economies of scale realized through our CT Water combination and work towards our vision of becoming a world class water and wastewater utility company. This includes new projects and opportunities, all backed by our continued focus on delivering outstanding customer service and safe, clean water to our many constituents.

In Service,

Eric Thornburg

President and CEO, SJW Group

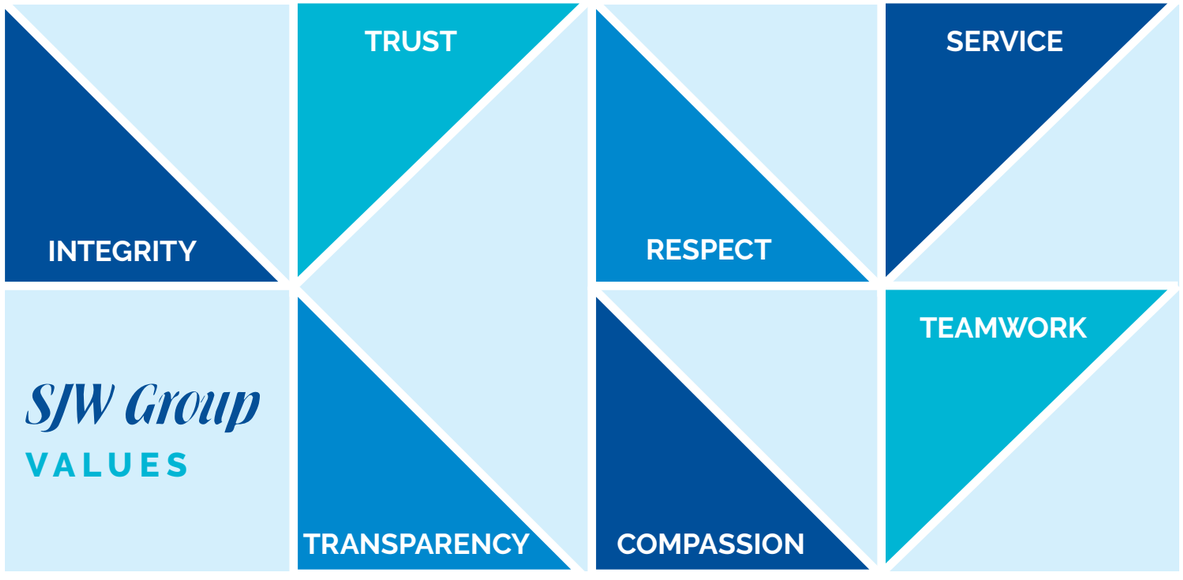
SJW GROUP MISSION, VISION, BUILDING BLOCKS AND VALUES

SHARED MISSION STATEMENT

Trusted professionals, passionate about delivering life sustaining, high-quality water and exceptional service to families and communities while protecting the environment and providing a fair return to shareholders.

VISION STATEMENT

To serve customers, communities, employees, shareholders, and the environment at world class levels.



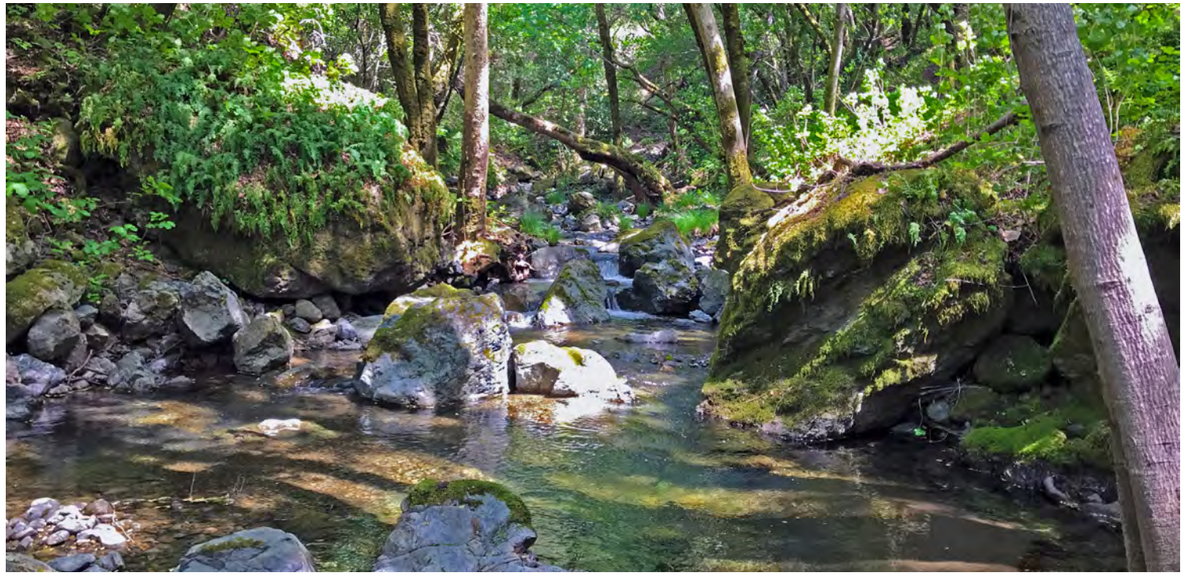
About Us

SJW Group is a publicly traded holding company headquartered in San Jose, California. Found on the New York Stock Exchange under the symbol SJW, the company also owns SJW Land Company. SJW Group's locally led and operated water utilities in California and Texas provide water service to over one million people. SJW Group possesses the financial strength, operational expertise and technological innovation to safeguard the environment, deliver outstanding service to customers and provide opportunities to employees.

Founded in 1866, San Jose Water (SJW) is an industry leader in the water utilities sector and serves more than one million people in the greater San Jose metropolitan area with high-quality, life sustaining water with an emphasis on exceptional customer service. SJW also provides services to other utilities including operations and maintenance, billing, and backflow testing. By sharing these services with others, we benefit the local community, lower the cost of water operations, and improve operational efficiencies.

SJWTX, Inc. operates in Texas as Canyon Lake Water Service Company (CLWSC) and Deer Creek Ranch Water System. Those systems serve more than 17,500 customer connections in the Canyon Lake and Deer Creek Ranch communities.

In October 2019, SJW Group and Connecticut Water Service, Inc. announced the close of their merger. The combined company, SJW Group, is the third-largest investor-owned pure play water and wastewater utility based on rate base in the United States, serving nearly 1.5 million people across California, Connecticut, Maine and Texas. The 2020 Sustainability Report will include information about these additional companies under the SJW Group umbrella.



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SJW GROUP 2020 GOALS

SJW Group

- Develop climate and human rights policies

SJW

- Complete the implementation of the Enterprise Asset Management Program to further enhance the sustainability of the Capital Improvement (CIP) program; provide the best value for SJW's customers into the future
- Replace 1% or about 24 miles of our transmission and distribution system annually
- Develop a roadmap to reduce carbon footprint
- Invest a minimum of $100M in capital improvements in 2020

SJWTX

- Continue improving efficiency requirements for outdoor water use in service agreements
- Establish a water loss reduction goal
- Invest at least $16.5 million in capital improvements in 2020 and require developer funding to invest in additional pump stations and storage to support customer growth
- Replace 0.4 % or 2 miles of transmission and distribution system
- Develop additional water supplies either individually or as part of system acquisition

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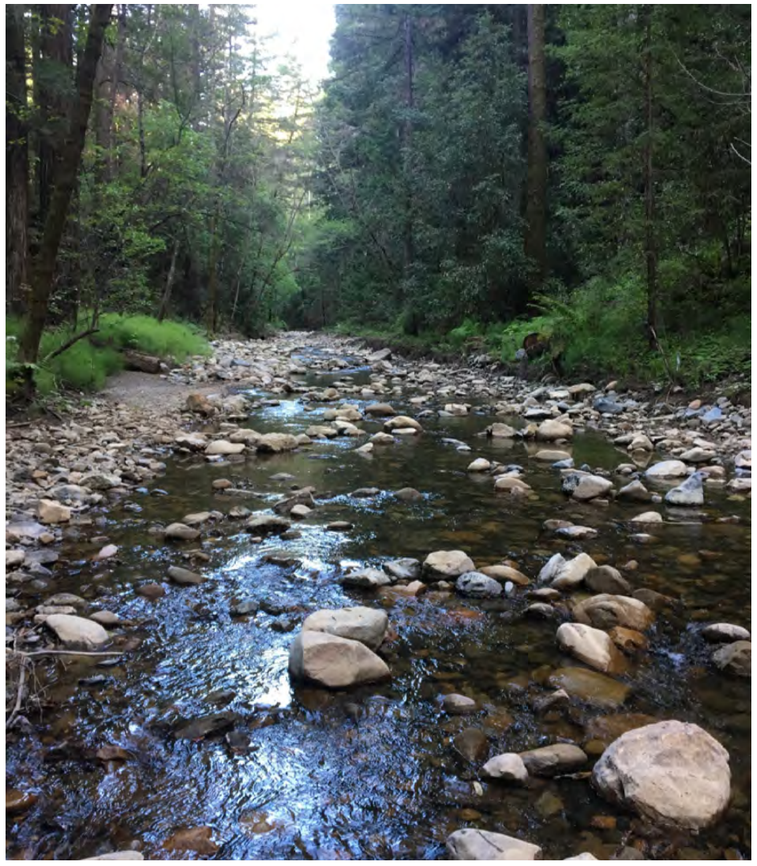
Water

With rising temperatures, more frequent droughts and changing weather patterns, climate change is a critical issue facing water utilities everywhere.



Los Gatos Creek, within the approximately 6,000 acres of land managed by SJW in the area

SJW and SJWTX both acknowledge these challenges facing their utilities and the intense responsibility they hold to ensure adequate supplies of safe drinking water for their customers in the future. SJW and SJWTX take great measures in the sourcing, storage, treatment and distribution of their water supplies to ensure they can uphold their commitment to their customers and their responsibility to the wider community in the stewardship of this precious resource.

Stewardship

SJW strives to be an environmental leader in the community by providing safe and reliable water to customers while protecting the environments from which that water is sourced. SJW is sensitive to the needs of the community and strictly comply with the letter and intent of environmental laws. A strong commitment to minimizing the environmental impacts of its business has inspired SJW in taking steps to do so, like protecting the Los Gatos Creek Watershed and maintaining diverse water sourcing.

SJW's dam spillway at Lake Elsman in the Santa Cruz Mountains.

FEATURE

LOS GATOS CREEK WATERSHED PROTECTION

To protect its surface supply sources, SJW owns, operates and maintains several facilities and manages several thousand acres of watershed lands within the Los Gatos Creek Watershed.

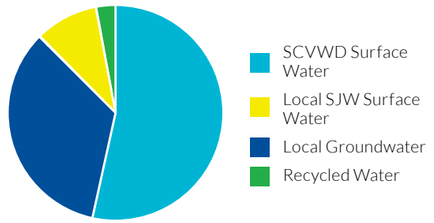
The Los Gatos Creek Watershed Maintenance Program (Maintenance Program) is a long-term and ongoing program developed to identify and improve facility maintenance and land management under SJW's direction. A renewable 5-year Regional General Permit (RGP) has been negotiated with regulatory authorities to ensure maintenance activities comply with all state and federal regulations to protect endangered and sensitive plant and animal species, as well as water quality within SJW's watershed.

SJW facilities within the Los Gatos Creek Watershed include five reservoirs (impoundments), seven intake structures, water distribution pipelines, several access roads, nearly 100 roadside culverts, and approximately 6,000 acres of land.

SJW Supply

SJW maintains a diverse water supply portfolio and is always looking for other opportunities to secure additional supplies. Keeping a diverse supply of water allows SJW to continuously provide high-quality water to their customers throughout the seasons and during periods of drought. As climate change continues to make future water supplies less predictable and more susceptible to extreme weather conditions, the proper management of a diverse water supply becomes even more critical.

Figure 1. % of SJW Water Supply



Purchased Treated Water

About 50% – 55% of SJW's total water supply is purchased from Valley Water, formerly known as the Santa Clara Valley Water District. This purchased water is treated at one of three Valley Water-operated treatment plants located in Santa Clara County: Rinconada, Penitencia and Santa Teresa. About 70% of Valley Water's source water comes from the Delta, with the remaining 30% coming from local Valley Water reservoirs.

Groundwater

About 35% – 40% of SJW's total water supply comes from groundwater. Groundwater is drawn from the Santa Clara Subbasin in the north part of Santa Clara County. The basin has a surface area of 225 square miles and an operational storage capacity estimated to be 350,000 acre-feet. That's enough water to supply 700,000 households for 1 year. Approximately half of the water in the aquifer is recharged with Delta-supplied water, while the other half comes from local runoff.

SJW currently manages 90 active wells pumping from this excellent water source. During drought years or emergencies, the utility may depend heavily on wells to supply water for the whole system. If the wells are not properly managed, it can lead to ground subsidence (sinking of the land). SJW works closely with our partners at Valley Water who monitor the groundwater levels and subsidence to pump wells in a sequence and manner to avoid these negative effects.

FEATURE

SUSTAINABLE WATER WITHDRAWAL

The Sustainable Groundwater Management Act (SGMA) is a California law that establishes a framework for local water agencies to sustainably manage groundwater resources. The following link brings you to the California Department of Water Resources webpage for Santa Clara Valley Water District's approved Alternative Plan for compliance with SGMA: sgma.water.ca.gov/portal/alternative/print/18

SJW obtains all its groundwater in cooperation with groundwater management team at Valley Water from the Santa Clara Plain Groundwater Basin, subject of the approved SGMA plan. By operating under this plan, SJW demonstrates that it meets the California Department of Water Resources standard for sustainable water withdrawal.

Surface Water

Up to 10% of SJW's supply comes from local surface water treated by the company's Montevina and Saratoga Water Treatment Plants. SJW has been drawing water from the Los Gatos Creek and local watersheds since the 1880s. SJW has upgraded the collection and treatment system that draws water from this watershed and has increased the water withdrawal rights contained in the permits and licenses to approximately 11,200 acre-feet/year (over 3.6 billion gallons) for an average rain year (enough for about 23,000 households for a year).

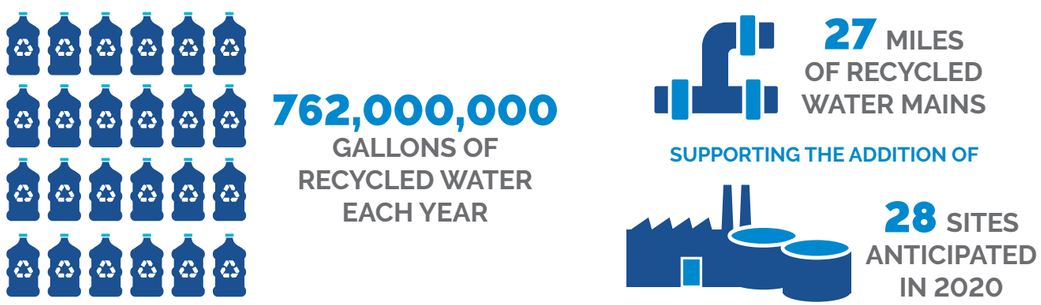
While the Montevina Water Treatment Plant primarily serves the Los Gatos community, the Saratoga Water Treatment Plant provides water to the Saratoga area. Similar to Montevina, the Saratoga Water Treatment Plant is also a microfiltration membrane plant (leading edge technology when installed in 1994) and is scheduled for an upgrade over the next 5 years.

Recycled Water

Approximately 2% of SJW's total water supply is recycled water provided by South Bay Water Recycling (SBWR). SBWR was created in 1993 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 to protect the endangered California clapper rail and salt marsh harvest mouse.

SJW has provided recycled water to its customers since 1997. Recycled water provides multiple benefits to the company's customers. It is locally available and less susceptible to changes in seasonal water availability or extreme conditions (like drought). Receiving recycled water is optional for the company's customers. Participating customers receive it at a discount and are not subject to voluntary and mandatory drought restrictions. All SJW customers benefit from the use of recycled water as the amount of recycled water used reduces demand for potable water gallon for gallon.

Figure 2. Recycled Water: By The Numbers



Other Potential Water Supplies

It is difficult for SJW to independently procure new sources of water without the infrastructure needed to get the water to the utility's service area. However, Valley Water (SJW's wholesale supplier) does have those infrastructure connections in place. SJW has therefore made a concerted effort to work with Valley Water to maximize the diversity and reliability of the company's water supply portfolio. For more information, see the draft Valley Water Supply Master Plan: https://www.valleywater.org/sites/default/files/Draft%20WSMP%202040%20Complete_v2.pdf

Water Source Selection

With three sources of drinking water available, SJW decides what combination of sources should be used at any point at time. The production, treatment and transmission of local surface water is maximized due to its high quality, low cost, and low energy requirements for delivery. Imported surface water from Valley Water is already treated, pressurized, and ready for delivery at 13 turnout connections throughout SJW's distribution system. Imported surface water is maximized at the Cox Station turnout where two 54 kW hydro turbines generate energy to help offset pumping activities. After maximizing local and imported surface water, local groundwater is selected to meet remaining consumer demands.

Urban Water Management Plan

Every five years, SJW prepares an Urban Water Management Plan (wuedata.water.ca.gov). Last done in 2015, this document is a resource planning and water supply sustainability report prepared for the State of California which also includes a water loss review. Valley Water is also required to submit an urban water management plan that includes a water loss review. Copies of both documents can be found at sjwater.com/environmental-stewardship.

As shown in figure 3, SJW serves a growing population of customers in the South Bay Area.

Despite the growth in population, water use has been fairly stable due to conservation, low flow fixtures, and shrinking landscapes in the urban San Jose area. A slight increase in water use is projected in the future as additional conservation measures become more difficult, however, meeting the needs of customers now and into the future is part of SJW's regular planning process. Figure 4 shows the projected water supply for our customers for each source of water. For example, in 2020 it is anticipated that SJW will have about 25 billion gallons of water supplied through purchase from Valley Water.

FIGURE 3. SJW POPULATION SERVED - CURRENT AND PROJECTED

	2015	2020	2025	2030	2035	2040
Population Served	982,750	1,034,396	1,087,273	1,142,484	1,201,289	1,262,356

FIGURE 4. SJW PROJECTED WATER SUPPLIES (IN MILLIONS OF GALLONS)

Water Supply	Additional Detail on Water Supply	**Projected Water Supply** Report to the Extent Practicable				
		2020	2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Purchased or Imported Water	Potable Water	24,983	25,867	26,803	27,820	28,887
Groundwater	Potable Water	17,648	18,273	18,934	19,651	20,405
Surface water	Potable Water	3,130	3,130	3,130	3,130	3,130
Recycled Water		1,327	2,233	2,721	2,727	2,727
Total		**47,144**	**49,561**	**51,648**	**53,390**	**55,213**

NOTES: Projected potable water supply volumes based on a 10-year average (2006-2015) of usage by type and holding surface water constant @ 10-year average.

SJWTX Water Supply

SJWTX operates seven different systems and the water source for every system varies. Between all source water combinations, SJWTX provided nearly 2 billion gallons of water to 17,500 connections in 2019.

Surface Water

SJWTX has three Surface Water Treatment Plants (SWTP) that pull water from the Canyon Lake Reservoir. The SWTPs produce 55% of treated water for the surrounding area. Canyon Lake Shores is the largest treatment plant, providing water to more than 20,000 people and pulling water from the northeast area of Canyon Lake. Triple Peak provides water to more than 10,000 residents and extracts water from the southeast area of Canyon Lake. The smallest SWTP, Sybil Lightfoot, extracts water from the Guadalupe River that is connected to the Lake. It assists Canyon Lake Shores in providing water to residents that are part of the Canyon Lake Shores system.

Ground Water

Throughout all seven systems, SJWTX has nearly 40 active wells that produce 40% of treated water distributed to the surrounding area. Groundwater is primarily sourced from the Trinity Aquifer. Because groundwater is purified through natural processes, groundwater is only treated for disinfection purposes. The one exception is that water from one well in the Canyon Lake Shores system is moved through a cartridge filtration system in addition to being disinfected with chlorine.

All SJWTX systems are located in the Texas Hill Country, where the rock formation is predominately limestone. Because of this, the groundwater collected there has high levels of minerals, making the water very hard. To reduce mineral content groundwater is blended with surface water from the treatment plants.

Purchased Water

Two systems in the SJWTX service area are supplied with purchased water. Water purchased from the Lower Colorado River Authority is pulled from Lake Austin by the West Travis County Public Utility Agency (WTCPUA). Lake Austin is a manmade reservoir fed by the Colorado River. The WTCPUA then treats, stores, and delivers water to the Deer Creek System. The Guadalupe- Blanco River Authority (GBRA) Western Canyon Water Supply Project supplies water to the Glenwood subdivision. Similar to the treatment plants, GBRA serves this subdivision with water from the Canyon Lake Reservoir.

Population Projection and Demand

The Canyon Lake area has been experiencing exponential growth with new development. SJWTX reaches over four different counties: Comal County, Blanco County, Hays County, and Travis County. In 2018, the US Census reported Hays and Comal Counties as being two of the fastest growing counties in the US. With ever-increasing growth, SJWTX is working diligently to use our resources efficiently, develop infrastructure, and create effective conservation programs. The tables on the right show population and water demand projections through 2070 as determined by the Texas Water Development Board.

FIGURE 5. POPULATION PROJECTION

Decade	2020	2030	2040	2050	2060	2070
Population	48,660	63,573	79,783	96,323	112,342	127,327

FIGURE 6. WATER DEMAND PROJECTION

Decade	2020	2030	2040	2050	2060	2070
Acre-feet	6,095	7,826	9,760	11,747	13,682	15,496

SJWTX water treatment facility

Water Storage

Importance of Water Storage Management

Water storage tanks and reservoirs are critical components of the water distribution system, providing a dependable water source for daily consumption and emergencies, and regulating system pressures. SJW adheres to CPUC and Division of Drinking Water (DDW) standards and works with local fire jurisdictions to ensure that storage assets are adequately sized for supplying customer demands and providing for fire protection — even on the hottest days. Storage tanks and reservoirs are sized for all conditions, accounting for population growth and emergency storage needs in the event of pump failures, power outages, loss of imported water supplies, or reduced water supplies in drought years. The company also leverages analytical tools such as hydraulic and mathematical modeling to determine capacity needs in a variety of scenarios and plan accordingly. Furthermore, staff ensures that these critical storage assets are regularly inspected, cleaned, and evaluated for replacements, re-coatings, retrofits and repairs.

Storage Optimization

SJW's Operations department optimizes each potable water storage tank based on available water supply inputs. This helps to minimize water residence time, reduce blending of source water disinfectants, and limit pumping during energy intensive time periods. Simultaneously optimizing these variables is achieved through a combination of operational intelligence and sophisticated programming within our Supervisory Control and Data Acquisition (SCADA) system. As seasonal water demands and energy usage periods shift, the Operations department updates control strategies to accommodate changes and keep storage management optimized.

SJW is in the process of installing mixers and water quality analyzers in all of its water tanks. The mixers will help maintain consistent water quality throughout the tanks. In addition, the level of disinfectants in the tanks will be monitored continuously. Operators are alerted when these levels are outside of pre-defined limits.

Water Storage Tactical Asset Management Plan

An effective long-term asset management plan for SJW's water storage infrastructure is necessary to ensure the safety and reliability of the water system for the overall benefit of customers, communities, employees, shareholders and the environment. The company recently completed a Tactical Asset Management Plan for its water storage assets. Each tank and reservoir was extensively evaluated using detailed probability of failure and consequence of failure analyses based on the asset's condition, age, presence of safety equipment, and compliance with current water quality regulations and building code requirements. Tanks and reservoirs were then identified and prioritized for capital improvement (repair or replacement) based on their overall risk exposure to the utility, along with a customer and a cost-benefit evaluation to determine the most effective long-term solution. In addition, SJW conducted a life expectancy analysis as part of the asset management plan to determine a sustainable replacement rate and ensure the company is optimally managing risk across its storage assets while making capital investments at the right time. Through the implementation of this planning effort, SJW will continue to deliver reliable water service to customers far into the future.

In 2019, the Asset Management team won an Uptime Award for Best Reliability Engineering for Maintenance Program from Reliabilityweb. An international and highly competitive award, this recognition reflects the team's application of robust asset criticality analysis and risk framework to ensure long-term reliability. Past Uptime Award winners include Mercedes Benz, Stanford Health Care and Bristol-Myers Squibb, to name a few. Learn more at sjwater.com/uptime-award.

Optimal management of water storage assets is a vital part of SJW's strategy for ensuring reliable water service to our customers.

Water Treatment

Water Quality

SJW and SJWTX conduct thousands of water quality tests for several hundred different parameters each year at state certified laboratories to ensure their water meets all state and federal drinking water standards. In 2019, SJW voluntarily began to monitor its wells for Per- and polyfluoroalkyl substances (PFAS) to further ensure the safety of its water supply. In addition, SJW routinely participates in studies sponsored by industry trade associations – such as the American Water Works Association – to evaluate contaminants of potential concern and ensure that the company is ready to address these should the need arise.

The Partnership for Safe Water

SJW joined the Partnership for Safe Water in 2012 and has earned a Director's Award every year since for its work in optimizing operations for the distribution system and improving water quality. Earning the prestigious Director's Award requires the company to review and improve key operating parameters such as distribution system pressure, limit the number of annual pipe breaks and maintain minimum levels of disinfectant (chlorine) in its pipes and tanks. Obtaining and maintaining the awards also requires perfect compliance with drinking water regulations.

Water Quality Inquiries Performance Goals

To ensure that staff are aware of and respond to customer water quality inquiries in a timely fashion, the Water Quality department has worked with Customer Service and GIS groups to develop real time mapping and automated email alerts for customer complaints related to water quality. These tools allow staff to analyze and, if needed, coordinate a comprehensive response when a water quality event affects more than one customer.

Goals:

- Respond to water quality inquiries within 24 hours of receiving customer call.
- Perform water quality investigation within 3 days of receiving customer call.
- Provide written water quality investigation report and analytical results to customers within three weeks of performing water quality investigation.

Map of SJW service area showing all inquiries related to water quality made by a customer in August 2019.

SJW Montevina Water Treatment Plant

SJW has two surface water treatment plants (WTP) to treat surface water from the local watersheds. The Montevina Water Treatment Plant (Plant) is the primary supply source for the Town of Los Gatos and the surrounding communities. The Plant was originally commissioned in 1970 and could treat up to 30 million gallons per day through direct filtration and chlorination. In 2018, $62 million of upgrades were completed to the Plant, including the installation of ultrafiltration membrane technology.

The Montevina Water Treatment Plant also features a state-of-the-art water pre-treatment system that can handle rapidly changing water quality. Because SJW has limited water storage available, it relies on watershed runoff during winter storms. The quality of the water treated is highly variable and requires constant adjustment in chemical dosage to effectively remove solids and other dissolved constituents that are present in the watershed runoff. Analyzers continuously monitor the chemical characteristics of the water through the treatment processes and automatically adjust chemical dosages. These automated monitoring and chemical adjustments ensure that the treatment processes only use use the minimum amount of chemicals required to achieve the best water quality possible.

SJWTX Vintage Oaks Wastewater Treatment Plant

SJWTX's newest plant, the Vintage Oaks Wastewater Treatment Plant, completed its first full year of operation in 2019. Located in Comal County, Texas, this new facility uses the latest technology in wastewater treatment to turn the waste from over 400 homes into high-quality effluent. SJWTX opted for a progressive approach to construction of the onsite facility by choosing to install a four-zone Ovivo Microblox system.

The plant is incredibly efficient. The treatment process utilizes membrane bioreactors and filtration that together reduce the volume of water trapped between solids and ultimately lost in wasted sludge. The energy demand typically associated with aeration is much lower than in traditional wastewater treatment facilities because integrated diffusers provide oxygen as opposed to a standard blower. Also, this system uses ultraviolet contact to treat for bacteria instead of needing chemical treatment. The plant's design is such that there is no need to wait for solids to settle out, making the overall treatment time much faster than in conventional facilities. Because settlement happens so quickly, there is also no need for a settling pond. Lastly, compared to more conventional wastewater treatment plants, this system requires a much smaller operational footprint, and does not require additional space needed for a traditional lagoon. As a result of these efficiencies, SJWTX was able to build a facility capable of treating up to 130,000 gallons of wastewater daily with no chemical disinfectant and lower energy demand on a footprint of less than a quarter of an acre. In terms of comparable volume, a traditional plant would require at least a few acres of space.

The high-quality effluent produced from this plant is distributed across a six-acre storage pond that is seeded with Bermuda grass, winter ryegrass, and other nutrient-absorbing grasses. The effluent is sampled daily for E. coli and consistently returns sample results of zero. Additionally, the effluent must meet stringent requirements for phosphorous, ammonia nitrogen, total suspended solids, and carbonaceous biochemical oxygen demand.

> **"As a result of these efficiencies, SJWTX was able to build a facility capable of treating up to 130,000 gallons of wastewater daily with no chemical disinfectant and lower energy demand on a footprint of less than a quarter of an acre."**

FEATURE

MONTEVINA WATER TREATMENT FACILITY WINS DBIA NATIONAL MERIT AWARD: New Ultrafiltration Technology Addresses Winter Stormwater Challenges

Montevina Water Treatment Plant has been recognized by the Design-Build Institute of America (DBIA) with their National Merit Award in the water/wastewater category. DBIA is a national multi-disciplinary association of architectural, engineering and construction professionals, as well as academics, students and project owners. Their aim is to foster collaboration and innovation to deliver some of America's most successful projects. The Design-Build National Project Awards recognize the most outstanding examples of this level of achievement. Of the 31 projects chosen from across the nation, the DBIA award jurors selected Montevina for its state-of-the-art advancements in stormwater treatment. Learn more at sjwater.com/2019-DBIA-Award.

SJWTX Canyon Lake Shores Surface Water Treatment Plant - TCEQ Regulators Training

At the request of the Texas Commission on Environmental Quality (TCEQ), SJWTX hosted 17 state inspectors for a special hands-on training event at the Canyon Lake Shores Surface Water Treatment Plant on June 6, 2019. SJWTX's participation was requested due to the plant's reputation as a sizable and well-run facility centrally located in the Texas Hill Country. State inspectors, charged with ensuring that water systems in the State of Texas are meeting all operational requirements, traveled from all over Texas to attend. For many of the attendees, this training event was an introduction to surface water treatment plant operations and facility inspections.

Working in conjunction with managers from TCEQ, SJWTX employees were on hand to give a tour of the plant, answer operational questions, and run through hypothetical inspection scenarios. Key moments in the training included a review of the chemical feed system, a tour and explanation of the plant's two large claricones, application of granular activated carbon, on-site generation of sodium hypochlorite, and use of online analyzers. The SJWTX operator onsite also gave a backwashing demonstration, talked about the use of SCADA, and performed some lab analysis in the facility's bench lab.

Distribution

Pipeline Replacement Program

SJW Sustainable CIP Strategy

Whether considering the choice of materials, rate of replacement, priority of replacement or methods of construction, the most important consideration for the SJW Infrastructure Renewal Program is sustainability. This can best be seen by examining its largest annual infrastructure investment – renewal and replacement of its pipeline transmission and distribution system.

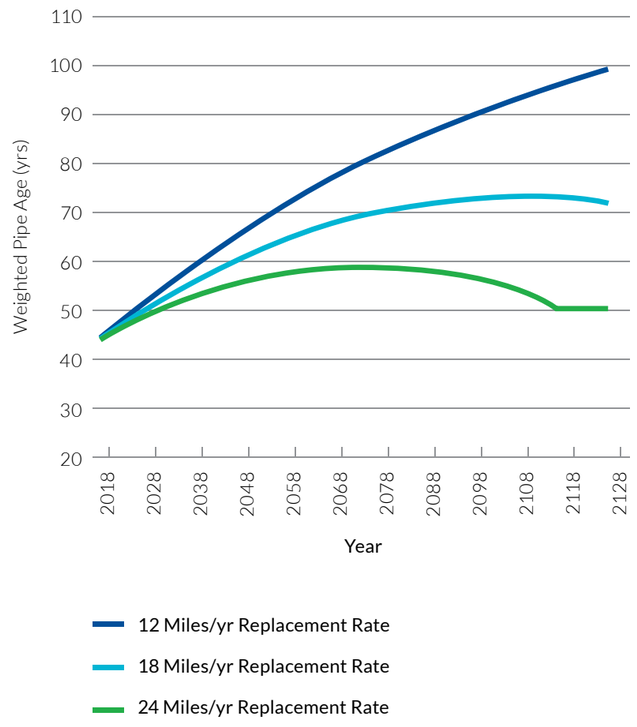
Rate and Priority of Replacement

SJW has been annually replacing its aging pipes at the rate of 1%, or about 24 miles, of its transmission and distribution system since 2006. The average life expectancy of all pipes is almost 100 years, and this corresponds to a 1% sustainable replacement rate. The majority of the distribution system was installed prior to the mid-1980's, a time when cement-lined ductile iron pipe (DICL) became the current industry standard. The materials used before DICL are generally more susceptible to failure by corrosion, impact, or pressure surges than DICL, resulting in a much shorter average lifespan. Figure 7 depicts the current and future average age of pipe segments in the system for three different pipe replacement rates.

Even at the current 1% annual replacement rate represented by the green line on the graph, the average age of the system will continue to rise until about 2075 when it will reach 59 years. At that point, a substantial amount of the transmission and distribution system will be substantially older than its expected useful life (the average age at which similar materials have failed in the system). It is also the point where the maximum number of pipe leaks per year is expected to occur. To help preserve the integrity of the system with pipelines still in service beyond their expected useful life, a trained artificial neural network is used to best predict which pipes are likely to fail in order to thoughtfully prioritize which of these pipe segments should be replaced in a given year.

Over the years, SJW's methods for predicting the probability of pipeline failure have been enhanced and refined. Early pipeline replacement programs considered recent leak history, pipe material, fire flow deficiency and pipe age as the primary considerations for prioritization of segments for replacement. The most recent pipeline study used Artificial Neural Network (ANN), a machine learning algorithm, to help find the complex relationships between the numerous factors. These factors include quality of materials, appropriate construction methods, rate of replacement in line with expected life of the asset, and prioritization of replacements. Through a series of iterations, the ANN was "trained" until it was able to adequately replicate the number of actual recent leaks for each pipe. Once the ANN was trained, it was used to predict the future probability of failure.

Figure 7. Average System Pipe Age vs. Pipe Replacement Rate



The replacement of water mains is rooted in sustainability.

- For a mature water system such as SJW's, it is appropriate to replace materials and equipment commensurate with the life expectancy of that asset on average. However, we don't replace the oldest piping first necessarily, but rather which pipe is statistically likely to leak first.
- Prioritization of replacements by the trained artificial neural network will help to limit pipeline failures, preserving both water and energy.

In addition to the probability of failure, the latest consequence of failure analysis enabled SJW to holistically assess social, financial, and environmental impacts in alignment with SJW's mission to serve its customers at world class levels. Probability and consequence of failure results yielded business risk exposure levels for each pipe segment, providing a robust basis for the prioritization of pipeline replacements. Replacements at this optimal rate accounted for about 60% of the capital expenditures in 2019. Through the use of these advanced analytical tools, SJW has been able to successfully prioritize its pipeline replacement program to steadily reduce its water loss since 2009.

SJWTX Pipe Improvements

In 2019, SJWTX invested $2.5M to replace 2.45 miles of pipe along the FM 306 roadway in the Canyon Lake service area. Another $2M will be invested in 2020 to complete the final two-mile length of pipe along this roadway. This multi-year project to replace 16-inch PVC pipe with 16-inch ductile iron brings about a critical upgrade to the SJWTX distribution system as the former pipe was prone to large leaks. With this replacement, water service is now more reliable and water waste from leaks and breaks will be greatly reduced. In addition, this new pipe will improve service to some of the farthest-reaching parts of the service area.

SJWTX also invested over $3M to connect its 16-inch waterline at the Guadalupe River to the Rodeo Drive booster station, and then from the Rodeo Drive booster station to the 12-inch waterline in the Singing Hills development. In total, this project saw the replacement of 0.20 miles of 16-inch PVC pipe with 16-inch ductile iron pipe and the installation of three new miles of 16-inch ductile iron. The new installations will improve reliability of service to one of the area's largest neighborhoods, River Crossing, and to the City of Bulverde, by allowing more water to move into those areas. These improvements also create a redundant water path to these areas, allowing SJWTX to ensure supply when other mains have to be closed for repair or maintenance.

Use of Ductile Iron Pipe

SJW's standard for pipe replacement is restrained-joint, zinc-coated and cement-lined ductile iron pipe (DICL). The cement lining protects the interior of the pipe from corrosion, whereas the zinc coating and polyethylene bags protect the exterior from corrosive soils and other stray currents. With these and other precautions, pipelines constructed according to SJW's current specifications are expected to last at least 100 years.

DICL has many characteristics that make it superior to other pipe types, including:

- Made up of up to 98% recycled content and is itself a completely recyclable material
- Lower lifetime costs due to increased flow capacity and subsequent energy savings
- Strong enough to withstand the most severe conditions — from high-pressure applications, heavy earth and traffic loads — in addition to unstable soil conditions
- Can be easily located underground with conventional pipe locators, as it is made of a metallic material and acoustic leak sensors are better able to detect leaks
- Holds up well in seismic conditions, especially in its earthquake-resistant form

The cost of pipe material makes up about 20% of total pipe replacement costs, so using this superior pipe type is a small cost increment to ensure a longer lasting product to the benefit of SJW customers.

Restrained Joint Pipe

The water industry has a history of innovation with respect to the performance and composition of water pipes. Pipes in the home are usually soldered together, glued together or attached with a mechanical fitting (e.g. compression or flare). The larger DICL used by SJW and its peers are typically joined together with flanges, couplings or, most commonly, a bell and spigot arrangement called a push-on joint. This type of joint involves inserting the normal end of a pipe (called a spigot) into the bell end of another pipe with a gasket seal separating the pipes so that they have minimal or no metal-to-metal contact while allowing the pipes to bend a little at the joint without leaking.

Restrained joints resist the tendency to separate due to fluctuating pressure and direction of flow. Pipes that are properly restrained ensure that there is a much smaller chance of leakage at the joints, especially at bends and turns. This not only reduces the chance of pipes failing but saves water and therefore energy as well. These kinds of details are examples of how proper engineering design helps prolong the life of SJW infrastructure.

SP3 Resin at Groundwater Stations

In 2018, SJW piloted the use of a catalytic resin called Filtersorb® SP3 Resin as a potential solution to prevent the plugging of the chlorine injection systems. The resin does not require maintenance, is approved for drinking water treatment, and does not change the chemical composition of water. The resin acts as catalyst for the formation of stable, naturally occurring crystals (aragonite) that do not cause plugging at the chlorine injection points. The pilot was successful and all SJW groundwater stations that had been using CO2 are now equipped with this catalytic resin. This simple operational change is helping the company keep its costs low by eliminating the need to purchase $80,000/year of CO2 and reducing the labor required to maintain the associated injection systems.

The SP3 Resin does not require backwashing or replenishment, and the energy required for the SP3 system is much less than it was for the CO2 system. This is an example of how SJW continuously looks for ways to reduce costs and find solutions that minimize its carbon footprint.

SJW takes seismic safety precautions very seriously and has undertaken a major earthquake-resistant main replacement project in Santa Clara County.

FEATURE

EARTHQUAKE RESISTANT PIPE

One of the greatest threats that large earthquakes pose in a heavily populated area is the potential cutoff of water supply. For this reason, the company has constructed a major pipe replacement project on the Old Santa Cruz Highway using earthquake-resistant pipes and joints.

Besides the obvious benefit of increased seismic safety, the project will also move several local homeowners from privately run well systems into the regular SJW distribution system. In addition, four fire hydrants will be installed, contributing to increased fire protection in an area vulnerable to wildfires. To learn more about earthquake resistant pipes, visit: sjwater.com/earthquakepipe.

02

Operations

Operating a distribution system in today's environment means optimizing past practices to maximize efficiency, leveraging new technology to minimize water loss, maintaining the existing system with a changing regulatory environment, and planning for the future.

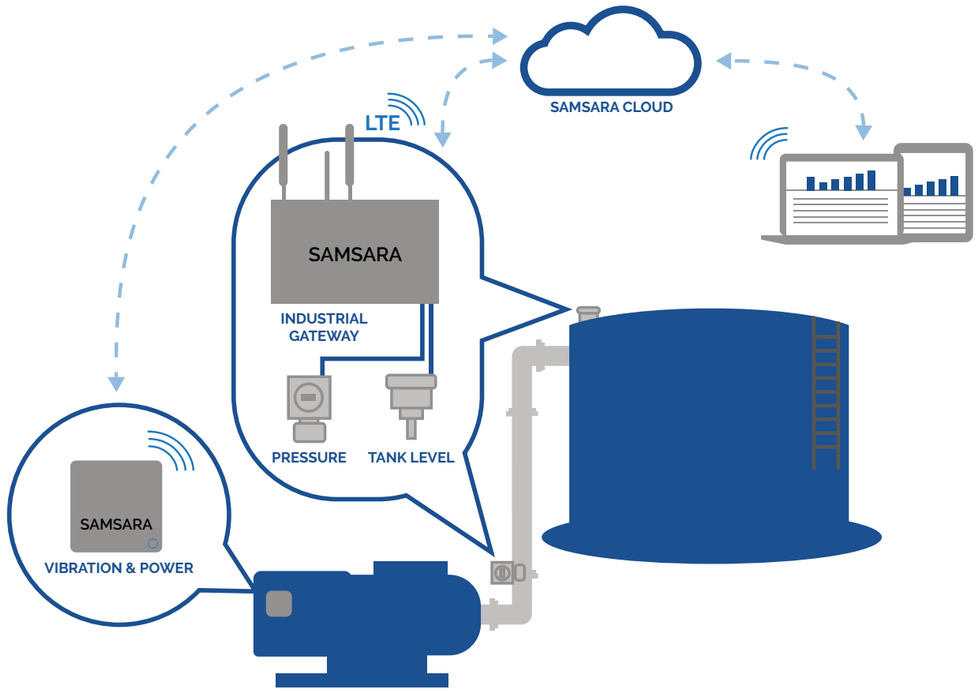


Figure 8. Pump Efficiency System
Samsara real-time pump efficiency and condition monitoring solution.

Energy Use

Pumping Energy Efficiency

Energy efficient pumping operations have helped SJW reduce energy consumption and operating costs. The Operations department has developed a time-of-use pumping strategy that load-shifts pumping activities to off-peak energy usage periods. In addition, cutting-edge technology has been deployed to continuously monitor pump efficiency remotely. The pump efficiency data is integrated with our SCADA monitoring system. This system prioritizes all available pumping inputs every twenty minutes based on efficiency, time of day, and the PG&E rate schedule, ensuring that the next most efficient pump is always selected when additional pumping is required to meet demands. This continuous monitoring not only ensures real-time efficiency data based on current operating conditions, but also provides labor efficiencies and reallocation of resources.

Cox Station Energy Recovery

In 2011, SJW built an energy recovery facility at its Cox Station to recover the energy lost during the transfer of water from transmission pipes to the Cox reservoirs. Today, the high-pressure water is first passed through turbines that generate electricity before being discharged in the reservoirs. The slowing of the flow by the turbines to generate energy has minimal operational impact. Since their commissioning in 2011, the two turbines have generated a total of 1.7 gigawatt hours and saved the company over $285,000 in energy costs while contributing to a reduction of GHG emissions from the operation of its distribution system.

Water Loss

Reducing Water Loss

SJW's water loss rate of 7.4% of total water supplied continues to outperform the average water loss in the United States (16%[1]) and is well below the industry average and mean Infrastructure Leakage Index (ILI) when compared to most water utilities in California[2]. SJW remains committed to further reducing its water loss to conserve water and deliver world-class service to customers.

[1] USEPA, EPA 816-F-13-002 Water Audits and Water Loss Control for Public Water Systems (2013)
[2] SJW's ILI as of 2019 was 1.47 compared with a State-wide median and mean of 2.4 and 1.9 respectively (note lower number is better as this indicates the utility is closer to the theoretical minimum leakage index). See WSO/Cavanaugh, *Water Loss Technical Assistance Program Final Report (2018)*

To this end, SJW has become one of the industry leaders in proactive leak detection. Proactive leak detection, including acoustic leak detection, is part of SJW's water management program — intended to decrease non-revenue water (which includes leaks, fire hydrant flow, stolen water, and meter inaccuracies) and minimize real water losses in the system. Water pipe breaks are clear examples of reported leaks in which, because surfacing water is visible, actions are promptly taken. However, small pipe leaks or leaks at pipe joints and fittings may not reach the surface and can go undetected for long periods of time, wasting large amounts of water. While SJW quickly responds to reported leaks, systems like acoustic leak detection provide SJW and its customers with continuous and proactive leak detection before it would typically be noticed.

Every year, a water loss audit is conducted in accordance with American Water Works Association guidelines. This audit is submitted to the State of California and is available to the public.

Acoustic Leak Detection

The acoustic leak detection program uses sophisticated sensors placed on fire hydrants to find leaks in the water distribution system. These sensors monitor sounds within the water system and identify acoustic anomalies, which indicate leaks. When leaks are found an alert is triggered, and geographic information is automatically sent to our staff so that they can investigate and quickly address the leak before it becomes a catastrophic break. Being able to identify leaks before they become large breaks provides numerous benefits including improved public health and safety, reduced risk for workers, less disruptions for customers, lower repair costs, and reduced water loss. SJW's acoustic leak detection program commenced in 2017 and has proactively saved many millions of gallons of water since it began.

Drinking Water Discharges

SJW has been a leader in California in developing Best Management Practices (BMPs) for discharging drinking water to the environment. SJW's leadership role in developing and implementing BMPs to reduce the volume of water discharges and to mitigate the impact of these discharges includes:

- **Commissioning the design of facilities to better use discarded water from well flushing activities.** Many SJW well facilities are now equipped with percolation and filtration facilities. These facilities now capture the water discarded during flushing operations, allowing it to replenish the aquifer from which it came. Flows from the wells that exceed the percolation rates are filtered prior to being discharged to a storm water drain.
- **Implementing the use of a non-toxic polymer to clean water pumped from trenches during pipe repairs.** The polymer is derived from crab shells and is very effective in separating the dirt from the water discharged to the environment during trench dewatering activities. In addition to non-toxic crab shells, SJW also makes use of wattles filled with walnut shells. These wattles have the advantage of being light and very effective as check dams. The check dams work by slowing the flow of water when it is discharged into the street during dewatering operations. The light weight of the wattles makes it easier for workers to handle and saves fuel by eliminating the need to transport heavier conventional gravel bags.
- **Spearheading the revision of the California-Nevada AWWA Section BMP for Drinking Water Releases Manual.** The updated manual was approved by the Section this year. The manual is a reflection of water industry ingenuity and hard work in developing practices that minimize its operational impacts on the environment.
- **Implementing zero-discharge flushing.** In 2014, SJW became the second utility in California to implement zero-discharge flushing. The truck uses a flushing method that virtually eliminates water waste while doing a better job of cleaning water mains. By maintaining a closed system to keep water both clean and within the distribution system, SJW could continue flushing during drought periods and minimize water losses. The zero-discharge flushing system saves SJW and its customers 36,000 gallons of water per mile of pipe flushed, with 6.5 million gallons saved for the 180 miles flushed in 2018. To enhance the company's ability to understand water quality in the service area, the Water Quality and IT departments have developed a state-of-the-art data acquisition and analysis system. With this system, the Water Quality department is able to let customers and staff know, in real time, where flushing activities are taking track, the turbidity (cloudiness) removed from the system and to keep records of when a segment of the distribution system has been flushed.

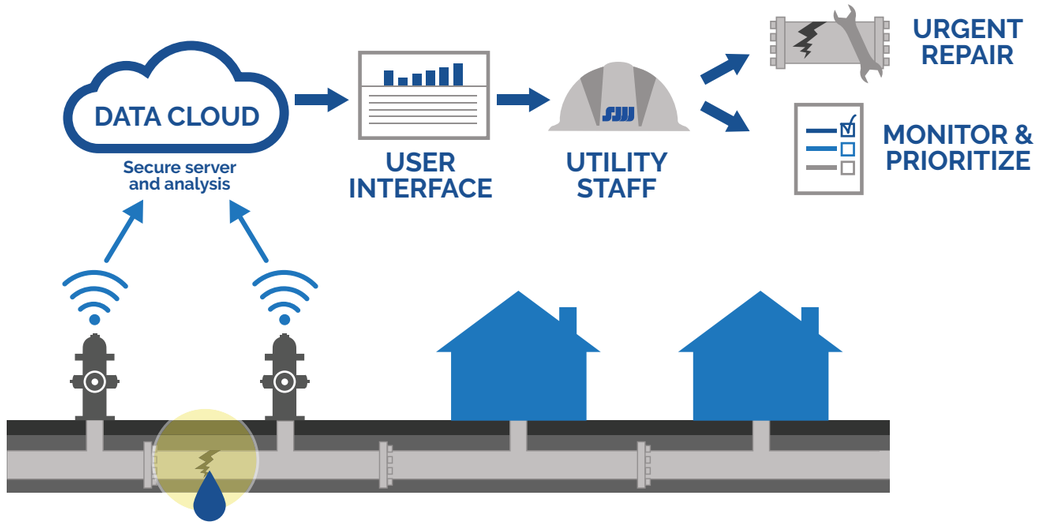


Figure 9. Acoustic Leak Detection

Other Resource Efficiencies

Advanced Metering Infrastructure

Years of unprecedented drought in California, upcoming state-level water conservation mandates (Senate Bill No. 606 and Assembly Bill No. 1668), and rising water costs mean SJW and its customers require more real-time data on water use and proactive leak notifications. Currently, most water meters within SJW's service area are read manually and billed on a bi-monthly schedule, where neither the customer nor the utility has insight into water usage apart from the one meter read captured every 60 days. Advanced Metering Infrastructure (AMI) helps meet today's water challenges by capturing near real-time interval data on water usage, indicating when leaks may be occurring, and allowing customers to track their usage on an hourly, daily, or monthly basis through an online portal.

SJW has been assessing the feasibility of AMI over the last several years and gained valuable experience from two AMI pilots that were completed in 2018. In 2019, SJW developed a business case for a system-wide AMI deployment and submitted an application to the CPUC in December 2019 for a multi-year AMI program. AMI will provide numerous customer service, societal and operational benefits, including:

- Assisting customers in meeting water budgets while managing their water use and corresponding water bills
- Reducing water loss on the customer side of the meter by proactively identifying continuous flow and burst flow events, notifying customers, and deploying vehicles to stop leaks
- Reducing water loss on the system side of the meter by creating areas in the distribution system that are isolated to track water loss
- Automating the highly-manual and hazardous work of manual meter reading (existing meter readers will be retrained into other positions within SJW)
- Improving utility and regional preparation for future droughts and conservation restrictions
- Improving high-bill troubleshooting and investigation via detailed interval data
- Increasing employee and community health and safety by reducing vehicle miles driven for meter reading and GHG emissions

Figure 10. AMI Transmission Network

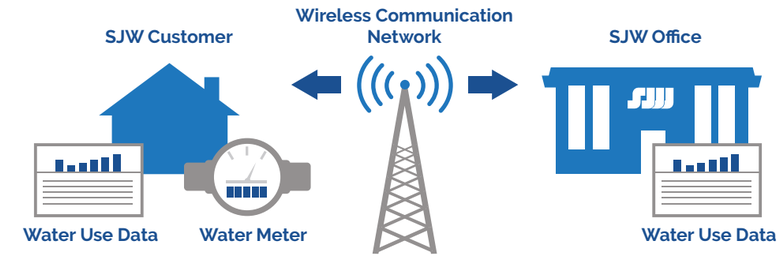
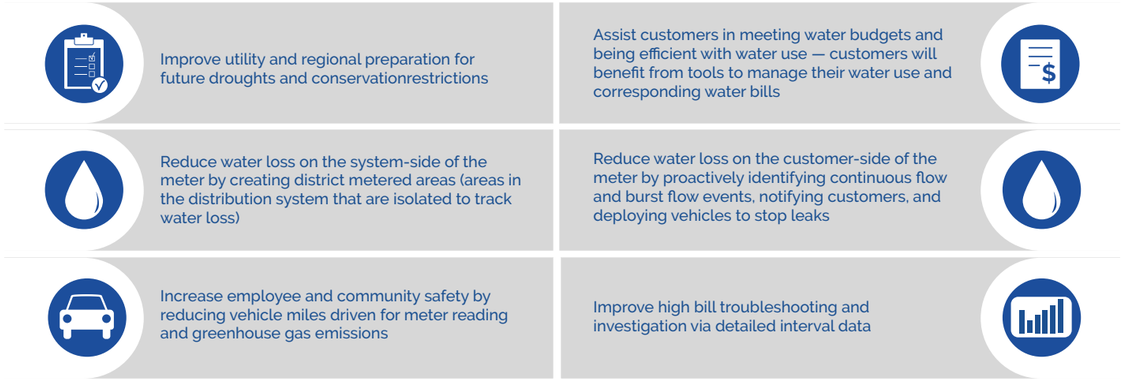


Figure 11. Overview of AMI Functionality



FEATURE

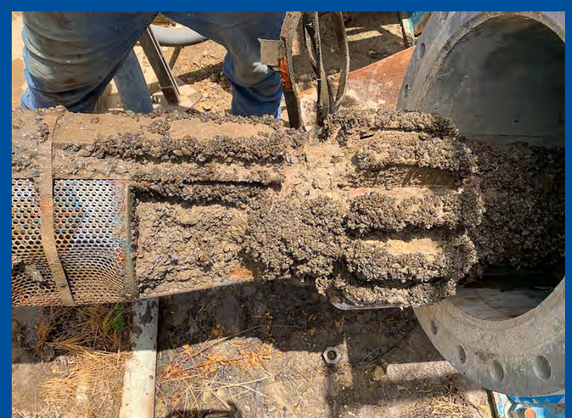
ZEBRA MUSSELS

Zebra mussels are a nonnative, invasive species present in Canyon Lake , a major SJWTX water source. Zebra mussels will attach themselves to most surfaces and can thus impact SJWTX operations and require large amounts of energy and other resources to address. To prevent operations impacts, SJWTX coordinates a twice-yearly cleaning of the screens fixed to the submersed intake pipes at its Canyon Lake Shores and Triple Peak surface water treatment plants.

In July of 2019, it was discovered that zebra mussels had attached themselves to pumps at Canyon Lake in such dense layers they were cutting production from one of the intake pipes nearly in half. SJWTX immediately began scouring the pipes to restore production. SJWTX also consequently designed physical improvements to better manage the zebra mussels, including:

- updating the design of the intake pipes for easier and more frequent cleaning
- replacing the old intake screens with copper plated screens, as zebra mussels are averse to copper
- working with regulatory entities to make the intake column less hospitable for the zebra mussels

These changes will help ensure that SJWTX production is not impaired by the zebra mussels, without impacting the lake environment.



03

Environment

SJW is aggressively planning for our future by addressing the effects of climate change and working to drastically reduce the carbon footprint of the organization. SJW's Climate Change Policy provides guidance to the organization on the direction and expectations to provide drought resistant, sustainable water supplies for its customers while being an environmentally responsible organization that does more than its part to transition to a low-carbon economy.

SJW Carbon and Climate Initiatives

Greenhouse Gas (GHG) Emissions

SJW is actively reducing its GHG emissions in several ways. As described below, one large step was changing its energy provider from one that offered some renewable energy to two providers that offer a much higher percent of renewable energy. In addition, SJW has recently switched the fuel supply for all of its diesel-powered trucks and vehicles to a renewable biofuel. These two steps alone have cut CO2 emissions by about 2,000 tons per year. It is anticipated that by the end of 2021, SJW will meet its reduction goal of 5,000 tons of CO2 per year.

Renewable Energy

SJW switched to sustainable electrical providers San Jose Clean Energy in February 2019 and Silicon Valley Clean Energy in April 2017. While providing a minimum of 1% savings in energy costs for the company and its customers when compared to the former provider, these energy providers also distribute cleaner energy with a higher percentage of carbon-free and renewable energy sources, as shown in the table on the next page.

FIGURE 12. SAN JOSE WATER'S BENEFITS FOR SWITCHING TO CLEAN ENERGY PROVIDERS

Energy Provider	# of Accounts	Total GWH	% Carbon Free[1]	% Renewable Energy[2]	Tons of CO_2 Avoided[3]	Tons of CO_2 Avoided in 2021
San Jose Clean Energy (SJCE)	62	23.2	80%	45%	89	3,461
Silicon Valley Clean Energy (SVCE)	98	9.1	100%	55%	1,221	1,221
Pacific Gas & Electric (PG&E)	0	0	78%	33%	0	0
San Jose Water (SJW) Total	160	32.3	86%	48%	1,310	4,682

[1]Carbon free is Wind, Solar, Hydro and Nuclear
[2]Renewable energy is Wind and Solar
[3]Metric tons of CO2 or 2200 pounds

Energy Goals

SJW aims to make 100% of their purchased power carbon-free by the end of 2021, saving 4,682 tons of CO2 from 2019. By 2025, SJW intends to install solar panels that will save approximately 2,000,000 KwH or 2 GwH of electrical use, which translates to an additional 290 tons of CO2 from 2019. Combined with energy conservation initiatives, SJW's overall goal is to save 5,000 tons of CO2 by 2025 from a year 2017 baseline.

Solar Power

Since 2007, SJW has been using solar energy in an effort to reduce GHG emissions and offset energy costs. SJW has installed solar panels and numerous small electrical panels on its Columbine Reservoir. This upcoming year, upon CPUC approval, SJW plans to significantly enhance its alternative energy efforts by designing and starting the permitting process to install photovoltaic systems at two of its largest-producing groundwater pumping stations, Williams Road Station and Three Mile Station. These two systems will have a combined capacity of approximately 1,800 kilowatts and provide SJW the ability to both reduce overall energy use and limit peak energy demand charges. Initial estimates show that these investments will have short payback periods of 3 to 5 years, helping to decrease operational expenses, lower customer bills, and reduce the company's carbon footprint.

Electric Vehicle Fleet

To reduce operating costs and GHG emissions, SJW has begun integrating electric vehicles (EVs) into its fleet. The transition to EVs, limited at this time to passenger vehicles, is expected to provide the following financial savings:

Figure 13. Annual Savings Per Electric Vehicle

Costs of Gasoline Vehicles	Annual Savings/ Electric Vehicle
Fueling of gas vehicles by fleet staff	12 hours
Maintenance of gas vehicles by fleet staff	2 hours
Maintenance cost of gas vehicles	$360
Energy cost	$926

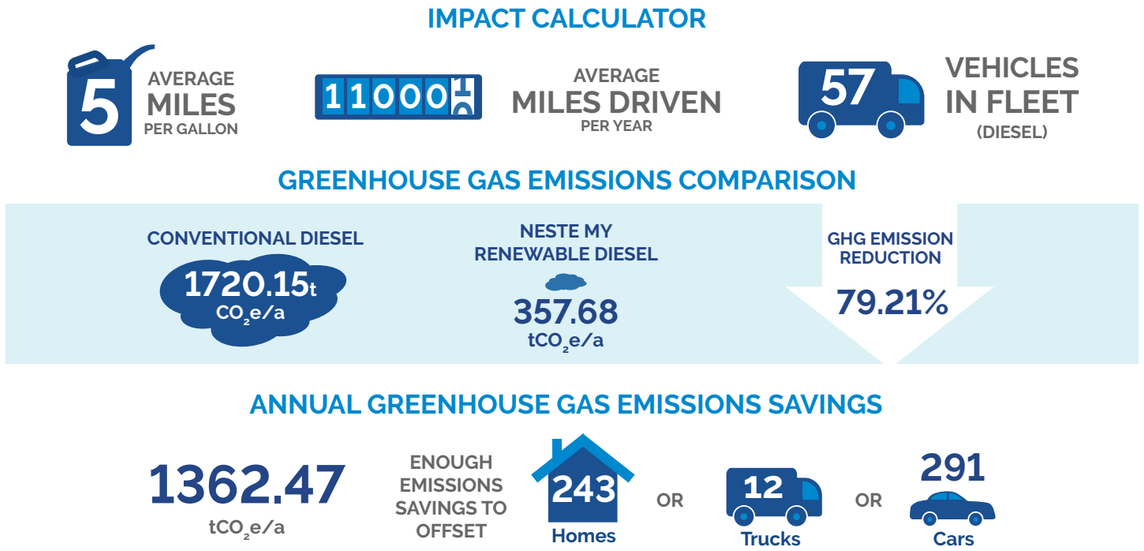
Additionally, each EV will reduce GHG emissions estimated at 4.2 metric tons per 12,000 miles driven, assuming an energy efficiency of 4 miles/kWh. Based on the results of piloting two fleet EVs, the company will assess new EV offerings in the marketplace and convert its entire fleet to EVs when it makes financial sense to do so.

Biofuels

SJW is currently using biofuels in place of diesel fuel for all of its trucks and construction equipment that use diesel. The fuel is provided by Neste, the leading producer of biofuels in the world. The biofuel is a high-quality renewable diesel fuel that is also known as Hydrotreated Vegetable Oil and is considered an advanced form of biofuel superior to traditional biodiesel. The fuel is comprised of waste fats (such as animal and fish fats) and vegetable oil residues (such as palm, corn and soybean oil) which results in up to a 90% reduction in GHG emissions, according to Neste. All 57 of SJW's diesel vehicles now exclusively use this biofuel, including backhoes, vans and light, medium and heavy construction equipment.

Approximately 100,000 gallons of biofuel will be used each year in replacement of diesel fuel. As shown in the GHG calculation figure, this corresponds to an annual GHG emissions reduction of 79.21%, which is the equivalent annual GHG footprint of 243 homes.

Figure 14. GHG Calculation for SJW



Read more about SJW's adoption of Neste fuel here: sjwater.com/neste-renewable-diesel

FEATURE

KITTREDGE WETLANDS CREATION

SJW actively manages the Los Gatos Creek watershed, an area of approximately 6,000 acres, under the Los Gatos Creek Watershed Maintenance Program (Maintenance Program). To mitigate the impact of management activities in the watershed, SJW created a wetland adjacent to Lake Kittredge. The wetland provides important habitat for endangered species such as the California Red Legged Frog and the Western Pond Turtle. This project will ensure SJW is able to continue providing high-quality water from local sources, while also protecting local wildlife and the beautiful habitat on which they depend. To learn more about this project, visit sjwater.com/Kittredge-wetlands.

04

Social Responsibility

Customer Focused Mission

Customers expect water to flow every time they turn on the tap, but this expectation encompasses more than just high-quality water delivery 24 hours a day, 365 days a year. Today's consumers want their companies to be committed to customer service, stewards of the environment, and supportive of the community. SJW is dedicated to a mission that encompasses all three.

Conservation

Conservation is no longer a buzz word brought up during intermittent droughts. Throughout California, the phrase "Making Conservation a Way of Life" is dominant. SJW has taken this statement to heart and not only practices conservation in its own operations, but also assists customers to use this precious resource more efficiently every day.

In 2019, SJW focused conservation outreach efforts on outdoor water use, which accounts for more than 50% of residential use. Working with Valley Water, SJW has encouraged its customers to take advantage of the many rebates available for landscape retrofits. The company's goal is to convert approved high water use landscapes, such as lawns and pools, to low water use landscapes and retrofit existing equipment with approved high-efficiency irrigation equipment.

Valley Water Landscape Rebate Program Accomplishments Over a Three-year Period:

- Turf removed: 1,407,095 square feet
- Weather-Based Irrigation Controllers Installed: 1,134

CATCH Program

SJW developed the CATCH program to empower its customers to understand and optimize their water use. With this free program, a water efficiency expert visits a customer's home or business to check for leaks and recommends critical water- and money-saving improvements. With CATCH, customers are left feeling confident that they are maximizing water efficiency.

Figure 15. CATCH Water Audit by Type

	2016	2017	2018
Single-family residential audits	2,269	2,210	2,145
Multi-family residential audits	490	551	397
Commercial audits	57	44	47
Dedicated landscape audits	12	0	0

SJW is committed to customer service, stewardship of the environment, and supporting our community. for generations to come.

Waterfluence

Another aspect of SJW's outdoor water conservation efforts focuses on large landscaped sites. Waterfluence is a company SJW has partnered with through Valley Water to help with this effort. This program offers dedicated landscape and recycled water customers a customized water budget based on aerial imagery and site verification of the amount and type of irrigated area. Customers receive a monthly water budget report that shows actual water use compared to calculated water budget. The report is provided to inform customers of their water use and encourage conservation. This program was introduced to customers in 2017 and is being funded by Valley Water.

SJWTX Conservation Efforts

Because SJWTX similarly serves high-growth areas, the utility has started taking more steps to promote water efficiency through conservation and drought management. In 2019, SJWTX revised both their Drought Management and Conservation plans. The revisions in both plans helped better align SJWTX with its neighbor utilities in the region. In particular, the institution of a year-round watering schedule is a major change that mirrors what SJWTX's neighbors have initiated to help reduce outdoor water waste. Internally, SJWTX is working to improve customer communication on conservation and drought-related topics by including more information about water resources and efficient use in a quarterly newsletter.

Additionally, 2019 is the first year in which SJWTX held an outdoor water use outreach event. The two-day event in November was held in conjunction with a local nursery and landscape design facility. At the event, customers had the opportunity to learn how to correctly set and use an irrigation controller, understand the benefits of healthy soil, grow native plants, and view landscape designs that minimize the use of turf. Visitors were also able to engage with SJWTX staff and learn more about SJWTX's water resources, distribution system, new infrastructure projects, and more.

Inspired by extensive new development in SJWTX's service area, the utility has made a concerted effort to include conservation provisions in new developer agreements. While this is an on-going effort, some changes made to-date include new requirements for model homes with native or xeriscape landscape packages, limits on the amount of irrigation installed at residential sites, and requirements for irrigation audits in community green spaces.

WRAP

Serving customers includes helping those who need financial assistance. The Water Rate Assistance Program (WRAP) provides a 15% discount on the total water bill for eligible low-income customers. Information about this resource is communicated in many ways including bill inserts, the SJW website, community outreach events, and through phone calls with customer service representatives. This year's efforts included expanded postings on social media to make sure the most vulnerable populations receive assistance. In the fourth quarter of 2019, 17,760 customers were signed up for WRAP.

SJW Emergency Preparedness

Water is vital to many parts of everyday life, and its importance is only made clearer in the aftermath of a major event or natural disaster. The South Bay Area is subject to many types of disasters including flooding, fires and of course, earthquakes, so preparation is key. SJW is aware of the responsibility the utility holds to ensure customers have access to water in the case of a disaster and is thus committed to emergency preparedness and organizational readiness.

SJW's preparedness efforts feature both internal training and planning, as well as external coordination and partnerships. Internal efforts include infrastructure upgrades to tanks and pipes to increase earthquake resilience, monitoring the structural integrity of nearby dams, doubling fuel tank capacity of service trucks so they can stay in the field to complete critical repairs, and emergency fuel planning in case of power outages to ensure generators essential to pump operations remain functional.

SJW's preparedness efforts with external organizations include participation in the planning and coordination of regional emergency response exercises and other training events, as well as ongoing partnerships with Valley Water and other local agencies to ensure a coordinated response to any disaster or major event that may occur.

SJWTX community outreach event

FEATURE

SJW STAFF – WALKING THE WALK

SJW employees share the utility's concern about environmental and social issues. One of the most prominent examples of recognizing the importance of safe, high-quality drinking water is seen in SJW employee Gavin Devries. An Engineering Manager in the Planning department, Gavin serves as a Captain in the United States Army Reserves. This year, his unit traveled to Fiji to work with the local water authorities. His section was tasked with teaching basic sanitation to primary school students as well as working with the water officials on infrastructure projects and master planning. To learn more about Gavin's efforts in Pacific Pathways Exercise Cartwheel 2019, visit sjwater.com/gavin-devries.

FirstNet

In 2019, SJWTX took the important step of ensuring all employees were enrolled in FirstNet. FirstNet is a wireless broadband network specifically dedicated to ensuring first responders and critical utility and infrastructure entities can communicate during an emergency. Water utilities need priority access to communication networks in the case of a natural or man-made disaster, and using FirstNet ensures SJWTX will not be affected by network overload when connectivity is most crucial. This new safety feature also helps the utility disseminate key information throughout the community and among SJWTX customers more quickly and clearly. It is SJWTX's goal to be as prepared as possible to maintain safe, reliable service to its customers and the greater community, even in the situation of a disaster.

Partnering with the Community

2019 was a banner year for SJW community outreach. With a goal to increase outreach efforts by 40% from 2018, a record-number of 29 outreach events were achieved. In addition to favorite events like Bark in the Park, Cupertino Diwali Festival, Water Awareness Night with the San Jose Giants, and the Guadalupe River Run, many new events joined the line-up including the Berryessa Art & Wine Festival, Bollywood in the Park, and Happy Hollow Senior Safari. At every event, SJW staff enjoyed the chance to listen to customers and answer questions.

SJW was honored to receive four MarCom awards for creative communications content produced in 2019. Gold awards were received for the utility's Kids Educational Activity Booklet and an infographic on the SJW resiliency program, and two Honorable Mentions for the Montevina Water Treatment Plant tour video and the Summer 2019 water bill insert.

Since its inception in 2004, MarCom has evolved into one of the largest, most respected creative competitions in the world, and SJW is proud to be recognized on this coveted list.

Formalizing outreach efforts included creating a calendar of events and implementing a volunteer recruitment effort to help staff events. The SJW Ambassador Program, revived in 2019, included a group of 39 employees committed to sharing the company's story with the public.

New outreach efforts in 2019 also included public tours of the Montevina Water Treatment Plant. From Brownie troops to retirees, customers were able to witness the technology used to bring water to their taps every day. This includes the use of cutting-edge microfiltration, reduction in chemical usage, and the use of local water supplies.

FEATURE

SJW OPEN HOUSES

The highlight of 2019 outreach was a series of four open houses held in different communities throughout the SJW service area. In Saratoga, Campbell, and two locations in San Jose, SJW provided demonstrations, videos, and equipment so the public could experience various elements of the water system, first-hand. Staff enjoyed meeting community members, answering questions about the utility and educating visitors about various aspects of water treatment and delivery. Members of the public were excited to learn more about their local water system and service provider.

SJW HELD 4 OPEN HOUSES IN 2019

> **"Thank you for providing a tour. It truly made me appreciate the plant upgrade and the care taken with our water supply."**
>
> – Montevina Water Treatment Plant visitor

Community Service

In 2019, SJW employees participated in many ways to make the community a better place to live:

Martha's Kitchen

As a long-standing supporter of this San Jose soup kitchen, SJW contributes not only funds but also volunteer hours. Employees helped prepare and serve meals during the Thanksgiving in January event for a grand total of 179.5 hours. This was an increase of 41.5 volunteer hours from 2018.

Rebuilding Together

SJW stepped up to participate in a large fence-building project for a home that will serve as a transitional place for women (and their children) who have jobs but cannot find affordable housing. A dozen employees donated more than 100 hours of time to create a safe place for children to play.

Hunger at Home Shoe Drive

SJW partnered with this local agency for the first time in 2019. Employees donated more than 500 pairs of shoes to those in need.

The Guadalupe River Park

Fencing in undeveloped park lands was a priority for the Guadalupe River Park Conservancy who reached out to SJW for help. A dozen employees worked tirelessly to install more than 250 feet of split-rail fence. All employee efforts helped to improve the three-mile park that runs through the heart of downtown San Jose.

Employee Community Fund

The SJW Employees' Community Fund, a 501(c)(3) corporation, promotes employee and retiree involvement in their local communities by providing the means to support other non-profit organizations through employee contributions. This organization is run solely by employees.

Funds to support this program come from two sources. Employees provide tax-deductible contributions through bi-weekly payroll deductions or one-time annual contributions. As an added incentive, SJW provides a dollar-for-dollar match of employee contributions up to a maximum of $10,000 annually.

Through the 4th quarter of 2019, 38 total grants were provided to the community for a total of $17,250. These funds go to schools, churches, sports programs, art/music programs, cancer walks, and homeless shelters. One softball league used the donations for scholarships for girls that cannot afford to play travel ball.

FEATURE

FIFTH GRADERS GET WATER WISE!

Making sure the next generation of students appreciates the value of water, SJW offers a school-based water education effort known as the WaterWiseTM Program. Approximately 3,400 fifth graders throughout the service area enjoy the benefit of this hands-on conservation program that combines school-based lessons and a take-home package of water-saving devices. Learn more at sjwater.com/fifth-grade-water-program.

SJWTX Community Involvement

Every year, SJWTX supports a variety of organizations. In 2019, SJWTX contributed to 19 different organizations ranging from the arts and local businesses to veterans' groups and youth sports. Some highlights from 2019 include providing support to the Community Resource Center in the form of box fans and heaters so those in need can live in safe temperatures, participating in the local Veterans of Foreign Wars Post's Fourth of July Parade, sponsorship for the Canyon Lake Rotary Fund's college scholarship, providing financial support for Music in the Park programs, and maintenance for community walking trails. SJWTX was especially proud to sponsor the Canyon Lake Little League for the 15th consecutive year.

Supplier Diversity

SJW is committed to continuous improvement of both its Supplier Diversity Program and the CPUC's Utility Supplier Diversity Program. SJW strives to work with Diverse Business Enterprises (DBEs) that reflect its community including Minority Business Enterprises (MBE), Women-Owned Business Enterprises (WBE), Disabled Veteran Business Enterprises (DVBE) and Lesbian, Gay, Bi-sexual and Transgendered (LGBT) DBEs. In 2019, SJW began its Supplier Diversity Champions program. In each department, employees are identified to support the use of diverse suppliers in all areas of the company from food vendors to construction companies. Internal support of this important program has increased awareness throughout the company.

05

Employees – Culture, Service and Safety

Integrity.
Respect.
Service.
Compassion.
Trust.
Teamwork.
Transparency.

Throughout the organization, SJW employees embrace the company's values in everything they do.

Employee Opinion Survey

Employee Opinion Survey results continue to be strong in 2019 with 79% of employees participating and an overall favorable rating of 72% for the second year in a row. The Engagement Index also remained relatively unchanged year-over-year with 22% of employees indicating they are fully engaged with another 56% in the key contributor category. Many employees perceive a clear link between their efforts and the success of the organization. The data also shows that employees identify positively with the vision and goals of the organization. SJW and SJWTX leadership is fully committed to building upon the strong cultural foundation and improving upon opportunities as the companies continue to grow and expand.

Highlights from the 2019 Employee Opinion Survey:

- Positive employee comments spoke highly of coworkers/teamwork, work culture, their job, and management.
- The organization scored higher than the Global Benchmark in key areas including employees believing they have the tools and resources they need to do their jobs well.
- Employees feel that the people they work with treat them with respect.
- 83% of employees are confident that the organization has a successful future.

Benefits, Employee Care and Development

One of SJW's highest priorities is addressing the health and welfare needs of employees and their family members. The company does so by providing access to comprehensive medical plan offerings – two of which have 100% employer-funded premiums for employees and their families. Dental, Basic Life, and Employee Assistance insurance premiums are also 100% employer funded.

The financial health of SJW employees is also supported through a 401(k) savings plan with employer matching, a discounted Employee Stock Purchase Program, 100% employer-funded Cash Balance Pension Plan, and competitive compensation packages.

SJW encourages ongoing employee development through a variety of access points including tuition reimbursement, on-site certification training, management development programs, safety training, an e-learning platform and on the job training opportunities.

Employees spend a significant portion of their careers with SJW. During their tenure, employees experience a variety of life events including childbirth, family reunions, marriage, military service, personal or family medical issues, overseas travel and more. SJW offers 19 different paid and unpaid leave of absence options. Each year, SJW also provides employees with two to six weeks of vacation (based on tenure), ten paid sick days and fourteen paid holidays.

Commuter Assistance Program

In commute-heavy Silicon Valley, SJW employees have asked for and received programs to help with this difficult part of their workday. The Commuter Assistance Program (CAP) helps employees who live at least 20 miles from the Bascom Avenue site in San Jose. Regularly scheduled trains, buses and a customized shuttle service are used to transport employees to and from work Monday - Friday (excluding holidays) during commute hours. Participating employees are reimbursed at a rate of 100% of the cost of the appropriate monthly ticket (subject to federal income tax for reimbursement amounts above $260).

In 2018, SJW introduced a program for carpoolers to encourage the reduction of fuel emissions and to support increased work/life balance. Participants in this program are provided with a prescribed amount of fuel on a monthly basis at no cost to the employee carpool driver (subject to federal income tax). This program continued into 2019.

Equal Opportunity Employer

SJW is an equal opportunity employer and is committed to compliance with all applicable laws providing equal employment opportunities. SJW policy prohibits unlawful discrimination based on race, color, religious creed, religious belief or grooming, sex, gender,

gender identity, gender expression, marital/domestic partner status, age, national origin, citizenship, ancestry, physical or mental disability, medical condition, pregnancy, genetic information or characteristics (or those of a family member), sexual orientation, military and veteran status, status as a victim of domestic violence, or any other consideration made unlawful by federal, state, or local laws. It also prohibits unlawful discrimination based on the perception that anyone has any of those characteristics or is associated with a person who has or is perceived as having any of those characteristics. All such discrimination is unlawful.

To comply with applicable laws ensuring equal employment opportunities to qualified individuals with a disability, SJW will make reasonable accommodations for the known physical or mental limitations of an otherwise qualified individual with a disability who is an applicant or an employee unless undue hardship would result.

Labor, Health and Safety

Making sure employees are healthy and happy on the job is a top priority for SJW. The company strives to work collaboratively with all employees to provide the greatest opportunities for all.

Labor Relations and Management

SJW recognizes the important role each of its unions and leadership boards have in its success. They share a common commitment to serving fellow employees, customers, communities and protecting the environment. SJW and its labor unions have accomplished a great deal since the establishment of the company's first labor union in 1946. The company works collaboratively with the Utility Workers' Union of America, A.F.L.-C.I.O., Local 259 and the Operating Engineers Local Union No. 3 of the International Union of Operating Engineers, A.F.L.-C.I.O. SJW looks forward to many more years of building, together with its labor unions, an enduring company.

Open Door Policy

In an effort to facilitate open dialogue and communication, SJW has an open-door policy. Employees at all levels of the company are encouraged to bring ideas, suggestions, and feedback to managers and directors. Employees' ideas and feedback can help the company to grow, improve, and better meet the needs of its customers and the community. Unless they are involved in a conference call, confidential meeting or time-sensitive matter, managers and directors keep an open door, willing to listen and help bring about a solution or clarification. All staff input can be presented without fear of personal recrimination.

Workforce Diversity & Equality

Figure 16. Gender At SJW

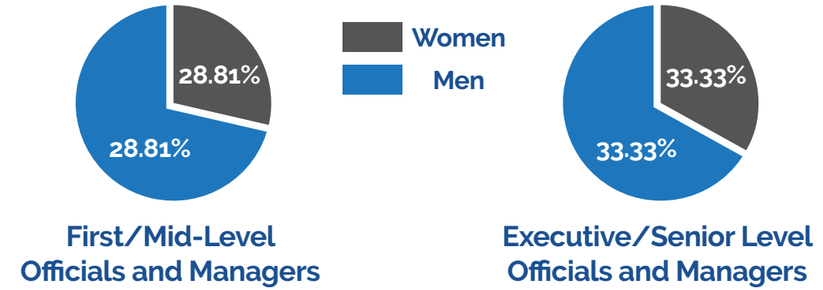


Figure 17. Age At SJW

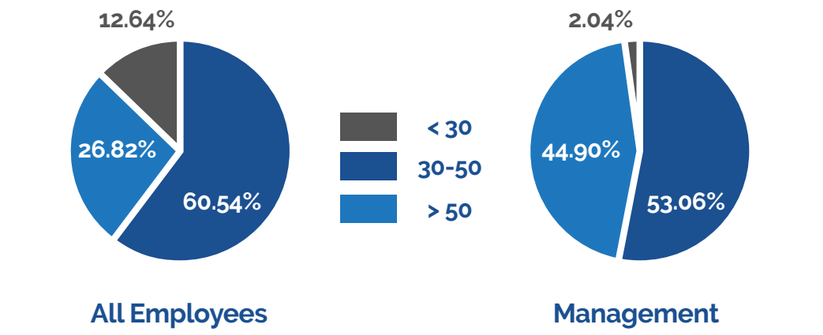
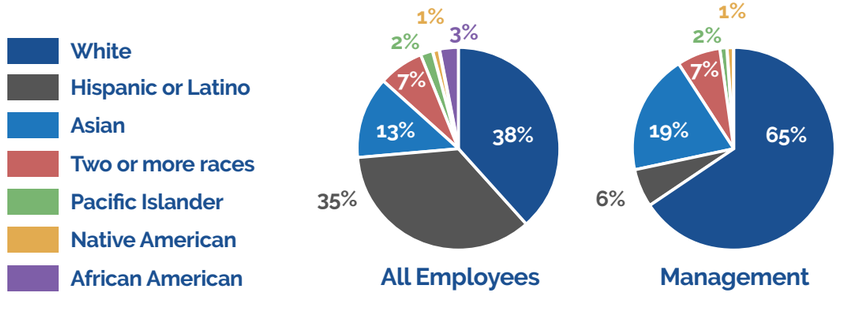


Figure 18. Ethnic Diversity At SJW



Health & Safety Policy

Employees are a key strategic building block at SJW, and their health and safety are core values for the company. Aiming for a zero-harm culture, the company's vision is to manage its Health and Safety (H&S) performance to become a leader in the water services industry. In 2018, the President and Chief Operating Officer together with the Chief Executive Officer signed a new H&S Policy covering all facilities and operations empowering SJW with the mission and responsibilities to achieve this vision. The utility's written safety programs were updated in 2019 to match the requirements of the new H&S Policy. As a clear indication of its commitment to the health and safety of employees, SJW's H&S Policy states that management, contractors and all employees are collectively responsible to ensure compliance with local, state and federal occupational health and safety regulations.

Managing Health & Safety

The SJW H&S Management System, called the Injury and Illness Prevention Program (IIPP), focuses on the prevention and minimization of H&S risks by assigning specific responsibilities to ensure active participation at all levels within the company's organization. The IIPP is designed in parallel to match the structure of ISO 45001 (formerly OHSAS 18001), which will allow the company to be certified in the near future. The IIPP consists of: a) H&S Framework where policies and responsibilities are declared; and b) H&S Management System where risk mitigation, training, recordkeeping and auditing takes place.

The 5-step IIPP implementation process involves the following:

1. Always set health and safety as the top priority;
2. Lead by example;
3. Ensure training is received;
4. Conduct self-inspections; and
5. Continually improve the program.

To ensure effective implementation of IIPP, quarterly self-assessment tools are provided to each department to measure their own progress. In addition, the H&S team carries out annual audits to ensure compliance.

In an effort to reduce the occurrence of injuries, SJW's IIPP has tools to identify and report hazards in an accessible location for all to see. For 2019, each department has a target of identifying at least one hazard per week and addressing the identified hazard within the time limits allowed based on assigned risk values. Due dates to correct hazards are assigned based on the priority given by the Risk Assessment Chart:

1. Immediate – 15 days
2. Critical – 30 days
3. Serious – 60 days
4. Moderate – 90 days
5. Low – 180 days

The hazards are controlled based on the hierarchy of controls principle by first developing solutions to eliminate the risks or substituting hazards with less dangerous ones. Additional steps are taken to implement engineering controls to isolate the hazards from SJW employees and the public. Furthermore, by introducing safe work practices and training, administrative controls are put in place. Finally, personal protective equipment is used for the hazards that cannot be mitigated. To verify that the controls are effective, IIPP provides tools for reassessing the remaining risks.

Culture of Safety

SJW fosters a culture of trust that strengthens collaboration and innovation in safety. Safe behaviors cannot be achieved by technical guidelines alone. Employee engagement is the basis for the world-class performance that SJW is striving for. Some examples of employee involvement in safety at SJW include supervisors and crew leaders writing Job Hazard Analysis, employees conducting safety tailgate sessions, mentors coaching trainees in working safely, union representatives actively involved in the H&S Steering Committee and the Joint Labor-Management Safety Committee, and employees actively reporting hazards and conducting self-inspections at their work areas.

In preparation for emergencies, every building has a Building Emergency Coordinator to act as an incident commander during emergencies to keep employees and the public safe. Mock drills are conducted on a regular basis to sharpen the skills of SJW emergency personnel. Emergency procedures are kept up to date for emergencies, such as fires, explosions, chemical spills, active shooters, bomb threats, medical situations, and earthquakes.

Continuous Improvement of Health & Safety programs

All H&S programs are designed based on Plan-Do-Check-Act approach. Each program element is implemented by including relevant stakeholders to plan the key parts of the program customized to fit operations. At the "Do" stage, SJW implements these planned parts while checking to confirm the expected outcome. Adjustments are made at the "Act" stage to keep the programs up to date. This approach enables SJW to improve the program elements to achieve world-class safety performance.

Facility Modifications and Employee Protections

In recent years, SJW has made strides towards adopting and implementing advanced safety features in its facilities. These features include built-in confined space rescue systems for tanks, folding guardrails for the underground vaults located on sidewalks to prevent pedestrians from falling through the opening, and advanced fall protection systems for ladders and unprotected edges of tanks. SJW has also implemented building stairs instead of fixed ladders wherever possible. These improvements are part of an ongoing effort to minimize injury risks to employees and the public.

Improvements in 2019 include upgraded confined space entry equipment, including two new davit arms, winches, fall protection devices, and harnesses. SJW also replaced several vault lids that were creating an ergonomic hazard to employees, built a new platform for operators to walk on while diverting flows from Trout Creek to the treatment plant, and installed new guardrails that provide a safe way to access equipment on top of the tank in Dow Drive Reservoir.

Significant improvements were also made to SJW's Personal Protective Equipment (PPE) program in 2019. The protective footwear program was expanded and is now based on wear-and-tear with detailed replacement criteria instead of annual replacement. In addition, Powered Air Purifying Respirators (PAPR) were introduced for several tasks that require a higher level of respiratory protection for employees.

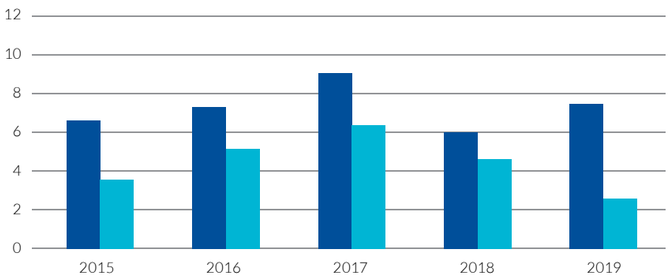
Types of Injury and Incident Rates

In 2019, there were no fatal accidents within the SJW operations. More than 100 years ago, there was one reported SJW employee death announced in a local newspaper, however, no other fatal accidents have been reported since that time.

20 work-related incidents took place by mid-fourth quarter in 2019, resulting in 162.5 lost working days, on the basis of approximately 550,000 hours worked. The Total Recordable Incident Rate (TRIR) for mid-fourth quarter is 7.2 and the Days Away/Restricted or Job Transfer (DART) rate is 2.5.

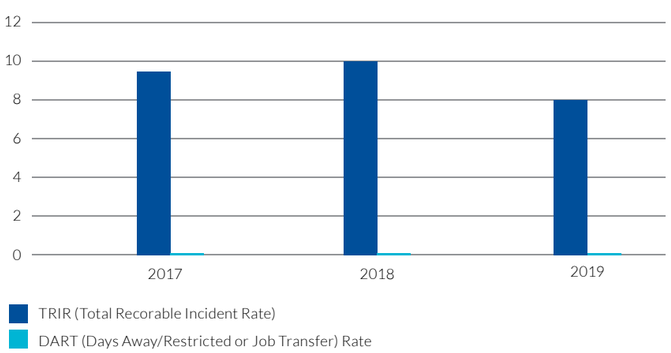
To prevent similar incidents in the future, all workplace incidents resulting in medical treatment and/or lost time were investigated to find the root cause(s) of the incidents. Figure 19 shows the last 5-years' accident rates per 200,000 working hours with a coverage of 100% of employees:

Figure 19. SJW Accident rates



Similarly, there have been no fatal accidents in the history of Canyon Lake Water Services Company. Figure 20 shows the prior 3-years' accident rates per 200,000 working hours with a coverage of 100% of employees:

Figure 20. SJWTX Accident Rates



SJW continually strives to improve its H&S performance; hence, a senior management level performance goal for safety was adopted based on the recordable incident rate reduction. The performance target of a 10% yearly reduction based on a 5-year moving average is calculated and monitored quarterly to ensure the company is on track. SJW has implemented written programs to achieve this target along with a near-miss reporting system, which allows SJW to analyze and take action before an incident occurs. Each incident and near-miss is investigated using the root cause analysis method to make certain this type of incident cannot happen again.

Improving Qualifications and Career Development Opportunities

SJW is committed to developing people, management and the organization by focusing on the State Water Resources Control Board (SWRCB) Drinking Water Operator Certification Program (DWOCP). The Joint Management-Labor Training Committee offers continuing education classes for both treatment operators and distribution operators at no cost to employees. In addition, all fees are reimbursed to employees who would like to obtain or increase their certification grade.

The tuition waiver program allows employees to advance their education by taking classes online or by attending accredited college programs. Moreover, SJW offers college scholarships to the children of active employees who plan to pursue or are currently pursuing a degree in engineering, biology, chemistry, business administration, or a field that qualifies the student for a position in the investor-owned public water supply business.

Additional programs, such as an apprenticeship program with the Local Pipefitters Union, provide an opportunity for unexperienced workers to gain new skills and understand the importance of safety on the job. Offering Crane Operator Certification through the National Commission for the Certification of Crane Operators (NCCCO) is another testament of SJW's commitment to organizational and individual development.

FEATURE

SJWTX WORK GEAR COMFORT AND SAFETY

In 2019, SJWTX invested in new high-visibility safety shirts designed to keep employees cool in the summer heat of Texas. The shirts, available in long and short sleeves, eliminate the need for wearing both a shirt and a vest. Doing away with an entire second layer of clothing keeps teams in the field cooler and reduces the risk of heat stroke.

In addition, new lightweight and vented hardhats were purchased for all employees that perform work in the field. In addition to keeping employees cooler, the lighter hardhats feature a six-point suspension system which reduces neck tension and strain by the end of the day.

The work boot allowance policy was also changed to provide more boot options. This way, employees have the flexibility to buy boots that best fit them and are safe and comfortable.

New safety equipment includes four-way gas monitoring equipment for work in confined spaces such as vaults, ground storage tanks, and manholes. New, larger trucks were also added to the fleet, ensuring that proper horsepower is available for safe towing and hauling tasks.

Levels of training

SJW understands that company-wide awareness level training and targeted safety training are needed in conjunction with technical measures to produce world-class safety performance. In 2019, a total of 350 labor-hours of OSHA outreach training, 820 labor-hours of safety tailgates, and 720 labor-hours of specialized safety training were completed by mid-fourth quarter.

New ways of learning

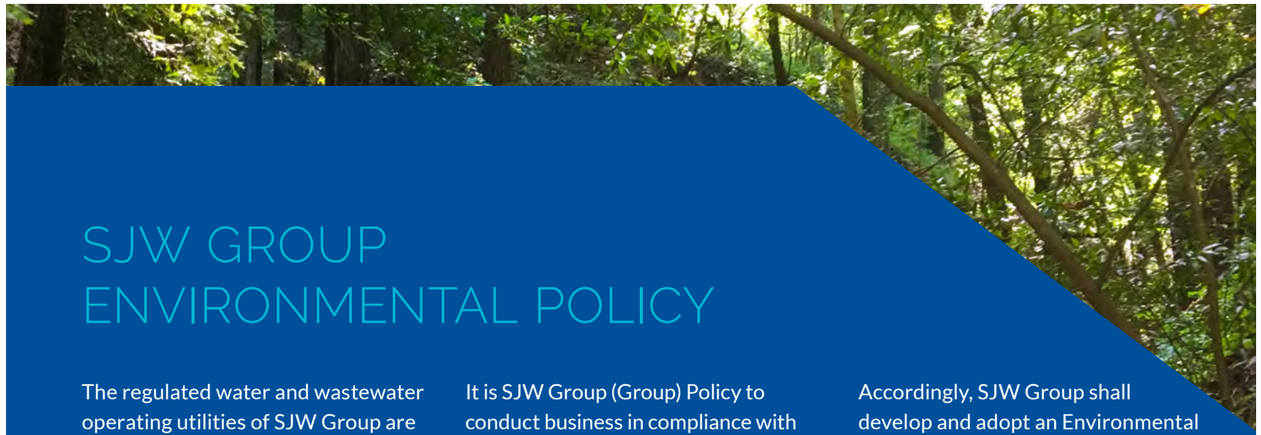
In 2019, SJW introduced a digital learning platform, CornerStone, to enhance learning activities by making them more accessible, open, connected and collaborative. Both safety and cybersecurity courses were introduced in this first year of the digital platform to provide flexibility with learning opportunities. By mid-fourth quarter, 320 hours of online training were successfully completed.

Our Ongoing Commitment

Integrity. Respect. Service. Compassion. Trust. Teamwork. Transparency.

As SJW Group expands to serve more customers than ever before across the U.S., we are committed to ensuring our values are embodied in every utility we operate. Upholding these values involves not only providing the highest quality water possible, but also ensuring the operations necessary to provide that water are approached in a sustainable manner. We are committed to protecting the environments from which that water is sourced and ensuring that water is used sustainably to serve our growing 1.5 million customers for generations to come.

This second annual SJW Group Sustainability Report functions not only to share our efforts over the past year in protecting the environment, improving operations and our utilities in general; the report also serves as a record of the goals we set for ourselves, our progress towards achieving those goals, and our ongoing commitment to our customers, our planet, our shareholders, and our mission to serve high-quality water for the next 150 years.



SJW GROUP ENVIRONMENTAL POLICY

The regulated water and wastewater operating utilities of SJW Group are subject to multiple state and federal regulations regarding rates, service, finances, operations, water quality and environmental standards. As a highly regulated business, the Company is committed to operating in compliance with all applicable laws and regulations. Our goal is not only to meet the letter of the law, but to do so in a manner that builds trust and respect with regulators, the environmental community, our customers and our shareholders. With operations in multiple states, systems of different sizes and varying water resources, and regulatory requirements across the company, appropriate operating practices are implemented to meet the needs of each system to serve its customers.

It is SJW Group (Group) Policy to conduct business in compliance with applicable regulations in a manner that:

- recognizes the unique business of providing water and wastewater service, and the impact it has on people and communities;
- ensures the protection and conservation of the Group's natural resources;
- enhances the environmental stewardship of its assets;
- adopts business practices that minimize the environmental impact of operations through the use of renewable energy, water and energy conservation, reduction, reuse and recycling of materials, and management of hazardous materials and wastes;
- assures compliance with all environmental regulations and environmental permits;

Accordingly, SJW Group shall develop and adopt an Environmental Management System that is consistent with provisions of the ISO Standard 14001 and contains these elements:

- demonstrated compliance with all environmental regulations and permits;
- leadership involvement and engagement of employees in improving the subsidiaries environmental performance;
- the stewardship of its watershed lands, promotion of water conservation and efficient use of water resources in a manner that enhances the protection of its natural resources;
- the minimization of greenhouse gases while maximizing the competitive and financial advantage through improved efficiencies and reduced costs;
- and enhancement of the Group's suppliers' environmental performance.