



Annual Report

San José Environmental Services Department

Our Mission

Delivering world-class utility services and programs to improve our health, environment and economy.







Kerrie Romanow Director

The Environmental Services Department (ESD) is a remarkable organization. On the one hand, we are grounded in the daily rhythm of America's 10th largest city. On the other hand, we are engaged with global issues, innovating solutions to some of the world's toughest challenges.

ESD delivers essential services that keep San José strong and healthy. We manage garbage and recycling contracts, collecting more than 220,000 tons of residential solid waste last fiscal year. We operate the largest advanced wastewater treatment facility in the West, protecting public health and the environment. We provide safe drinking water to more than 100,000 residents.

These are the kinds of services that people take for granted – as they should. It's our role to provide them so seamlessly that people can focus on other things: their families, their jobs, their pursuit of happiness.

At the same time, ESD provides leadership on issues of international importance. This year, we began implementation of Climate Smart San José, a new initiative to reduce air pollution, save water and improve quality of life. We forged partnerships, conducted community outreach, and secured \$325,000 in funding for Zero Net Energy projects.

Climate Smart is more than a program – it's a guiding philosophy that will ensure the vitality of San José for decades to come.

As we develop Climate Smart, we maintain and improve other vital programs and services. We keep trash and pollutants out of creeks and San Francisco Bay; operate the largest recycled water system in Northern California; collaborate on innovative energy programs; ensure compliance with environmental regulations; and oversee the largest public works program in the South Bay, a 10-year, \$1.4 billion Capital Improvement Program to upgrade the San José-Santa Clara Regional Wastewater Facility.

We accomplish these feats with the help of community partners, whose passion and insight make our programs better, and other City departments. None of these achievements would be possible without the hard work and creativity of more than 500 incredible employees. I want to thank our staff for their teamwork and dedication. I am so proud to lead such an amazing group of people and can't wait to see what we'll be celebrating this time next year!

Message from the Assistant Director

The Environmental Services Department is only as good as the people who work here. We pride ourselves on building a diverse workforce, filled with innovative and dedicated people, and providing them with ample opportunities for growth and development.

ESD protects its employees through rigorous safety programs. We've stepped up our emergency preparedness, updating our plans and conducting drills and training exercises. We must do everything we can to be ready when an earthquake or other emergency strikes.

We also want to provide the San José community with excellent facilities. We made significant progress last fiscal year on our Capital Improvement Program at the Regional Wastewater Facility, including the completion of four Emergency Diesel Generators that will provide backup power if the wastewater facility is disconnected from the PG&E grid during an emergency.

Hiring talented employees who reflect the diverse culture of San José, while providing them with cutting-edge facilities and equipment, enables ESD to achieve its mission of delivering world-class utility services and programs to improve our health, environment and economy.



Assistant Director

Fiscal Year 2017-18

Funding by Core Service

Potable Water Delivery Recycling and Garbage Services Sustainability and Environmental Health

Strategic Support

Total

Total

Resources by Fund

General Fund Sewer Service and Use Charge SJ/SC Regional Wastewater Facility **Water Utility**

\$129,841,184 \$1.880.653 \$13.977.769 \$352,537,282

\$79.096.538

\$4.233.354 \$11.701.155 \$101,971,704 \$41.314.897 \$312,537,282 \$100 million \$50 million

Acknowledgments

The Environmental Services Department wishes to thank our many colleagues in the City of San José organization who help us achieve our mission. We would like to extend a special thanks to Matt Cano, director of the Public Works Department; Julia Cooper, director of the Finance Department; and Rosa Tsongtaatarii, Mark Vanni and Colleen Winchester in the City Attorney's Office.



Climate Smart San José



<u>Climate Smart San José</u> is a new citywide initiative to reduce air pollution, save water and improve quality of life for those who live and work in San José.

The San José City Council unanimously approved Climate Smart in February 2018. ESD will implement this ambitious framework in collaboration with other City departments, regional stakeholders and community partners.

With the passage of Climate Smart, San José became one of the first major U.S. cities to chart a course to meeting the greenhouse gas emission reduction targets of the international Paris Agreement.

Climate Smart focuses on the areas of energy, mobility and water. It aims to create a city where people are less dependent on their cars and able to live close to where they work.

Instagram



sjenvironment • Follow San Jose, California



sjenvironment Today we unveiled Climate Smart San Jose! I'm so thankful for our staff, partners & community members for collaborating on this great plan to reduce greenhouse gas emissions, ensure a long-term water ○ supply & improve quality of life for everyone in #SanJose. To read the plan, go to www. sanjoseca.gov/cssj

FEBRUARY 15, 2018



- Developed robust implementation plan for Climate Smart San José to seek financing, build partnerships and raise community awareness.
- Secured initial funding for implementation, including \$325,000 from the Bay Area Air Quality Management District to help the City achieve its aggressive Zero Net Energy building goals.
- Formed partnership with local advocacy group Mothers
 Out Front South Bay to promote Climate Smart using
 house parties, movie screenings and other tactics to
 inform and engage residents.
- Held first San José Earth Ride to spread public awareness of Climate Smart, drawing more than 130 bicyclists who explored five locations highlighting sustainability achievements and initiatives.



Climate Smart San José calls upon residents, businesses, nongovernmental organizations and faith-based organizations to work with the City to make measurable progress against bold and transformational targets. What sets Climate Smart apart are its alignment with Paris Agreement goals and Sustainable Development Goals (SDG) and economically viable, inclusionary approach. I am deeply inspired by the SDG process so far and excited to see how the innovative programs and partnerships of Climate Smart will enable the people of San José to live healthy lives in balance with the environment.

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Dr. Paul Zeits

Co-founder, SDG Compacts, and author of "Waging Justice: A Doctor's Journey to Speak Truth and Be Bold"





Regional Wastewater Facility

The <u>San José-Santa Clara Regional Wastewater Facility</u> (RWF) is the largest advanced wastewater treatment facility in the western United States, serving more than 1.4 million residents and 17,000 businesses in a 300-square-mile area of the South Bay.

The wastewater facility, owned by the cities of San José and Santa Clara, utilizes a <u>tertiary treatment process</u> that protects public health and supports a <u>thriving ecosystem</u> in southern San Francisco Bay.

Commissioned in 1956, the wastewater facility sits on approximately 2,600 acres, more than twice the size of Golden Gate Park in San Francisco, including bufferlands that are home to the largest population of western burrowing owls in the Bay Area. They are among dozens of animals, from bald eagles to leopard sharks, that live or hunt in the estuary.

The RWF is undergoing one of the largest public works projects in the history of the South Bay, a \$2.1 billion Capital Improvement Program over 30 years to replace aging infrastructure, incorporate new technology, and improve operational reliability and efficiency.

The wastewater facility serves eight cities and four sanitation districts:

- Cities of San José, Santa Clara and Milpitas
- Cupertino Sanitary District (Cupertino)
- West Valley Sanitation District (Campbell, Los Gatos, Monte Sereno and Saratoga)
- County Sanitation District No. 2-3 (unincorporated)
- Burbank Sanitary District (unincorporated)

Instagram





sjenvironment More awesome wildlife news: the Milpitas bald eagles have hatched a pair of babies. Last year they raised one eaglet. The eagles feast on waterfowl fish on the grounds of our Regional Wastewater Facility, which supports a thriving ecosystem by Ron Lam sanJose feagle baldeagle wildlife fenvironment weepsiclean wastewater fecosystem milpitas feaglet feagles baldeagles

APRIL 27, 2018

- Operated without interruption 24 hours a day and seven days a week during implementation of 27 Capital Improvement Program projects totaling nearly \$200 million. The projects required more than 100 shutdowns.
- Treated an average of 105 million gallons of wastewater a day and discharged an average of 87 million gallons a day. The San José-Santa Clara Regional Wastewater Facility (RWF) produced 10 million gallons per day of recycled water on average.
- Performed preventive maintenance on critical assets for the facility, including the completion of repairs of the primary effluent pumps, cleaning and repairing digester tanks, and rebuilding and repainting secondary clarifiers.

- Strengthened emergency management and preparedness – upgrading evacuation, communication and combustible gas detection systems – and commissioned a new Emergency Response Command Center.
- Assisted the Sustainability and Compliance Division with:
 - Ensuring compliance with RWF air permits during normal facility operations.
 - Conducting a regulatory compliance inspection that found no deficiencies and received accolades from state inspectors.





Wastewater Facility CIP

The <u>Capital Improvement Program (CIP)</u> is a complex and vital effort to modernize the San José-Santa Clara Regional Wastewater Facility, a critical facility serving Silicon Valley.

The CIP is rehabilitating and replacing aging infrastructure and equipment and installing new technology that will improve the reliability and operational flexibility of the wastewater facility.

Now in its fourth year, the CIP team is delivering more than two dozen critical projects as part of a 10-year, \$1.4 billion construction effort that will upgrade the liquids and solids treatment facilities as well as power generation systems, pipes, buildings and other support infrastructure.

These changes will benefit San José and other South Bay communities by making the wastewater facility more resilient and efficient, protecting public health, and benefiting the diverse wildlife of southern San Francisco Bay.

Awards

The <u>Emergency Diesel Generators</u> project at the Regional Wastewater Facility won a Project of the Year award from the Silicon Valley Chapter of the American Public Works Association.

Facebook



SJEnvironment

sjenvironment Proud to take part in the groundbreaking today at our Regional Wastewater Facility for a new Cogeneration Facility! It's a big milestone in our \$1.4 billion, 10-year Capital Improvement Program to rebuild and modernize the 62-year-old RWF, which serves much of Silicon Valley. The project will replace outdated equipment and heat the RWF with up to 12 MW of electric power using sustainable digester gas generated at the wastewater facility. For more information on the CIP, go to www.sanjoseca.gov/cip #SanJose #infrastructure



MARCH 1, 2018

- Completed construction of two key projects at the San José-Santa Clara Regional Wastewater Facility (RWF) totaling \$34.8 million:
 - The <u>Emergency Diesel Generators</u> project installed four new 3-megawatt generators to provide a reliable emergency backup system in the event of power loss.
 - The <u>Digester Gas Compressor Upgrade</u> project constructed new gas compressors, cooling systems, gas piping and other related equipment. The new facility provides an important interface between the digester and cogeneration facilities.
- Reached the halfway mark in construction of the <u>Digester</u> and <u>Thickener Facilities Upgrade</u> project, one of the largest projects in the Capital Improvement Program with an estimated total cost of \$193 million.
- Broke ground on the new \$109 million Cogeneration Facility, which will feature four new engine generators that will use a combination of RWF-generated digester gas and purchased natural gas.
- Awarded construction contract for the Advanced Facility Control and Meter Replacement – Phase 1 project. The roughly \$10 million project will increase the reliability and integrity of equipment and data.
- Established a short-term financing program to borrow up to \$300 million at any one time to finance construction and consultant costs for projects.

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Public Works has been pleased to partner with ESD on the delivery of the \$1.4 billion Capital Improvement Program at the San José-Santa Clara Regional Wastewater Facility. ESD has provided leadership, vision, and technical and operational expertise along with overall management of the program. Our department has been proud to provide project delivery and construction management support and looks forward to building on our collective success. This is exciting and important work, and together we are making significant headway in modernizing the RWF for future generations.



John Cannon
Deputy Director, San José
Public Works Department





Watershed Protection

The <u>Watershed Protection Division</u> safeguards crucial natural spaces in San José, working to prevent trash and pollution from entering creeks and waterways and flowing to San Francisco Bay.

In accordance with regulations enforced by the San Francisco Bay Regional Water Quality Control Board, the division manages the storm sewer system, educating residents and businesses about keeping toxins and debris from entering the city's roughly 30,000 storm drains. Staff work with nonprofit groups that remove trash, from shopping carts to ping pong balls, from city creeks.

The division performs thousands of business inspections each year, making sure dentists dispose of mercury-containing dental amalgam properly and restaurants don't send pipe-clogging fats, oils and grease (FOG) into the sanitary sewer system.

Staff also conduct more than 50,000 laboratory tests of water samples per year to verify that pollutants aren't contaminating our watershed and the southern Bay.

Instagram





sjenvironment #SanJose Environmental Services is enhancing the quality of life in our communities & protecting the environment by installing "green streets" features that filter pollution from stormwater. Check out the latest one on Park Ave!

NOVEMBER 15, 2018

- Reduced <u>trash loads</u> entering the storm sewer system by an estimated 88 percent, putting the City on pace to exceed a state mandate of an 80 percent reduction by 2019.
- Funded and supported nonprofit teams that clean up San José waterways:
 - Downtown Streets Team removed 292 tons of trash and debris.
 - Keep Coyote Creek Beautiful and South Bay Clean
 Creeks Coalition removed 68 tons of trash and debris.
- Continued development of the City's Green Stormwater Infrastructure Plan, which will guide the use of vegetation, soils and natural processes to manage stormwater runoff and prevent pollution from entering San José waterways.
- Completed the <u>Chynoweth Avenue</u> green street improvements in collaboration with the departments of Transportation and Public Works, supported by a \$2 million grant from the California Department of Water Resources.

Awards

ESD Laboratory awarded Certificate of Excellence for achieving 100 percent data acceptability in proficiency studies.







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ESD has been a terrific partner in protecting the health of Coyote Creek, providing financial support and personnel with excellent technical knowledge. Through our collaboration, Keep Coyote Creek Beautiful has helped thousands of people explore Coyote Creek, from backpacking near the headwaters in Henry W. Coe State Park to wildlife walks and BioBlitz events, and conducted regular creek cleanups to help ensure a vibrant watershed.

Deb Kramer

Executive Director, Keep Coyote Creek Beautiful



Deb Kramer, left, on a hike organized by her nonprofit, Keep Coyote Creek Beautiful.



Water Resources

The Water Resources Division is responsible for providing drinking water to San José customers and recycled water to the South Bay.



The San José Municipal Water System delivers clean, safe drinking water to roughly 12 percent of the population of San José. Muni Water serves four service areas: North San José/Alviso, Evergreen, Edenvale and Coyote Valley. Water sources include the Hetch Hetchy water system, groundwater and local reservoirs.

South Bay Water Recycling (SBWR) is a recycled water wholesaler that serves four water retailers: Muni Water, San Jose Water Company, Santa Clara and Milpitas. The largest recycled water system in Northern California, SBWR provides high-quality recycled water to 880 customers for irrigation and industrial uses.

SBWR reduces potable water use and protects the wildlife habitat of southern San Francisco Bay by diverting fresh water from the Bay during the dry season.

Twitter



In 2017, all 19 public schools in San Jose Muni Water's Evergreen service area requested onsite lead sampling. We are pleased to report we detected no lead & happy to work w/ ESUHSD & @EvergreenESD to ensure we provide safe & clean drinking water to children & all customers!



JULY 6, 2018



- Delivered 5.6 billion gallons of clean drinking water to more than 100,000 people in San José.
- Celebrated the 20th anniversary of South Bay Water Recycling, which distributed 3.4 billion gallons of recycled water from the San José-Santa Clara Regional Wastewater Facility last fiscal year, generating \$11.2 million in revenue.
- Made numerous improvements to the potable water distribution system, including main extensions to upgrade reliability and the rehabilitation of reservoirs that provide fire protection. The San José Municipal Water System also constructed and repaired groundwater wells to lower costs for customers and supply groundwater in emergencies.
- Conducted successful lead monitoring at 19 public schools in Muni Water's Evergreen service area, fulfilling new state requirements. No lead was detected in nearly 100 samples.



I am grateful for the lead testing that the City provided for schools in our district and happy to affirm to our community that the water our students are drinking is safe.

Katherine Gomez

Superintendent (retired), Evergreen School District





Integrated Waste Management

The <u>Integrated Waste Management Division</u> (IWM) takes care of waste removal in San José, overseeing programs to collect, recycle and dispose of solid waste to maximize diversion from landfills and protect public health and the environment.



IWM manages contracts with five haulers that collect <u>trash</u> and <u>recycling</u> from homes and businesses. The haulers separate organic material from the garbage and sort the <u>recyclables</u> at complex processing facilities.

The division also provides a range of other services, including household hazardous waste drop-off, a free <u>Junk Pickup</u> program and an <u>illegal dumping program</u> to help reduce waste and keep the streets and creeks of San José clean.

IWM educates residents and businesses about its diverse and innovative services through robust outreach, including ESD's green partnerships with the city's top sports franchises, the Sharks and Earthquakes.

Instagram





sjenvironment Questions about #illegaldumping or RAPID, our team for Removing and Preventing Illegal Dumping in #SanJose? Check our FAQs for residents, businesses & property managers at sjenvironment.org/illegaldumping #keepsjclean #BeautifySJ

JANUARY 12, 2018

- Collected 220,929 tons of residential solid waste –
 77 percent of waste from single-family residences and
 73 percent of waste from multifamily residences were diverted from the landfill.
- Completed the implementation of back-end sorting and processing of organic waste and recyclables from all single-family and multifamily residential solid waste in San José.
- Accommodated roughly 18,500 <u>household hazardous</u> <u>waste</u> appointments, most of them at ESD's Environmental Innovation Center.
- Cleaned 14,717 illegal dumping sites, more than double the amount cleaned the previous fiscal year, and collected 4,904 tons of mixed debris such as appliances and yard trimmings, up from 2,250 tons during the 2016-17 fiscal year.

- The RAPID (Removing and Preventing Illegal Dumping) team also picked up:
 - 2,443 mattresses
 - 320 gallons of paint
 - 528 gallons of human biological waste
- Expanded the free Junk Pickup program to provide unlimited pickups to residents. Haulers removed 5,955 tons of unwanted large items, up from 4,687 tons in fiscal year 2016-17.

Awards

Outstanding Practices in Venue/Event Resource Recovery Award from the California Resource Recovery Association for the San Jose State University Move Out event, which collected approximately 1.5 tons of donated items for recycling or reuse.



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BioCellection has been able to develop its technology to upcycle hard-to-recycle plastics because of ESD's commitment to tackling this global problem. ESD has connected us with resources and partners in a complex industry to bring innovation to recycling without disrupting the current systems of haulers and waste processors. It's been a huge privilege to work with ESD to create a technology that can benefit society, business and the environment.

Miranda Wang

Co-founder and CEO, BioCellection



Miranda Wang, second from left, and her BioCellection team are pursuing an innovative solution to the problem of hard-to-recycle plastics.



Administrative Services

The Administrative Services Division provides important functions that enable ESD to fulfill its mission and vision every day.



The division helps recruit and train <u>staff</u> who deliver ESD's innovative, high-quality programs and services.

Its information technology team makes sure that ESD employees have the equipment they need to do their jobs and that it's working properly.

Administrative Services is responsible for the department's operating and capital budgets, ensuring that ESD staff have funding to perform essential services. The division also manages fiscal and accounting matters, from making payments to procuring needed goods and services, and helps staff obtain services through a competitive process.



Working at the Environmental Services Department through the Cristo Rey Corporate Work Study Program showed me how much the City of San José really cares about the community. I gained many valuable professional skills, such as how to take notes in meetings and how to write social media posts to inform the public about important programs and services. I learned so much through this experience and realized how much I enjoy giving back to the community. Interning for the Communications Division also made me realize that I want to major in communications in college.



Rosa Ruiz Cristo Rey San Jose Jesuit High School, Class of 2019

- Filled 83 vacancies throughout ESD, reducing the department's overall vacancy rate from 12 percent to 11 percent, and continued to promote diversity at ESD.
- Enhanced recruitment efforts through eight career fairs in collaboration with regional partners, including a Water Careers Exploration Event with BAYWORK and Water Careers Pathways that attracted 443 high school students.
- Provided 124 professional development sessions and technical training opportunities to ESD staff.
- Offered two teacher externships to expose STEM educators and their students to career opportunities in the water and wastewater fields.

Awards

ESD contributes to the City budget, which earned a
Distinguished Budget Presentation Award for fiscal year
2017-18 from the Government Finance Officers Association.

Communications Division



The Communications Division supports the department by promoting ESD programs and services using an array of tactics, including social media, marketing, outreach and community engagement.

Awards

ESD <u>video</u> explaining how the San José-Santa Clara Regional Wastewater Facility treats wastewater, "Behind the Flush," won an Excellence in Public Information and Communication Award from the California Association of Public Information Officials.





Sustainability and Compliance

The Sustainability and Compliance Division manages <u>energy</u> <u>and sustainability programs</u> while also ensuring that ESD adheres to regulatory and permit requirements.

The division supports environmentally sustainable practices throughout the community through education and public-private partnerships, working to improve energy efficiency and increase the use of renewable energy. Division staff also make sure the department – including the San José-Santa Clara Regional Wastewater Facility (RWF) – meets a range of regional, state and federal requirements from workplace safety to air and water quality.



The sustainability team oversees programs including <u>Silicon Valley Energy Watch (SVEW)</u>, which the City administers throughout Santa Clara County to help PG&E customers reduce energy consumption and save money, and <u>Property Assessed Clean Energy</u>, an initiative that enables homeowners to pay for energy- and water-efficiency projects by attaching the financing to their property tax bills.

Instagram





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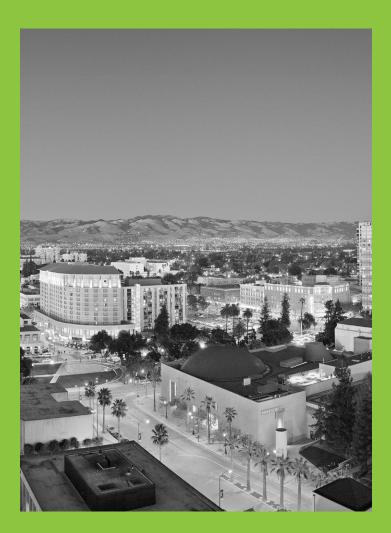
sjenvironment Through our Silicon Valley Energy Watch program, we've helped 52 Santa Clara County schools secure ~\$7.7 million in funds for energy-efficiency upgrades, from LED lights to heating/cooling systems, that will make classrooms more comfortable and save an estimated 3.3 million kilowatt hours of energy per year. That's the greenhouse gas equivalent of removing 526 cars from the road #SanJose #energyefficiency

MARCH 5, 2018

- Developed Climate Smart San José, a <u>citywide initiative</u> to reduce air pollution, save water and improve quality of life, which was approved by the City Council in February 2018.
- Developed the implementation plan for <u>San José Clean</u>
 <u>Energy</u>, the City's new community choice energy program, playing a key role in amending the Municipal Code to form the new Community Energy Department, drafting a funding strategy and initial staffing plan, and crafting a community advisory committee framework.
- Secured authority from the Bay Area Air Quality Management District to construct a new Cogeneration Facility at the San José-Santa Clara Regional Wastewater Facility (RWF).
- Provided savings of 2.1 million kilowatt hours to Santa Clara County customers through the Silicon Valley Energy Watch program.
- Continued implementation of a two-year grant program through the <u>City Energy Project</u>, in collaboration with the

Natural Resources Defense Council and Institute for Market Transformation, to improve the <u>energy efficiency</u> of large commercial buildings.

- Oversaw successful soil remediation and the removal of an underground storage tank during construction of a soccer field at Del Monte Park.
- Negotiated a successful 10-acre mitigation bank agreement with the California Department of Fish and Wildlife, providing revenue that can be used for future projects near the RWF outfall channel.
- Bolstered emergency preparedness through efforts including:
 - Establishing and updating Emergency Action Plans for the RWF and San José Municipal Water System.
 - Conducting emergency evaluation exercises.
 - Initiating a home safety PrepareAthon to encourage emergency preparedness among staff.
 - Training staff in crisis communications.



Z Z

San José has long been home to innovation. Its work with the City Energy Project is no exception. By pioneering best practices to make commercial buildings more energy efficient, City leaders and local partners are combating climate change, creating high-quality local jobs, boosting the region's resiliency and competitiveness, and reducing costs for both businesses and residents. This type of leadership paves the way for cities across the U.S. to follow.

Julie Hughes (Institute for Market Transformation) and **Christina Angelides** (Natural Resources Defense Council) Co-directors of the City Energy Project

















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Printed on recycled paper. 0219/Q150/450/jl/BRP/ak

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