

Program Funding

The City has received and continues to apply for grants and loans from both the federal and state governments, which will accrue direct savings to ratepayers. Grants do not have to be repaid, but loans must be repaid over time. To fund Phase 1 projects, the City has been diligent in pursuing and securing as much federal and state funding as possible. Water Infrastructure Finance and Innovation Act loans from the U.S. Environmental Protection Agency are currently providing \$733.5 million for Phase 1 construction. The larger loan – \$614 million – has an interest rate of only 1.29%, and the second loan – \$119.5 million – has a low-interest rate of 1.82%.

U.S. EPA
currently providing
\$733.5M
for **PHASE 1**
CONSTRUCTION

In April 2024, the State Water Board signed the last of four separate loans for a total of \$664 million to further support Phase 1 construction. The State Water Board loans have very favorable interest rates between 0.8% and 1.1%.

To date, the City has received \$349 million from Water Infrastructure Finance and Innovation Act and \$198 million from the Clean Water and Drinking Water State Revolving Fund loans. In addition to these loans, the City has received \$81.5 million in grants from funding agencies.

CITY HAS RECEIVED
\$81.5M
IN GRANTS

Phase 2 Lookahead

The City is beginning to prepare for the second phase of the Pure Water Program. The construction of a small-scale facility is currently underway to demonstrate appropriate treatment options including for a potential direct potable reuse application, as well as reassessing the facilities needed for Phase 2 of the program.

PHASE 2 RE-ASSESSMENT

The original Phase 2 plan was conceived during the development of the 2012 Recycled Water Study. Since that time, several important factors have changed to an extent that it merits re-examination of the plan. These factors include water supply and demand, wastewater flows and availability, water supply dam repairs, climate change and sea level rise, regulatory developments, and affordability.



WATER SUPPLY
& DEMAND



WASTEWATER FLOWS
& AVAILABILITY



WATER SUPPLY
DAM CONDITIONS



CLIMATE CHANGE
& SEA LEVEL RISE



REGULATORY
DEVELOPMENTS



AFFORDABILITY

PURE WATER PHASE 2 CENTRAL AREA SMALL-SCALE DEMONSTRATION FACILITY

The small scale facility is under construction at the Point Loma Wastewater Treatment Plant. As with Pure Water Phase 1, a demonstration facility is a regulatory requirement for Pure Water Phase 2 because it will treat flow from a different wastewater collection area with different wastewater characteristics. In addition, the City will demonstrate the ability of the advanced treatment processes to meet the new requirements for direct potable reuse.

The Public Utilities Department has submitted a detailed testing and monitoring plan for the Central Area Small-Scale Facility to state regulators, together with a Quality Assurance Project Plan. Both documents require regulatory review before data collection can begin.



Operations and Maintenance Updates

Specific readiness tasks for different staffing areas include:

HIRE STAFF FOR THE NORTH CITY PURE WATER FACILITY:

Hiring progress remains on target as Pure Water Operations continues to implement wide-reaching, industry-targeted advertisement of open positions and utilizes a variety of recruitment events to improve candidate pools. Currently, eight out of nine Operations and Maintenance supervisor positions have been filled. Following the schedule laid out in the North City Pure Water Operations and Readiness Master Plan, the Operations team recently completed the hiring and onboarding of a Program Manager, five Senior Pure Water Plant Operators, and a Plant Technician III. Thus far, the division has accomplished the following:

- *Operations Positions: 11 filled out of 20*
- *Maintenance Positions: 9 filled out of 17*
- *Engineering and Administrative Positions: 5 filled out of 7*

OBTAIN ADVANCED WATER TREATMENT OPERATOR CERTIFICATION:

To ensure operators have the proper knowledge base to operate an Advanced Water Treatment facility, the City partnered with the American Water Works Association, the California Water Environment Association and agencies across the state to develop the Advanced Water Treatment Operator certification program. This certification is designed to ensure certified drinking water and wastewater operators are equipped to operate potable reuse facilities in compliance with regulations. All senior operations staff must obtain this new certification. There are three levels of certification, Advanced Water Treatment 5 being the highest and Advanced Water Treatment 3 the lowest. To date, Pure Water Operations has hired for all the operator supervisory and lead positions that require Advanced Water Treatment Operator certification. Only two Pure Water Operator positions require Advanced Water Treatment 4 or higher, and both staff in these positions have the required certifications. Six out of 10 staff have obtained Advanced Water Treatment 3 certification or higher. The remaining four are on pace to receive certification prior to systemwide integration, ahead of the original schedule.

PERFORM CONTRACTS PLANNING:

Pure Water Operations has initiated the effort to execute contracts for chemicals, services, and other specialized parts and labor required for the North City Pure Water Facility. The contracting process is being evaluated holistically to ensure optimal pricing and flexibility. Pure Water Operations will partner with the other Public Utilities Department operating divisions on chemical contracts to take advantage of large-scale pricing and ensure the efficient use of ratepayer funds. North City Pure Water Facility requirements will be included in a department-wide contract renewal for sodium hypochlorite that is currently in process, and sodium hydroxide, liquid oxygen, and liquid ammonium sulfate will be included in future contract processes. These contracting efforts will include the latest chemical cost estimates and will allow for phased implementation, synching with the facility flow ramp up requirements.

The Pure Water Operations Division is working to ensure City staff are prepared to operate and maintain the North City Pure Water Facility 24 hours per day, 365 days per year.

Regulatory and Environmental Progress

MIRAMAR RESERVOIR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT AND WATER SUPPLY PERMIT:

The City continues to address the approximately 40 conditions under the National Pollutant Discharge Elimination System permit for Miramar Reservoir that must be met prior to release of purified water into the reservoir. In 2024, the City began receiving comments from the California Division of Drinking Water and the Regional Water Quality Control Board regulators on three first-of-their kind reports under the Indirect Potable Reuse Surface Water Augmentation Regulations: the North City Pure Water Project Operations Plan, Operational Ramp-Up Plan, and Joint Plan. These plans are the foundation for operating the Pure Water Phase 1 integrated system and managing the release of purified water to Miramar Reservoir, the first reservoir augmentation project in the State.

In the meantime, the City prepared for the five-year renewal of the Miramar National Pollutant Discharge Elimination System Permit permit. A Report of Waste Discharge was submitted to the Regional Water Quality Control Board at the end of December, six months prior to the expiration of the NPDES permit on June 30, 2025. The Board will use the information in the Report of Waste Discharge to prepare and amend a renewed Miramar permit.

In addition, the Public Utilities Department is required to do an Enhanced Local Limits study that is an extension of the existing local limits in place for the Point Loma Wastewater Treatment Plant. Local limits are restrictions on industrial discharges for contaminants that could adversely affect treatment plant operations or jeopardize compliance with the permit. The Public Utilities Department is wrapping up the second and final stage of a study to determine whether any additional local limits are required on discharges to the collection system to protect the Pure Water facilities and reservoir water quality. The results have been submitted to Division of Drinking Water and the Regional Water Quality Control Board for their review. In general, the findings show that the current local limits, coupled with the extensive treatment provided in the North City Pure Water facilities, allows the City to meet all Miramar Reservoir National Pollutant Discharge Elimination System requirements to protect public health.



In August, the Office of Administrative Law approved the Direct Potable Reuse regulations, and signed them into effect in October 2024.

DIRECT POTABLE REUSE REGULATIONS

This year, the State Water Board proceeded with its legislative review of the Direct Potable Reuse regulations that were finalized in late 2023. Direct Potable Reuse involves putting purified recycled water directly into a potable water supply distribution system downstream of a drinking water plant or into the source water supply immediately upstream of the drinking water plant. In August, the Office of Administrative Law approved the regulations and they were written into the California Code of Regulations on Oct. 1, 2024. These regulations provide the definitive framework for the development of Phase 2 alternatives, should a direct potable reuse approach be selected. The regulations incorporated many changes requested by the City, notably in the areas of alternative treatment for pathogen control and the benefits of reservoir storage before transfer to a drinking water treatment plant. The leadership position that the City has taken in bringing issues with defined examples to the regulators will benefit the application of potable reuse in San Diego and elsewhere in California.

POINT LOMA WASTEWATER TREATMENT PLANT PERMIT

The renewal of the National Pollutant Discharge Elimination System permit for the Point Loma Wastewater Treatment Plant continues. The treatment plant has a modified permit for enhanced primary treatment that is jointly issued by the Environmental Protection Agency and the Regional Water Quality Board.

In 2024, the Regional Water Quality Board released a draft for public comment and a Board hearing was held on March 13. The Coastal Commission is expected to hold a hearing in expected to hold a hearing in 2025 to determine consistency with the Coastal Zone Management Act and pending approval, it will go forward to final approval by the Board and Environmental Protection Agency. Once approved, the permit will expire five years from the effective date.



The Pueblo South site created 2.46 acres of native grassland, of this, the North City Project required 1.30 acres of mitigation, providing an additional 1.16 acres of mitigation for the City of San Diego.

OCEAN POLLUTION REDUCTION ACT II

On March 22, 2023, Congressman Scott Peters reintroduced the Ocean Pollution Reduction Act II (H.R.1720), which proposes modifying the permitting requirements for discharge of pollutants from Point Loma Wastewater Treatment Plant. This bill contains required milestones in line with projected reductions in both the treated discharges from the treatment plant and the production of potable water expected with Pure Water Phase 1 and Phase 2.

Congressman Peters continues to work with staff from the Committee on Transportation and Infrastructure to schedule a hearing for the Ocean Pollution Reduction Act II, similar to the last two Congresses. The bill must go through the Committee before the House floor and then on to the Senate for consideration.



PURE WATER PHASE 1 PROJECTS ENVIRONMENTAL COMPLIANCE

Biological, archaeological and paleontological monitoring is conducted for active Pure Water Phase 1 construction projects in accordance with the Mitigation, Monitoring and Reporting Program adopted as part of the Final Environmental Impact Report/Environmental Impact Statement for Pure Water Phase 1.

The SANDER Vernal Pool and Upland Mitigation Site, which offsets impacts to sensitive biological resources at the North City Pure Water Facility, completed year four of a seven-year maintenance and monitoring program. Maintenance work in 2024 focused on weed control by removing non-native biomass throughout the site. In addition, new signage was installed throughout the site and anthropogenic trash removal and boundary fence repairs also occurred.

The five-year maintenance and monitoring program at the Pueblo South Native Grassland Mitigation Creation site was completed.

Maintenance work for 2024 continued to ensure successful completion of the final year and included weed control to meet the annual performance standard. The Pueblo South site created 2.46 acres of native grassland, of this, the North City Project required 1.30 acres of mitigation, providing an additional 1.16 acres of mitigation for the City of San Diego. The site will be maintained in perpetuity.

Engineering and Process Optimization Support Studies

NORTH CITY PURE WATER FACILITY RESEARCH

The City continues to address the approximately 40 conditions under the National Pollutant Discharge Elimination System permit for Miramar Reservoir that must be met prior to release of purified water into the reservoir. In 2024, the City began receiving comments from the California Division of Drinking Water and the Regional Water Quality Control Board regulators on three first-of-their-kind reports under the Indirect Potable Reuse Surface Water Augmentation Regulations: the North City Pure Water Project Operations Plan, Operational Ramp-Up Plan, and Joint Plan. These plans are the foundation for operating the Pure Water Phase 1 integrated system and managing the release of purified water to Miramar Reservoir, the first reservoir augmentation project in the State.

The City continues to operate and maintain the Pure Water Demonstration Facility, a 1 million gallon per day plant that comprises the advanced treatment processes that will be used in the North City Pure Water Facility. The current research focus is the potential to increase the recovery, or throughput, of water for the reverse osmosis units. The current process that is being installed at the North City Pure Water Facility can achieve 85 percent recovery, which means that 15 percent of the water is rejected as brine and is returned to the wastewater collection system for treatment and discharge from the Point Loma Wastewater Treatment Plant. Given improvements in membrane materials and the high performance of processes preceding the reverse osmosis units, the current study is evaluating whether the recovery can be improved to between 90 and 95 percent. If successful, this will increase the volume of purified water that can be produced and reduce the volume of the reverse osmosis brine waste stream.

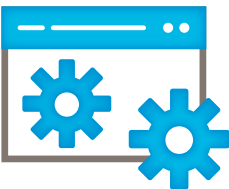
TRACER STUDY FOR MIRAMAR RESERVOIR

In addition, the Public Utilities Department has continued to work with the Independent Advisory Panel to prepare a testing protocol for the tracer study that will be performed once purified water is released to Miramar Reservoir. A tracer study is required to validate a 3D reservoir model that demonstrates that Miramar reservoir can provide the required dilution prior to further treatment at the Miramar Drinking Water Treatment Plant. The tracer study protocol was prepared and presented to the limnology subcommittee of the Independent Advisory Panel in December.



Informational Materials

PHASE 1 WEBSITE IMPROVEMENTS



In 2024, the website was enhanced to highlight progress on Phase 1 projects and improve the user experience. As Pure Water progresses, we will continue to update and improve items on the website.



GIS MAP

The regularly updated Phase 1 North City interactive construction map enables users to quickly find information on road closures, detours and impact-related information by project.



FACT SHEETS IN NEW LANGUAGES

The accessibility of Phase 1 information has been expanded into Japanese. Fact sheets are available on the Informational Materials page of purewatersd.org.



VIDEO AND PHOTOS

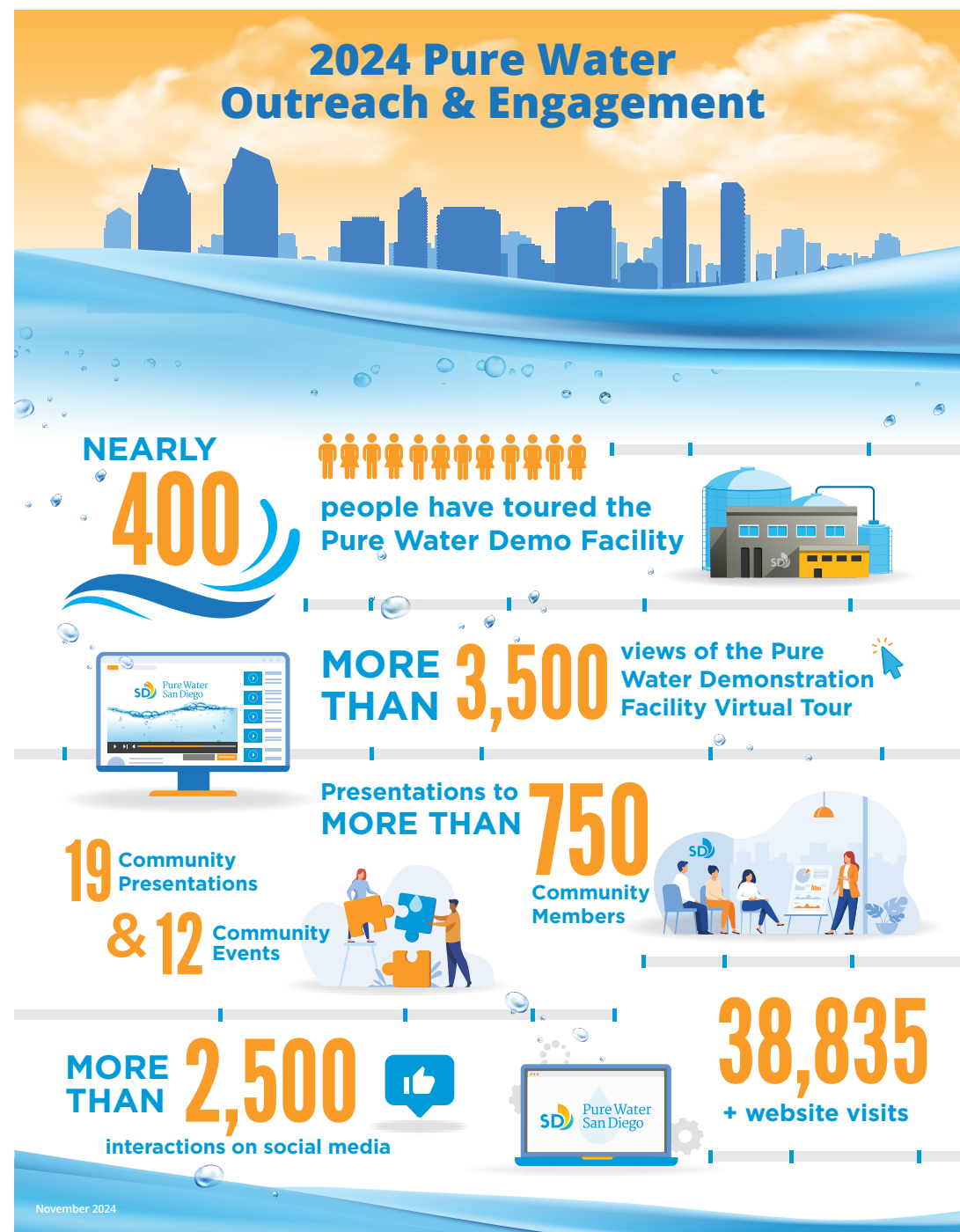
As part of the Phase 1 projects, the City has increased the use of video and photos to show construction progress. A timelapse camera at Miramar Reservoir captured the subaqueous pipeline construction and the team takes aerial photos of active construction on a regular basis.



WANT TO LEARN MORE ABOUT THE PROGRAM?

View the Informational Materials page for the latest Pure Water materials including the refreshed speakers bureau presentation, Pure News newsletters and more.

2024 Pure Water Outreach & Engagement



Community and Industry Outreach

HIGHLIGHTING PURE WATER SAN DIEGO IN THE INDUSTRY

At the 2024 National Water Reuse Symposium in March, the Pure Water team presented details on how the Pure Water San Diego project has evolved over the past 30 years. In September, the Pure Water team presented program insights and lessons learned at the 2024 National WaterReuse Symposium and the 2024 WaterReuse California conference.

COMMUNITY EVENTS

The Pure Water outreach team engaged with the community members at 12 community events: The Tet Festival, San Diego Festival of Science and Engineering Expo, Linda Vista Multi-Cultural Fair & Parade, SONY Earth Day Fair, Clairemont Garden Tour, Bike Anywhere Day, Asian Pacific Cultural Fair, Scripps Ranch 4th of July, Mayor Gloria's Back to School Celebration, Clairemont Family Day, Mira Mesa Street Fair and Walter Munk Oceans Day. These events provided a fun and engaging way for the team to meet face-to-face with community members and residents, answer questions and share updates about the program.

In summer 2024, we relaunched our water tasting program at SANDAG's Bike Anywhere Day. This was the first time since before the pandemic that community members were able to taste samples of Pure Water outside of the Pure Water Demonstration Facility. We are excited to have had more than 150 people participate in our tasting program and look forward to bringing Pure Water to events in the future.

SPEAKERS BUREAU PROGRAM

As construction among Pure Water Phase 1 projects progressed, the speakers bureau continued to expand to include new speakers and a refreshed presentation with engaging, interactive maps and timely construction updates. The Pure Water team delivered 19 presentations and answered questions about the program to a variety of organizations, community groups, elected officials, and planning groups such as the San Diego Environmental Business Professionals and the Japanese American Citizens League.

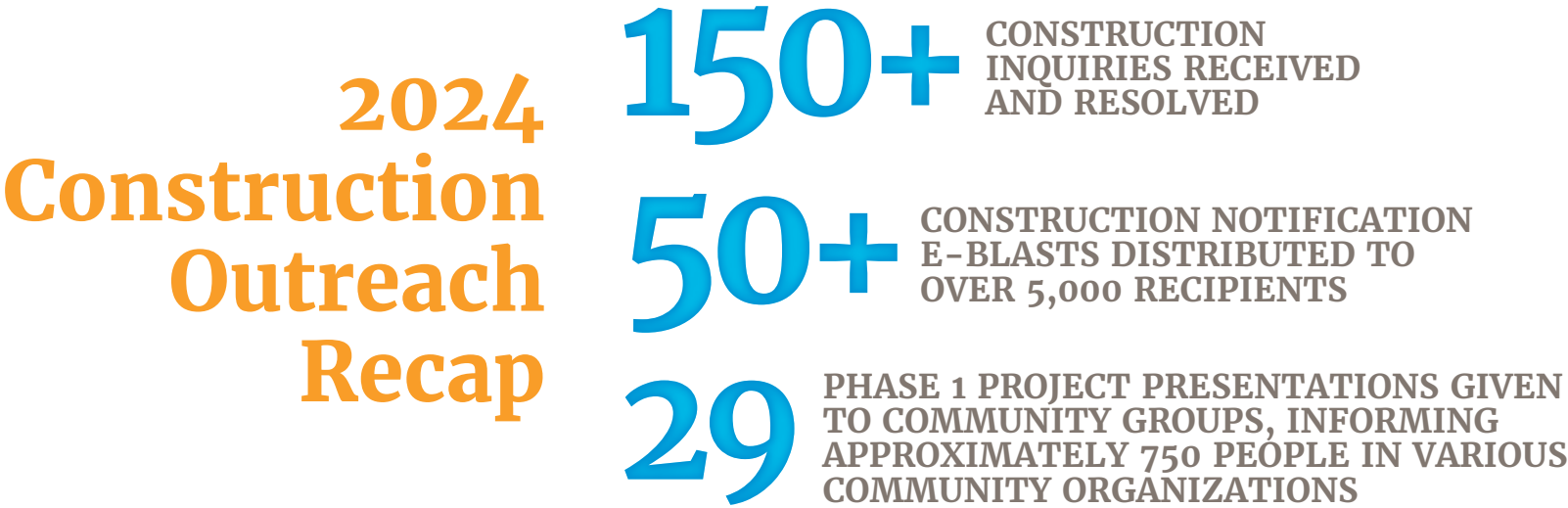
During these presentations, we spoke on a wide range of topics, including program regulations, project maps, wastewater treatment processes, the history of recycling drinking water and timely project updates.

CONSTRUCTION OUTREACH

Proactive, robust construction outreach is ongoing as part of the Pure Water Phase 1 projects in Morena, Bay Park, Clairemont, University City, Miramar and Scripps Ranch. The construction outreach team fielded and resolved approximately 150 construction-related stakeholder inquiries in 2024 via the three community phone lines and dedicated email address: purewatersd@sandiego.gov.

To inform Phase 1 communities, the outreach team strategically distributed project and schedule information via construction notices, website updates, social media content, flyers, doorhangers and e-blasts. Each outreach liaison worked together with the City construction management team, contractor and community groups, stakeholders and residents to ensure the timely delivery of construction-related information.

Monthly meetings and updates resumed to the University Community Planning Group and University City Community Association. Ad-hoc presentations were provided to the University City Civic Association, Clairemont Planning Group, Clairemont Town Council, Scripps Ranch Planning Group, Scripps Ranch Civic Association, Mira Mesa Planning Group, Mira Mesa Town Council, University of San Diego, and the Miramar Ranch North Planning Committee.



The City of San Diego continues to provide safe, high quality drinking water for its customers each and every day.

Visit purewatersd.org to learn more about the Pure Water Program.



Pure Water San Diego Program

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