

The Process



Ozonation



Biological
Activated
Carbon Filters



Membrane
Filtration



Reverse
Osmosis



Ultraviolet
Disinfection/
Advanced
Oxidation



Rendering of the North City Pure Water Facility

The North City Water Reclamation Plant

The North City Water Reclamation Plant will produce 30 million gallons of purified water per day. Learn more about the Pure Water San Diego Program at purewatersd.org.

Request a presentation about Pure Water San Diego for your group or organization at presentations.purewatersd.org or call (619) 533-7572.



Tasting is Believing

You are invited to tour the Pure Water Demonstration Facility. During the tour, you will see and learn about each step of the water purification process up close and have the opportunity to taste the purified water produced at the facility.

The Pure Water Demonstration Facility is located at the North City Water Reclamation Plant at 4949 Eastgate Mall, San Diego, CA 92121. View our virtual tour at purewatersd.org

Want to know more?

Visit purewatersd.org



@PureWaterSD

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Pure Water
San Diego

The City of
SAN DIEGO

A look at the technology behind



Pure Water
San Diego

A safe, reliable and sustainable
drinking water supply for
San Diego

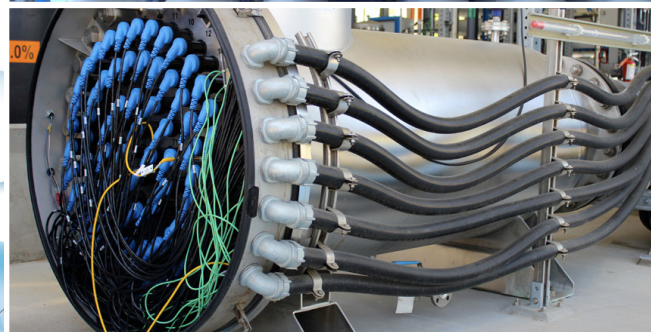
Innovation for San Diego's Water Future

Pure Water San Diego is the City's investment in an advanced water purification program to create a reliable, high-quality drinking water supply for San Diego. Beyond the direct benefits to the region's water supply, Pure Water ensures the City of San Diego is in compliance with federal regulations and the Clean Water Act. Pure Water will provide nearly 1/2 of San Diego's water supply locally by 2035 and significantly reduce treated discharges from the Point Loma Wastewater Treatment Plant into the Pacific Ocean.

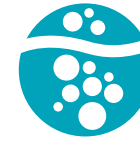
The Purification Process

The Pure Water Demonstration Facility began operating in June 2011 and purifies one million gallons of recycled water every day. Water quality tests have confirmed the purified water produced meets all federal and state drinking water standards. The facility's water purification process uses a multi-barrier approach of consecutive treatment steps which work together to remove or destroy contaminants. Each barrier includes frequent and continuous water quality monitoring, and safeguards are built into the process to ensure public health protection. Here is a look at the process, which starts with recycled water that is clean enough to be used for irrigation and industrial purposes.

Want to know more?
Visit purewatersd.org



The Process



Barrier 1 Ozonation

Ozone is a gas produced by subjecting oxygen molecules to high electrical voltage. The ozone gas is infused into the water and the water travels through a long series of pipes, called the ozone contactor. The ozone destroys microorganisms and reacts with and breaks down contaminants in the water.

Prior to the next step, the ozone is consumed and breaks down into oxygen.



Barrier 2 Biological Activated Carbon Filters

Biological activated carbon (BAC) filters are filled with carbon granules covered in "aerobic" bacteria, which thrive in the presence of oxygen. The bacteria on the granules consume 30-50% of the organic matter (anything that is or was living). The "helpful" bacteria, along with any other bacteria still in the water, are removed in the next treatment step.



Barrier 3 Membrane Filtration

Membrane filtration uses canisters filled with straw-shaped hollow fibers that provide 99.99% removal of microscopic particles including suspended solids, bacteria and protozoa. The filters are tested daily to confirm their consistent removal of contaminants. The pores in the fibers are smaller than 1/300 the diameter of a human hair.



Barrier 4 Reverse Osmosis

Reverse osmosis uses high pressure to force water through spirally wound membranes that remove most salts and minerals, and 99% of dissolved organics, including pharmaceuticals and personal care products. This process is used by the bottled water industry.



Barrier 5 Ultraviolet Disinfection/Advanced Oxidation

Inside a reactor are 72 ultraviolet lights that break down the DNA of any microbes or viruses. At the same time, advanced oxidation generates powerful reactive molecules that oxidize and destroy any trace contaminants that may remain in the water.