



pure water ceanside

- **What is Pure Water Oceanside?**

Pure Water Oceanside is an advanced water purification program that will purify recycled water to create a new, local source of high-quality drinking water that is clean, safe, drought-proof and environmentally sound.

- **How much drinking water will the project create?**

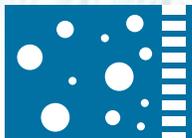
Between 3 to 5 million gallons of drinking water will be created each day. This is enough water to provide 32% of the City of Oceanside's water supply.

- **Why do we need to identify a new source of drinking water?**

Approximately 85% of our water is imported. We have no local control of this resource. It requires an enormous amount of energy to transport, is subject to increasing imported water costs and is at-risk to drought and earthquakes. The rest of the city's current water supply is local and comes from a naturally occurring underground aquifer called the Mission Basin. The amount of water available in the aquifer has declined due to years of use. Pure Water Oceanside is a smart investment, providing an uninterrupted local and reliable source of water that will help stabilize water costs over time.

- **What are the steps to purify recycled water?**

The state-of-the-art water purification process replicates and accelerates nature's natural recycling process. It begins with recycled water that is purified through three steps using advanced technology. The three steps are filtration, reverse osmosis and ultraviolet light advanced oxidation. The water will then be injected into the Mission Basin Aquifer where it will blend with the naturally occurring groundwater and recharge the aquifer. The water will be extracted and treated at the Mission Basin Groundwater Purification Facility and then distributed to Oceanside water customers.



FILTRATION

Filters remove bacteria and suspended solids from reclaimed water.



REVERSE OSMOSIS

Ultra-fine filters remove salt, viruses, bacteria, pharmaceuticals and chemicals.



ULTRAVIOLET LIGHT AND ADVANCED OXIDATION

The final polishing step neutralizes any remaining substances.



INJECTION

Minerals are added before the water is injected into the Mission Basin.



TREATMENT

Water is extracted from the aquifer and treated again at the city's Mission Basin Groundwater Purification Facility.



DELIVERY

The water is distributed to customers!

- **Does advanced purification remove pharmaceuticals, hormones and personal care products?**

Yes. Water purification using membrane filtration, reverse osmosis and advanced oxidation is a proven, science-based process that has been used safely in communities around the world. This technology effectively removes pharmaceuticals, chemicals, hormones, microplastics and personal care products. Leaders and experts in the medical and scientific community have concluded that purifying recycled water using this technology is healthy and safe.

- **Is this technology proven?**

Yes. Advanced water purification technology has been used for decades throughout the world and as close as Orange County. Orange County Water District operates the world's largest advanced water purification system, serving nearly 850,000 people each day. In fact, Disneyland receives purified water from this project. Many other water agencies in San Diego County and the entire state are moving toward advanced water purification, including the City of San Diego and Padre Dam Municipal Water District in East San Diego County and the City of Monterey.

- **Is Pure Water Oceanside "toilet to tap"?**

The term does not accurately describe the water purification process. Water goes through numerous treatment steps and is subject to strict testing requirements before being delivered to drinking water faucets. In California, water is HIGHLY regulated and monitored to ensure safety.

- **How does water purification compare with desalination?**

Purifying wastewater is about one-third the cost of ocean desalination because there are far fewer dissolved solids (salts) to remove from wastewater. Removing a high concentration of salts requires three times more energy, additional membranes and results in a shorter membrane life span resulting in increased maintenance costs.

- **Is advanced purified water safe for drinking?**

ABSOLUTELY! The purification process creates a high-quality drinking water that is exceptionally pure, clean and safe to drink.



- **Who regulates water safety?**

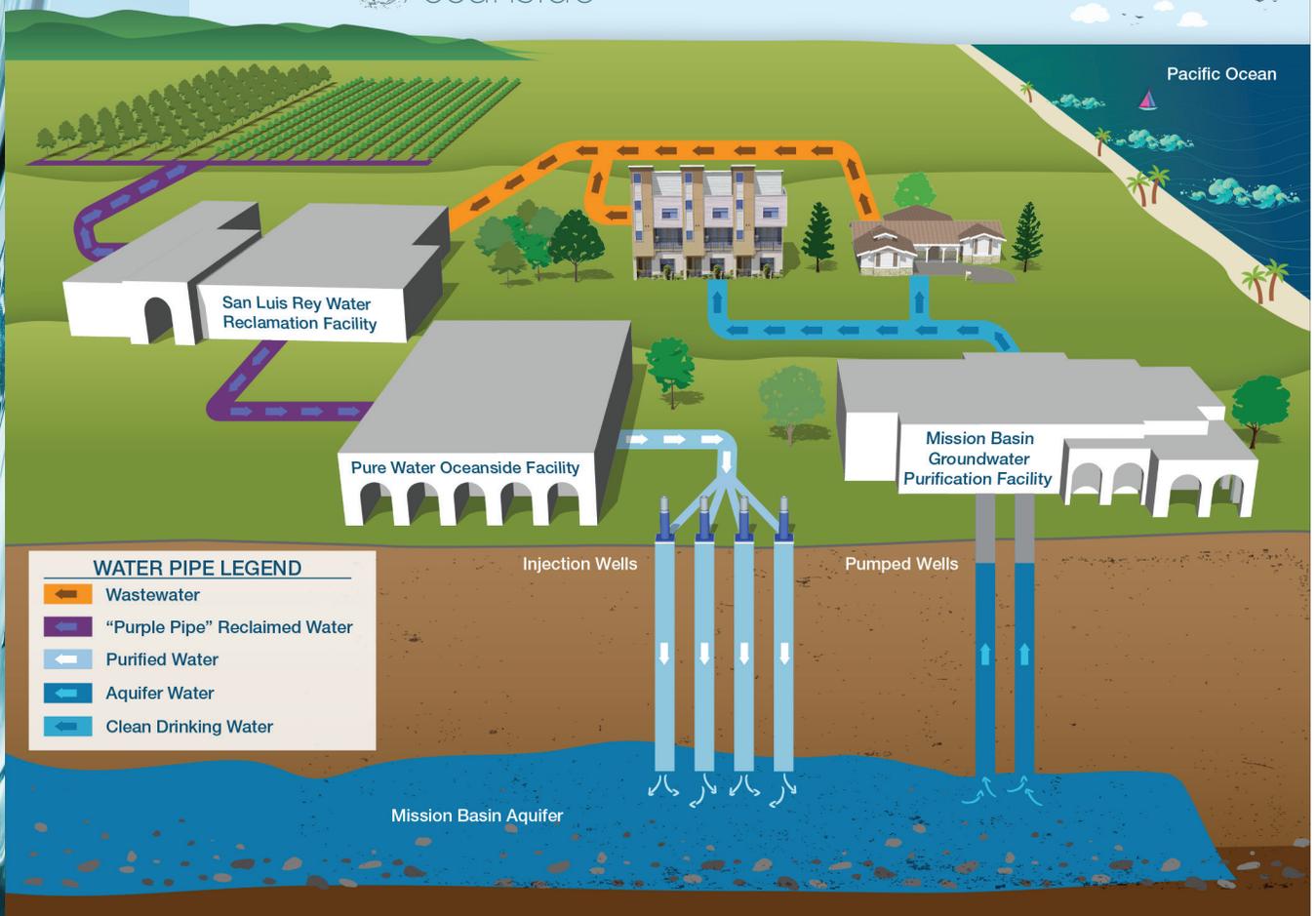
Public health requirements are set by the State Water Resources Control Board Division of Drinking Water (State Board) and the United States Environmental Protection Agency (USEPA).

- **What is groundwater recharge?**

Groundwater is located in an aquifer, a naturally occurring underground storage space for water. Groundwater is recharged when water seeps into the ground. Pure Water Oceanside will accelerate the natural recharge process by injecting the purified water directly into the aquifer.



HOW IT FLOWS





- **How will purified water affect the quality of water in the Mission Basin Aquifer?**

The addition of the purified water to the Mission Basin Aquifer will meet all regulatory requirements for dilution in the aquifer. The aquifer has declined over the years in quality and quantity. Mixing the advanced purified water with the existing water in the aquifer will improve the aquifer's water quality and increase the amount of water in the aquifer.

- **Is Pure Water Oceanside an environmentally friendly option?**

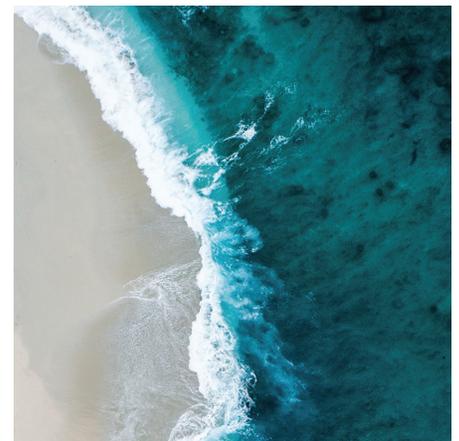
Yes. This program has MANY environmental benefits! It protects sensitive ecosystems by reducing the amount of water siphoned by imported water sources. It decreases the amount of recycled water discharged into the ocean and uses half the energy that is needed to transport imported water, which reduces greenhouse gas emissions.

- **How much will the project cost and will Pure Water Oceanside affect water rates?**

The project is estimated to cost \$67 million. The city considers Pure Water Oceanside to be a smart investment with costs very competitive to imported water rates from the San Diego County Water Authority. A Local Resources Program provided by the Metropolitan Water District and the San Diego County Water Authority will help fund the project's operating costs of approximately \$25 million over the next 15 years. The city is actively pursuing grants and loans to help subsidize the cost of the project.

- **When will purified water begin to be injected into the Mission Basin?**

Construction of the Pure Water Oceanside facilities will begin in early 2020 and be completed before the end of 2021. Shortly thereafter City of Oceanside residents and businesses will receive safe, reliable drinking water that is drought tolerant, environmentally friendly and ready to provide a safeguarded water supply for generations to come.



WANT TO KNOW MORE?

Visit www.GreenOceanside.org/PureWater
or email PureWaterOceanside@ci.oceanside.ca