



ALBERT ROBLES CENTER

*Water Recycling &
Environmental Learning*



ALBERT ROBLES CENTER FOR WATER RECYCLING AND ENVIRONMENTAL LEARNING

THE PURIFICATION PROCESS



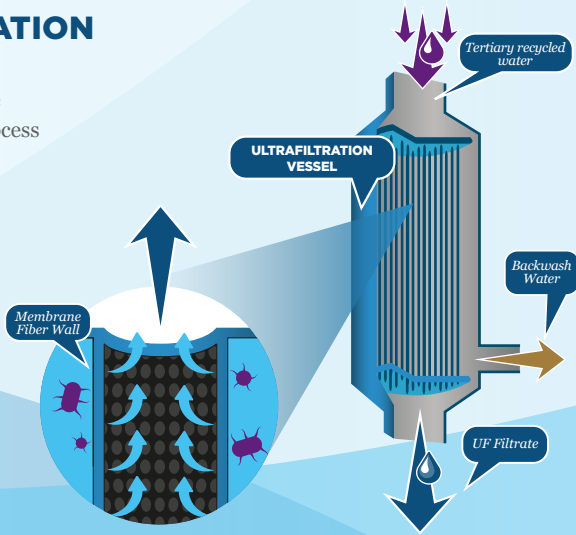
STAGE 1

REMOVES:

- > Most Bacteria
- > Fine Particles
- > Sediments
- > Suspended Solids

ULTRAFILTRATION

- > Pre-treatment before Reverse Osmosis process
- > Extends the useful life of the Reverse Osmosis membranes
- > Pore size is 1/300 of a hair



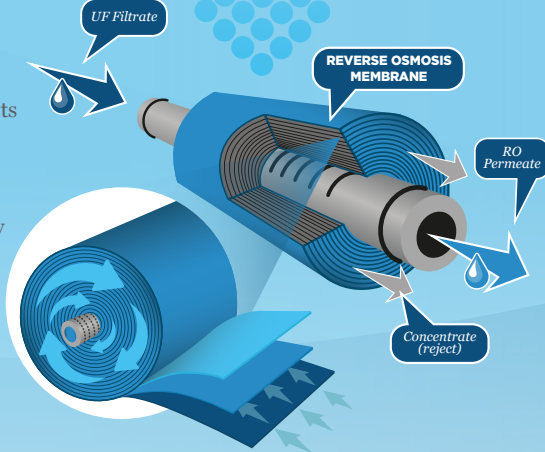
STAGE 2

REMOVES:

- > Dissolved Solids
- > Organic Material
- > Most Viruses
- > Pesticides
- > Salt

REVERSE OSMOSIS

- > Thin film membrane filters at molecular level
- > Over 99% of contaminants are removed at this process
- > Best available technology for removing nearly all dissolved contaminants



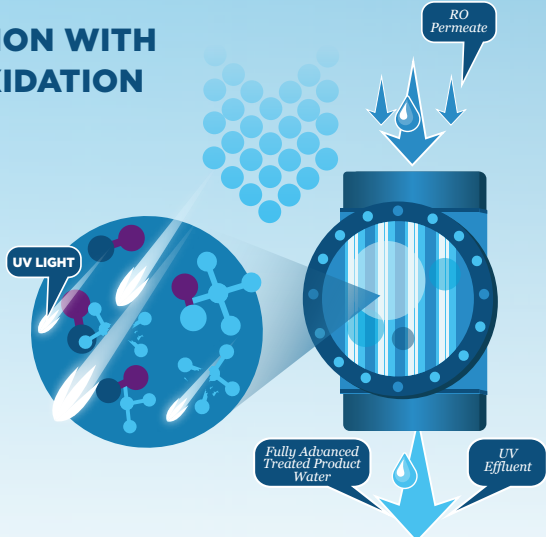
STAGE 3

DISINFECTS:

- > Pharmaceuticals
- > Viruses
- > Carcinogens
- > Personal Care Products
- > Industrial Additives/Chemicals

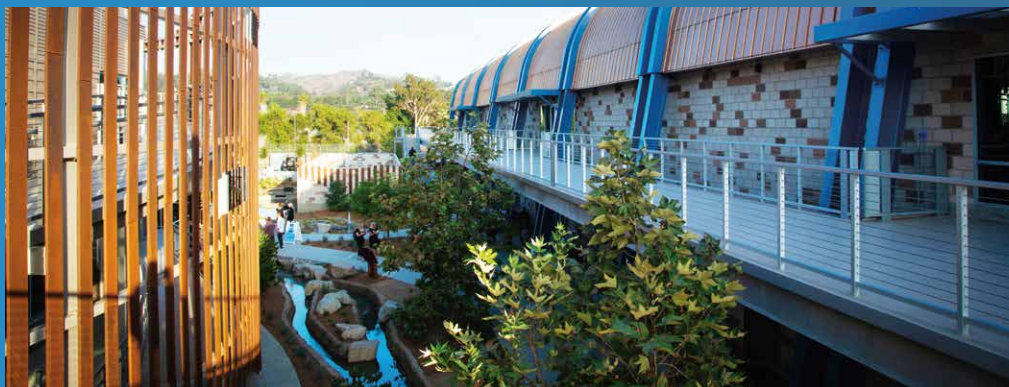
UV DISINFECTION WITH ADVANCED OXIDATION

- > Chlorine and UV light breaks chemical bonds
- > Final Disinfection



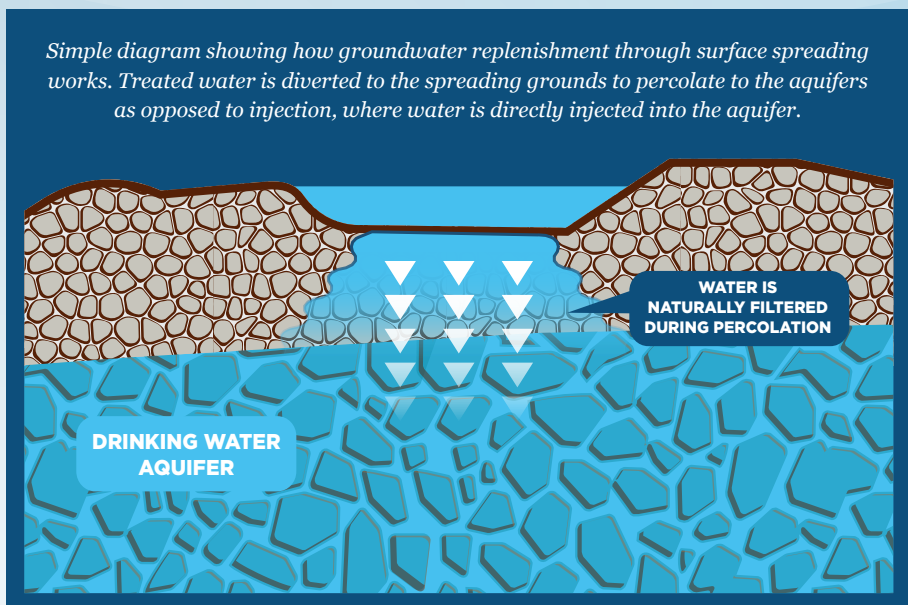
GROUNDWATER REPLENISHMENT

The Water Replenishment District (WRD) was established by a vote of the people in 1959 for the purpose of protecting and replenishing the groundwater resources of the Central and West Coast Groundwater Basins located in southern Los Angeles County. Prior to the formation of WRD, over-pumping caused many water wells to go dry. Lower groundwater levels also enabled contamination of the groundwater basins from coastal seawater intrusion.



Present demand for groundwater continues to exceed nature's ability to replenish the groundwater basins. As a result, WRD protects the basins through supplemental replenishment. WRD uses stormwater, recycled water, and advanced treated water to "spread" in large spreading basins operated by the Los Angeles County Department of Public Works along the San Gabriel River and Rio Hondo. Once in the spreading basins, the water percolates down into the aquifers to replenish the groundwater supplies.

Simple diagram showing how groundwater replenishment through surface spreading works. Treated water is diverted to the spreading grounds to percolate to the aquifers as opposed to injection, where water is directly injected into the aquifer.



THE ALBERT ROBLES CENTER

WRD developed a suite of projects through its Water Independence Now (WIN) program to further develop local and sustainable sources of water for use in all groundwater replenishment activities. The cornerstone project for WIN is the Albert Robles Center, a new advanced water treatment facility located in the City of Pico Rivera.

The purpose of the Albert Robles Center is to fully eliminate the current demand for imported water at the Rio Hondo and San Gabriel Coastal Spreading Grounds, creating a sustainable regional groundwater supply.



The Albert Robles Center will accomplish water independence by providing an additional 21,000 acre-feet of local recycled water annually. This new advanced water treatment facility will purify approximately 10,000 acre-feet (3.25 billion gallons) of tertiary treated (recycled) water annually to near distilled levels. With advanced treated purified water, WRD will be able to blend it with an additional 11,000 acre-feet (3.6 billion gallons) of recycled water to replenish the groundwater basins.

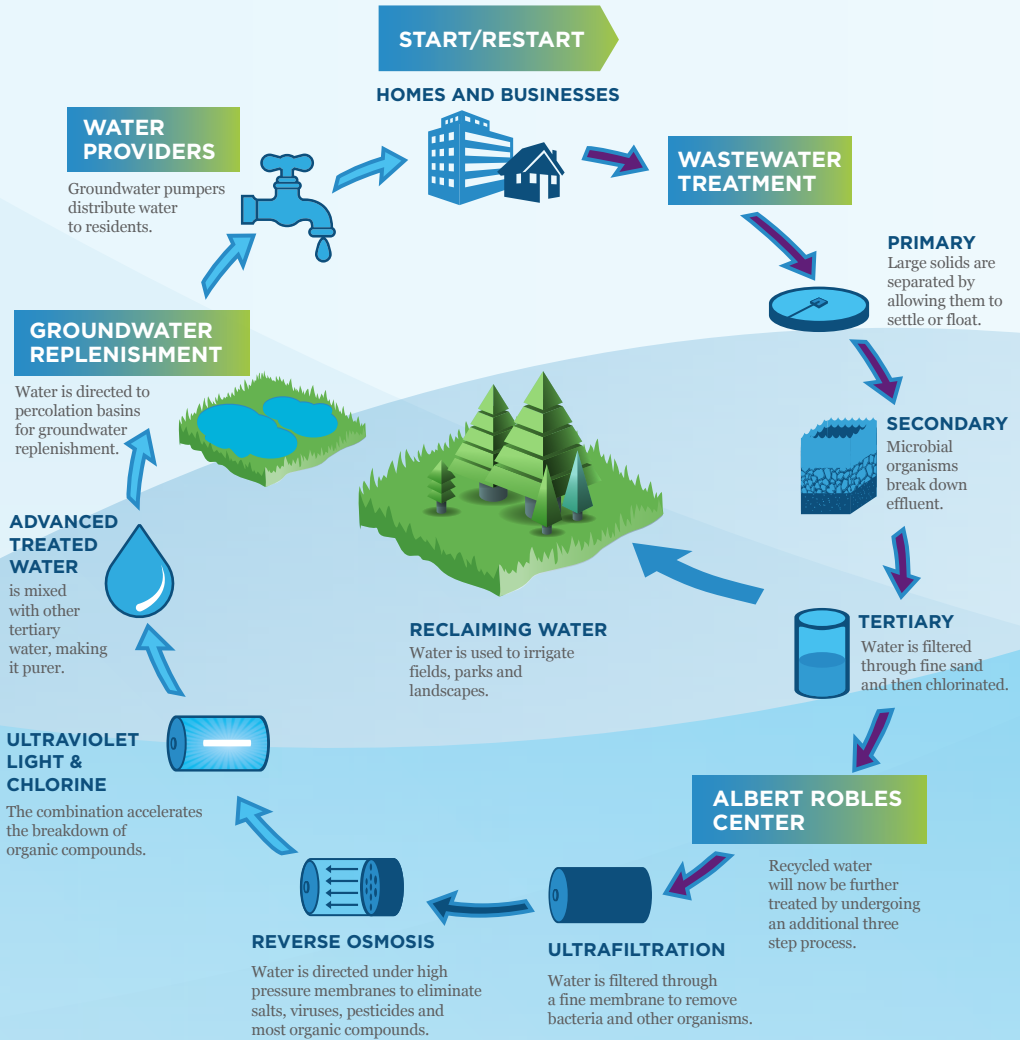
The Albert Robles Center for Water Recycling and Environmental Learning:

- > Provides a locally sustainable and reliable replenishment source for the groundwater basins
- > Protects the quality and quantity of groundwater
- > Reduces the carbon footprint from imported water by lowering energy demands
- > Complies with all related regulatory requirements
- > Keeps the cost of groundwater affordable for ratepayers for the long term

The Albert Robles Center is located in the City of Pico Rivera. It's proximity to the San Gabriel River allows for the direct delivery of purified recycled water to an existing pipeline leading into the spreading grounds. Funding for ARC includes a running total of approximately \$54 million dollars in grants from multiple agencies and \$80 million in low-interest loans through the Proposition 1 Water Bond administered by the State Water Resources Control Board.

The Central & West Coast groundwater basins provide half of the water supply for the 4 million residents of the 43 cities within the WRD service area and are completely locally sustainable.

HOW THE ALBERT ROBLES CENTER WORKS



LEED PLATINUM CERTIFIED

The ARC facility was awarded Platinum Certification by the Leadership in Energy and Environmental Design (LEED) program. This is the highest rating offered to environmentally sustainable buildings and only 5.7 percent of LEED projects in the US have achieved this distinguished designation. ARC achieved this honor through its innovative design to optimize the efficient use of water and energy while minimizing waste. At least 20 percent of the facility was built with recycled content.



ABOUT WRD

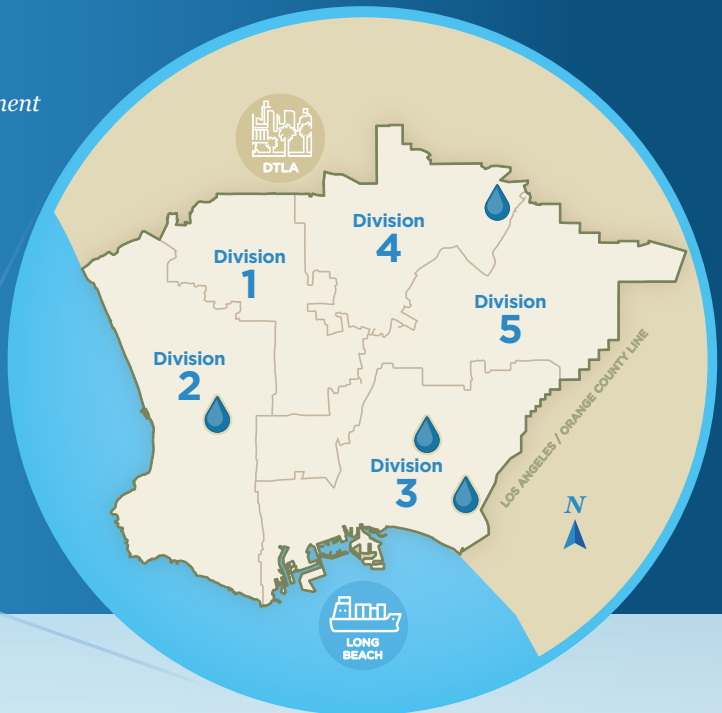
The Water Replenishment District (WRD) was established in 1959 to manage, protect, and replenish the Central and West Coast Groundwater Basins. WRD achieves its mission by:

- » Using effective and environmentally sound basin management practices and serving as the Administrative Body of the Watermaster for both basins
- » Monitoring and remediating the groundwater basins affected by natural and human-made contaminants
- » Owning and managing two advanced water treatment facilities and a groundwater desalter

WRD manages and protects two of the most utilized urban groundwater basins in the nation. Groundwater from these basins provides nearly 50% of the total water supply for the four million residents in WRD's 43-city service area which covers 420 square miles in southern Los Angeles County. WRD ensures that a reliable and locally sustainable supply of high-quality groundwater is available through replenishment with recycled water and stormwater capture.

The Water Replenishment District's service area in southern Los Angeles County

 = WRD Facility



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