

## Hydranautics' Helping cities to achieve Groundwater Sustainability

More than half of the global freshwater supply for drinking, industrial uses and irrigation comes from groundwater. Due to continuous urbanization, climate change and inadequate water management; groundwater depletion is becoming a serious problem in many parts of the world. New solutions are required to restore groundwater.

Hydranautics through its innovative technologies is helping cities around the world to treat wastewater that can be used to replenish groundwater aquifers and create a sustainable source of water.

For Oceanside city in San Diego county, majority of water supply is imported and comes from the Sacramento Bay Delta and the Colorado River, this leaves the city vulnerable to drought and other natural disasters that could affect the water supply. The city has a natural underground aquifer, known as the Mission Basin, the aquifer's water supply has declined over years of use.

The City of Oceanside's Pure Water Oceanside Project uses state-of-the-art water purification steps that both recreate and increase the natural groundwater recycling process. In the purification process Hydranautics' ultrafiltration membranes are used to remove bacteria and suspended solids from the reclaimed water. After filtration, the water then goes through an advanced RO treatment system, where our RO membranes with higher permeability and fouling resistance help remove any salt, microorganisms, chemicals, and pharmaceuticals. In the last step, advanced oxidation neutralizes any remaining substances, and minerals are added to the water.

The highly purified water is injected into the Mission Basin to increase the amount of water in the aquifer as well as the overall water quality. Groundwater is pumped up by the city and filtered again at the Mission Basin Groundwater Purification Facility before being pumped to customers in the city.

Under this project, Pure Water Oceanside will supply 3 to 5 million gallons a day of high-quality drinking water to the Oceanside community.

At Hydranautics, we are proud that our innovative solutions are helping cities around the world to reduce reliance on imported water and create sustainable source of water that is clean, safe, drought-proof, and environmentally sound.

## ABOUT HYDRANAUTICS

Hydranautics is a part of the Nitto Group and one of the global leaders in the field of Integrated Membrane Solutions. Hydranautics offers complete membrane solutions like Reverse Osmosis, Nanofiltration, Ultrafiltration, and Microfiltration for Water, Wastewater and Process treatment and applications. Hydranautics membrane-based solutions are currently in use on seven continents throughout the world for diverse applications such as Seawater Desalination, Industrial High-Purity Water, Surface Water Treatment, Waste Water Treatment, Specialty Process Applications etc. Our Global Membrane Division is headquartered in Oceanside, CA, USA and we have 3 state-of-the-art manufacturing sites located in Oceanside – USA, Shiga – Japan and Shanghai – China. For further information on Hydranautics kindly visit our website [www.membranes.com](http://www.membranes.com)

## ABOUT NITTO

Nitto is Japan's leading diversified materials manufacturer. Based on four core technologies: adhesion, coating, polymer function control, and polymer analysis & evaluation, Nitto provides customers with various products such as polarizing films for displays, industrial adhesive tapes, reverse osmosis membranes for desalination and transdermal drug delivery patches. Under the brand slogan of "Innovation for Customers", Nitto is contributing to a better life by solving social issues and improving corporate value. For further information on Nitto please visit [www.nitto.com](http://www.nitto.com)