

Episode 003 - Pure Water: What It Is, What It Isn't, and Where We Are.

Short on local water supplies and long on regulatory requirements, the Las Virgenes - Triunfo Joint Powers Authority (JPA) has found a solution to both of these challenges. The Pure Water Project Las Virgenes - Triunfo (PWP) meets the regulatory framework imposed on discharges into Malibu Creek and creates a local source of drinking water. In this episode, PWP Manager Oliver Slosser joins Riki Clark and breaks down the project and where we are in the process.

Definitions and Terms:

AWPF - Advanced Water Purification Facility - the actual plant where the three step process now on display at the Demo Facility will be housed in Agoura Hills.

Detention Time - The amount of time for a molecule of water to travel a set distance. For the PWP, this is the amount of time it takes a molecule of water to go from one end of the reservoir to the Westlake Filtration Plant.

Effluent - The Title 22 tertiary treated recycled water that is the result of the wastewater treatment process at Tapia.

Environmental Buffer - An environmental buffer provides retention time which can serve two purposes: (1) provide time to respond to potential treatment failures or upsets and (2) allow an additional opportunity for attenuation of microbial and chemical contaminants.

Guaranteed Maximum Price - The price established during the progressive design-build process.

Indirect Potable Reuse - The process of turning advanced purified recycled water into drinking water using an environmental buffer before being treated again and served to customers.

Joint Powers Authority - A partnership between the TWSD and LVMWD to collect and treat the Malibu Creek Watershed region's wastewater at the Tapia Water Reclamation Facility. Areas served include Calabasas, Agoura Hills, Oak Park, Westlake Village and Parts of Thousand Oaks.

Log Removal - It is defined as the common logarithm of the ratio of the levels of contamination before and after the process, so an increment of 1 corresponds to a reduction in concentration by a factor of 10.

Procurement - The process of acquiring goods or services, in this case securing a Design-Build team to build the Advanced Water Purification Facility and brine line. This process includes specific legal requirements the JPA must adhere to ensure a fair and equitable process. This also applies to procuring designers and constructors for other project elements through traditional delivery methods

Programmatic Environmental Impact Report - The report agencies produce outlining the results of the environmental studies conducted to determine possible environmental impacts the construction of a project may have and mitigation measures for eliminating or reducing environmental impacts to the extent possible

Progressive Design-Build - A collaborative approach to building large projects that can result in lower final costs and allows for construction to begin before a final design is completed to reduce schedule.

Reverse Osmosis Concentrate - The salts and other constituents removed in the reverse osmosis process, commonly referred to as brine.

Reverse Osmotic Pressure - The pressure needed to force water through the membranes while keeping everything else out.

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Seasonal Imbalance - For the JPA, recycled water demand is very high in the summer, but very low in the winter despite constant supplies of recycled water throughout the year. In the winter this low demand causes excess recycled water, while in the summer demand can outpace the supply.

State Water Project - A collection of canals, pipelines, reservoirs, and hydroelectric power facilities delivers clean water to 27 million Californians, 750,000 acres of farmland, and businesses throughout our state.

State Water Project Dependent Area - Certain areas of the Metropolitan Water District of Southern California's service area that, due to piping and pumping capabilities, are only able to accept water from the State Water Project and are unable to get water from other sources such as the Colorado River

Surface Water Augmentation - Addition of purified water to a surface water source, such as a reservoir, to use as an environmental buffer prior to use as a potable supply.

Source Water Augmentation - Using alternative water sources such as impaired groundwater or stormwater to add to the raw water being fed to the AWPF

Tapia Water Reclamation Facility (Tapia) - The JPA's waste water treatment plant. Located along Malibu Creek Watershed, Tapia tertiary treats the JPA's waste water to create high quality recycled water suitable for non-potable use.

Tertiary treatment - An additional level of filtration and disinfection in the wastewater treatment process to create the highest quality recycled water suitable for non-potable use.

Title 22 Tertiary Treated Recycled Water - The recycled water that the JPA provides that due to additional treatment can be used for irrigation including on food crops.

Turbidity - the measure of relative clarity of a liquid. It is an optical characteristic of water and is a measurement of the amount of light that is scattered by material in the water when a light is shined through the water sample.