MONTEREY PENINSULA
WATER SUPPLY PROJECT

NEWSLETTER
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PURE WATER MONTEREY BEGINS OPERATIONS

ALSO INSIDE

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With the onset of the COVID-19 virus and subsequent local, state, and federal directives and orders, the staff of California American Water (CAW) has been hard at work ensuring the health and safety of our customers and the general public. From the continued delivery of safe and clean water to the moratorium placed on turnoffs for non-payment, we have continued to live and work by the mission statement: we keep life flowing.

It is with that in mind we are excited to provide an update on the progress of our Monterey Peninsula Water Supply Project (MPWSP). The project consists of a diversified portfolio of water supply projects including desalination, aquifer storage and recovery in addition to groundwater replenishment through an advanced purified water program. The groundwater replenishment project or Pure Water Monterey began initial injections in February which means the Monterey Peninsula will soon see deliveries of this water in mid to late summer of this year.

The journey to get to this historic point for the project has been an arduous one and California American Water has been proud to be a long-time partner along with Monterey One Water and the Monterey Peninsula Water Management District. While M1W has been responsible for the construction of the project's facilities and MPWMD has provided legislative continuity and publicly financed funding, CAW has not only built the pipeline to deliver the water and pumping facilities to move the water, it is also purchasing the water under an extensive Water Purchase Agreement, treating it before finally delivering it.

The Orange County Water District was one of the first to start groundwater replenishment with imported water in 1965. This water was used to combat seawater intrusion into the aquifers located along the coast. As the population in Orange County exploded in the 1970's, however, the agency began the groundbreaking process of taking treated domestic wastewater and instead of releasing it into the ocean, further purifying it and injecting it into the local aquifers.

This practice expanded in the 1990's as OCWD partnered with the Orange County Sanitation District and now produces over 100 million gallons of purified water every single day! So much water, that if you have visited one of the area's theme parks or stayed in one of their hotels, you have probably experienced their water.

Just about the same time and about 350 miles north, the Monterey Peninsula and the Salinas Valley were grappling with a similar situation.

"*In an unprecedented model of interagency, jurisdictional, and municipal cooperation*."

State mandated cutbacks to pumping from the Carmel River had forced the Peninsula to curtail its water use and decades of pumping of the Salinas Valley aquifers for agricultural needs had caused seawater intrusion. Monterey One Water in partnership with Monterey County Water Resource Agency and the agricultural community took the novel approach of initially solving a portion of the Salinas Valley's issues by further processing its treatment plant effluent to agricultural standards and sending that to the growers as part of the Castroville Seawater Intrusion Project. This small step was a precursor of the regional collaboration and cooperation that is a central component to the Pure Water Monterey project.

As the need for a new source of water for the Monterey Peninsula grew, several projects were stalled by political, public or price tag opposition. These roadblocks, coupled with increased state and federal regulations regarding public water discharges, created an environment ripe for the type of project like had been flourishing in Orange County for years. As water leaders throughout Monterey County searched for the perfect nexus between project infrastructure cost, source water availability and delivered water rates to the customer, a novel approach was agreed upon that took the two-agency partnership model from Orange County and multiplied it by five.

In an unprecedented model of interagency, jurisdictional, and municipal cooperation, no less than nine entities signed a series of agreements and contracts to formally begin the process to reach what would be become Pure Water Monterey: the future of water. Those entities included Monterey One Water, the Monterey Peninsula Water Management District, California American Water, the City of Salinas, the Monterey County Water Resources Agency, the Fort Ord Reuse Authority, the Marina Coast Water District, the Monterey Peninsula Regional Waste Authority and the County of Monterey. Each of these organizations brought something to the table from energy and water rights to delivery capacity, source waters and existing infrastructure all combined to deliver 3500 acre-feet of potable water to the Monterey Peninsula and additional

non-potable water to the Castroville Seawater Intrusion Project. While unique in its multi-benefit, regional collaboration, it is its suite of source waters that truly elevate the project to its unique status.

The source waters come from the entire county. There is domestic wastewater, the most prevalent of the sources, followed by storm water which varies by season. Then, from Salinas, comes a smaller percentage of agricultural wash water and agricultural runoff. By capturing each of these sources, the wastewater is prevented from entering the Salinas River and the Monterey Bay National Marine Sanctuary which not only reduces the pollutants that could enter these waters but allows for their diversion and ultimately their treatment into reclaimed highly purified water.

It is this treatment that is the key to the purity and safety of the water produced by Pure Water Monterey. Following tertiary and secondary treatment, the product water is then put through four separate phases that include many of the same treatments found in store-bought bottled water. The first phase is Ozone pre-treatment which utilizes a powerful disinfectant to destroy bacteria and other pathogens. The second phase is membrane filtration where the water is pushed through tiny straw-like tubes 1/32nd the size of a human hair, that filter out additional contaminants. The third stage is called reverse osmosis which again forces the water through a different set of membranes under extremely high pressure removing nearly all the remaining contaminants. The fourth and final process is two treatments in one. Hydrogen peroxide is added and then when it reacts with exposure to ultraviolet light, it breaks down any remaining trace compounds leaving clean and pure water. This water is so pure that it needs to then be balanced for taste!

Cities and counties throughout California and beyond are grappling with a lack of water supplies. That is why regional cooperation and collaboration, like has been shown in the Pure Water Monterey project, is so important. California American Water may not be producing this water, but our engineering and water quality expertise is ensuring that this new source of water is being delivered correctly and safely to our customers on the Monterey Peninsula. We are proud to be such an integral part of this project as we pursue additional diversified and reliable water supply projects and continue to deliver on our promise to keep life flowing.

DESAL PROJECT UPDATE

In last quarter's edition, we reported the California Coastal Commission was expected to consider our application for a Coastal Development Permit for the Monterey Peninsula Water Supply Project in March. Since that time, the Coastal Commission has produced a scope and schedule of work for additional groundwater analysis that shows up to 6 months to complete. In addition, impacts of the COVID-19 crisis on the Coastal Commission's meeting schedule and ability to process permits may add additional delay to the permit hearing schedule.

"We do not yet know when our permit application will go before the Commission, but we are working closely with staff to advance through the permitting process as quickly as possible," said Ian Crooks, California American Water's Vice President of Engineering.

Other water supply project improvements that are required regardless of the desal component of the water supply project are underway, including building water main interconnections between the Ryan Ranch, Hidden Hills, and Main System water service areas of California American Water's Central Division District and construction of a new Carmel Valley Pump Station.

A water supply cutback from the State Water Resources Control Board of 1,000-acre feet is expected on September 30 of this year. Given Coastal Commission permitting delays, conditions of the State Water Resource Control Board's progress milestones on development of a reliable water supply are unlikely to be met in 2020 and 2021.

At this time, we believe current supplies can meet customer demand through the coming water year. However, additional milestone reductions in September 2021 and ultimately, the final reduction of Carmel River withdrawals to 3,376-acre feet at the end of 2021 – will present challenges to the community and may necessitate stricter conservation, if not water rationing, should new supplies are not yet be in place.

ABOUT THE PROJECT

The Monterey Peninsula is facing a severe water supply problem. That's because the State Water Resources Control Board has ordered California American Water to significantly reduce its pumping of water from the Carmel River.

This order coupled with pumping restrictions in other parts of the county means that nearly 70 percent of the Monterey Peninsula community's historic water supply must be replaced.

The current project is comprised of three elements:

- Desalination
- Aquifer Storage and Recovery
- Pure Water Montery: A Groundwater Replenshiment Project

This multi-faceted approach brings numerous advantages over a single-source solution. For one, it will enable California American Water to build a smaller desalination plant that will reduce the project's environmental footprint.

Secondly, this strategy will build-in redundancy that is critical for all municipal water supply systems, allowing the water system to continue to provide water if one component becomes temporarily unavailable.

DESALINATION

The Monterey Peninsula Water Supply Project consists of sub-surface slant intake wells, a desalination plant, and related facilities including source water pipelines, product water pipelines and brine disposal facilities.

The desalination plant will produce 6,250 acre-feet of treated water per year. One acre-foot is equal to one acre filled with one foot of water, which is typically enough water to support four households on the Monterey Peninsula for a year. California American Water purchased a 46-acre parcel of land located off of Charles Benson Road in unincorporated Monterey County as the site for the proposed desalination plant.

California American Water has also purchased permanent easements near the coastline in the North Marina area to host its slant intake wells. California American Water's project will use a series of slant wells designed to draw ocean water.

The slant wells will be up to 800 feet long. The final location, layout and configuration will be based on the results of the slant test well and groundwater modeling work. In addition to the plant and its intake wells, other pipeline, storage and pump facilities will need to be constructed to ultimately deliver water to customers.

PURE WATER MONTEREY

The proposed Pure Water Monterey project, a partnership between Monterey One Water and the Monterey Peninsula Water Management District, recycles wastewater through an advanced treatment process. The resulting highly purified drinking water will be injected into the Seaside groundwater basin.

A new, advanced water treatment plant will be constructed for the project in addition to a number of supporting facilities. Source water for this project will go through a three-step treatment and purification process of microfiltration, reverse osmosis and oxidation with ultraviolet light and hydrogen peroxide — all commonly used in numerous industries and food manufacturing.

AQUIFER STORAGE AND RECOVERY

California American Water will expand its current ASR project – a partnership with the Monterey Peninsula Water Management District – which captures excess winter flows from the Carmel River for storage in the Seaside Aquifer and withdrawal during the dry, summer months. Winter flows are considered excess only when they exceed what is needed to protect the river's threatened population of steelhead.

For the Monterey Peninsula Water Supply Project, the company plans to construct two additional ASR wells that will increase capacity of the program and allow the desalination plant to be smaller than would be needed without the wells.

BUDGET*

Subsurface Intake System: $80M
(23% spent to date)

Desalination Plant: $132M
(43% spent to date)

Pipeline Facilities: $67M
(36% spent to date)

Pipeline/Pump Station: $50M
(100% spent to date)

*NOTE: These figures are based on a 6.4 MGD desalination facility. These figures include financing and some contingency costs and therefore differ from the capital costs listed in the settlement.

Future editions of this newsletter will contain information on project expenditures, construction progress and milestones. Once collection begins for the Construction Funding Charge (or Surcharge 2), amounts collected by the charge will also be reported. Progress regarding slant well construction and information regarding slant well monitoring data will also be reported in future editions, as well as estimates as to the return water obligation and actual return water obligation calculated.