

MONTEREY PENINSULA WATER SUPPLY PROJECT

PROGRESS REPORT

January 31, 2016



Stakeholder Groups, California American Water, and Castroville Community Services District Negotiate Terms for Desalination Project Return Water

Lawyers for the Salinas Valley Water Coalition, Monterey County Farm Bureau, LandWatch Monterey County, and the Monterey Peninsula Regional Water Authority agreed on a draft term sheet with California American Water and the Castroville Community Services District that would dedicate a portion of the water produced by the proposed Monterey Peninsula Water Supply Project desalination facility to serve the water-challenged community of Castroville in North Monterey County.

“This proposal could constitute a significant win for stakeholders concerned that any groundwater drawn by the project’s intake wells stays within the Salinas River Groundwater Basin into the future,” said California American Water president Robert MacLean. “The terms also represent **a win for the people and water needs of Castroville and the Monterey Peninsula.**”



Dunes at Marina State Beach

Wells serving Castroville are being threatened by salt water intrusion as a result of decades of excessive upstream pumping. Under the proposal, the Castroville Community Services District would purchase approximately 800 acre feet of desalinated water per year to replace its current groundwater supply. As part of its Water Supply Project, California American Water committed to return for use in the Salinas Basin any portion of Salinas Basin groundwater drawn from its proposed slant well intake system, located in North Marina. Delivering the water to Castroville, which is also located in the basin, would satisfy this commitment and other obligations that may arise as part of the approval process for the project.

“From day one we have been adamant that any export of groundwater from the Salinas River Groundwater Basin to the Peninsula would violate the Monterey County Water Resources Agency Act,” said Salinas Valley Water Coalition president Nancy Isakson. “The terms laid out in this planning document would ensure that all groundwater from the Salinas River Groundwater Basin is returned to the basin, and I believe, will ensure potential harm to the Salinas River Groundwater Basin water right holders is avoided.”

California American Water’s source water slant wells are designed to draw about 96 percent seawater and 4 percent brackish groundwater at the western boundary of the Salinas Basin. Under the proposed terms, Castroville Community Services District would fund a three-mile pipeline to connect to California American Water’s Water Supply Project and purchase the return water. An environmental study of the pipeline would be included in the Water Supply Project’s EIR, and construction work for the pipeline would be performed by California American Water contractors.

“Assuring that source water does not harm the Salinas Basin is the largest outstanding issue for the successful completion of the desal plant, and today’s announcement is a major step forward,” said Monterey Peninsula Regional Water Authority president Jason Burnett. “Resolving return water for the project will reduce the threat of litigation, will provide assurances to diverse stakeholders including agricultural and environmental interests, and will provide some **direct benefit to ratepayers on the Monterey Peninsula.**”

The term sheet was submitted to the California Public Utilities Commission for review on January 22 and will not be legally effective until a Final Environmental Impact Report for the Water Supply Project is certified and other approvals obtained, which is expected to occur near the end of this year.

Test Slant Well



Contractors Selected for Desalination Facility Source Water Slant Wells and 22 Miles of Pipeline

After a comprehensive procurement process, California American Water has selected Boart Longyear Company to construct seven to nine source water slant wells and three firms to construct approximately 22 miles of pipeline, pump stations and storage facilities that will deliver desalinated water as part of the Monterey Peninsula Water Supply Project.

Garney Pacific, Mountain Cascade and Monterey Peninsula Engineering were awarded the pipeline contracts, valued at approximately \$95 million. Boart Longyear was awarded the contract for the slant wells, valued in the range of \$19 to \$25 million, depending on the number of wells.

“The firms we selected scored highest overall on our ranking criteria and were the lowest bidders,” said California American Water’s vice president of engineering Deana Donohue. “With these firms on board, in addition to the contract we’ve already executed with CDM Constructors for the desalination facility, we have a great team in place to construct the project.”

The project’s Governance Committee, which is made up of representatives from the Monterey County Board of Supervisors, Monterey Peninsula Regional Water Authority and Monterey Peninsula Water Management District, also approved the selected firms during public meetings held in December.

California American Water now has pricing for all of the major project components. While the pipeline and conveyance facility bids were higher than expected, overall the costs for a 9.6 MGD desalination plant are still within the total project budget and within the range of the cost estimate California American Water provided to the California Public Utilities Commission in November 2013. Many elements are still subject to price reductions through value engineering, which is expected to take place for the wells, pipeline and conveyance facilities during the first half of this year.

The selected firms’ qualifications and proposals, as well as the company’s evaluation report for the contractor selections, have been posted to the project website.

Test Slant Well Passes 100 Days of Operation Milestone, Reaches 92% Salinity

The test slant well California American Water drilled for the Monterey Peninsula Water Supply Project last year reached its 100th day of operation milestone in late December and is showing salinity levels of 92 percent.

“Our project goal is 96 percent salinity,” said project manager Ian Crooks. “When we started the well last year, we were at 75 percent. I’m not ready to predict when we’ll hit 96 percent, but the signs are extremely encouraging that our goal will be achieved.”

Operation of the test slant well began in April 2015 and was stopped in early June, after a relatively small drop in surrounding groundwater levels was observed. The California Coastal Commission permits for the test slant well required California American Water to stop operation if such a reduction occurred, and report on the cause and seek a permit amendment before resuming the test. Evaluation of the data revealed that the drop was primarily due to the regional pumping in the area and unrelated to the test slant well operation. The well permits were amended by the California Coastal Commission in early October and pumping resumed in late October.

“The act of stopping and starting the well has confirmed the integrity of its construction,” Crooks said. “Physically, it was a good test for the well because we got to see how it performed after being restarted following a period of not operating. The full-scale design includes redundancy and contemplates having some wells off for a period of time. Our recent experience confirms this plan is viable.”

Slant wells are a type of subsurface intake, which are considered environmentally preferable to open ocean intakes by many permitting agencies. The California Coastal Commission, State Water Resources Control Board and Monterey Bay National Marine Sanctuary have each stated a preference for subsurface intakes, which draw ocean water through the sand rather than directly from the ocean. National Marine Sanctuary policy requires proponents to determine the feasibility of using subsurface intakes before it will consider open ocean intakes.



Test Slant Well Site

California American Water also released a study it commissioned to identify other slant wells used for water supply in the United States. The engineering firm that conducted the study found 28 slant wells at eight locations that were similar in size and design to those planned for Monterey Peninsula Water Supply Project.

“We are confident in the performance of slant wells and commissioned this study to learn from the more than two dozen similar wells already in operation in the United States,” said Crooks. “We hope the findings of this study will promote a better understanding of the technology and others’ experience with it.”

A copy of the study and the weekly pumping data from California American Water’s test slant well is available at www.watersupplyproject.org.

California American Water and Local Stakeholders Petition to Extend Carmel River Cutback Order

On November 20, California American Water filed a joint petition together with local stakeholders to modify the State Water Resources Control Board's 2009 cease-and-desist order to allow more time for completion of the Monterey Peninsula Water Supply Project.

After finding that the Carmel River was being negatively impacted through use as the primary water supply for the Monterey Peninsula community, the State Water Resources Control Board issued an order which requires the company to significantly reduce the amount of water it diverts from the river. To comply with the order, the company proposed the Monterey Peninsula Water Supply Project, which is pending approval before the California Public Utilities Commission. While significant progress on the project has been made, the company estimates it will not be able to make the current cease-and-desist order deadline of December 31, 2016. As a result, California American Water and numerous stakeholders worked together to develop a proposal to extend the deadline to provide the time needed for the project to work its way through the regulatory approval process.



Carmel River

The proposal would extend the deadline until December 31, 2020, with modest reductions in pumping from the river required in the interim. During the extension period, the company would be required to meet annual milestones related to the development of the project. The proposal would impose additional reduction penalties if any of the milestones are not met.

“The state’s order was put in place in part to motivate the community to get serious about finding an alternative to the Carmel River,” said California American Water central coast operations director Eric Sabolsice. “Our current proposal to modify the order was drafted in line with that directive by providing clear

milestones that must be met, while also allowing our community sufficient time to build a new project and avoid the untenable consequences of reducing Carmel River diversions dramatically before a replacement water source is available.”

The proposed modification will be considered by the State Water Resources Control Board and will be subject to public comment. The board may adopt, amend or reject the proposal.

About the Project

The Monterey Peninsula is facing a severe water supply problem. The State Water Resources Control Board has ordered California American Water to significantly reduce its pumping from the Carmel River. This order, coupled with pumping restrictions in other parts of the county, means that nearly 70% of the Monterey Peninsula community's historic water supply must be replaced.

The Monterey Peninsula Water Supply Project consists of three components:

- **Desalination Facilities**
- **Aquifer Storage and Recovery (ASR)**
- **Pure Water Monterey: A Groundwater Replenishment Project (GWR)**

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 carbon footprint. Secondly, this strategy will build in redundancy that allows the water system to continue to provide water if one component becomes temporarily unavailable.

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.

DESALINATION

The desalination plant will be sized at either 9,750 acre-feet per year (afy) or 6,250 afy, depending on the availability of water from the GWR project. One acre-foot is equal to one acre filled with a foot of water, which is typically enough water to support four households on the Monterey Peninsula for one year.

The desalination plant treatment process is composed of pre-treatment, first-pass reverse osmosis trains, partial second-pass reverse osmosis trains, post-treatment and finished water pumping. The design is at 60% completion and is awaiting finalization of the project's Environmental Impact Report to reach full design.

California American Water's project will use a series of slant wells located near the coastline in the North Marina area to draw ocean water. The final location, layout and configuration will be based on the results of the test slant test well and groundwater modeling work.





South-Central California Coast Steelhead Trout

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 Groundwater Basin 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 trout.

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.

PURE WATER MONTEREY: A GROUNDWATER REPLENISHMENT PROJECT

Pure Water Monterey will deliver over 3,500 afy of highly purified drinking water that will be injected directly into the Seaside Basin for delivery by California American Water to the residents and businesses of the Monterey Peninsula. Using scientifically verified technology already in use, the source water will undergo a four-step advanced water purification process, creating a safe and sustainable supply of purified water.

This environmentally preferred project will not only improve the water quality of the Seaside Basin and reduce discharge into the Monterey Bay National Marine Sanctuary, but will have lower levels of carbon emissions and energy consumption. With a certified and unchallenged Final Environmental Impact Report, the project is anticipated to deliver water by the end of 2017. Pure Water Monterey will play an important role in providing the region with a more diversified water portfolio, ensuring we have a reliable and environmentally friendly water supply into the future.



Water Purification Equipment

Budget: Major Portions of the Project

Subsurface Intake System and Supply Return Facilities: \$79M (23% spent to date)

Desalination Plant: \$115M (12% spent to date)

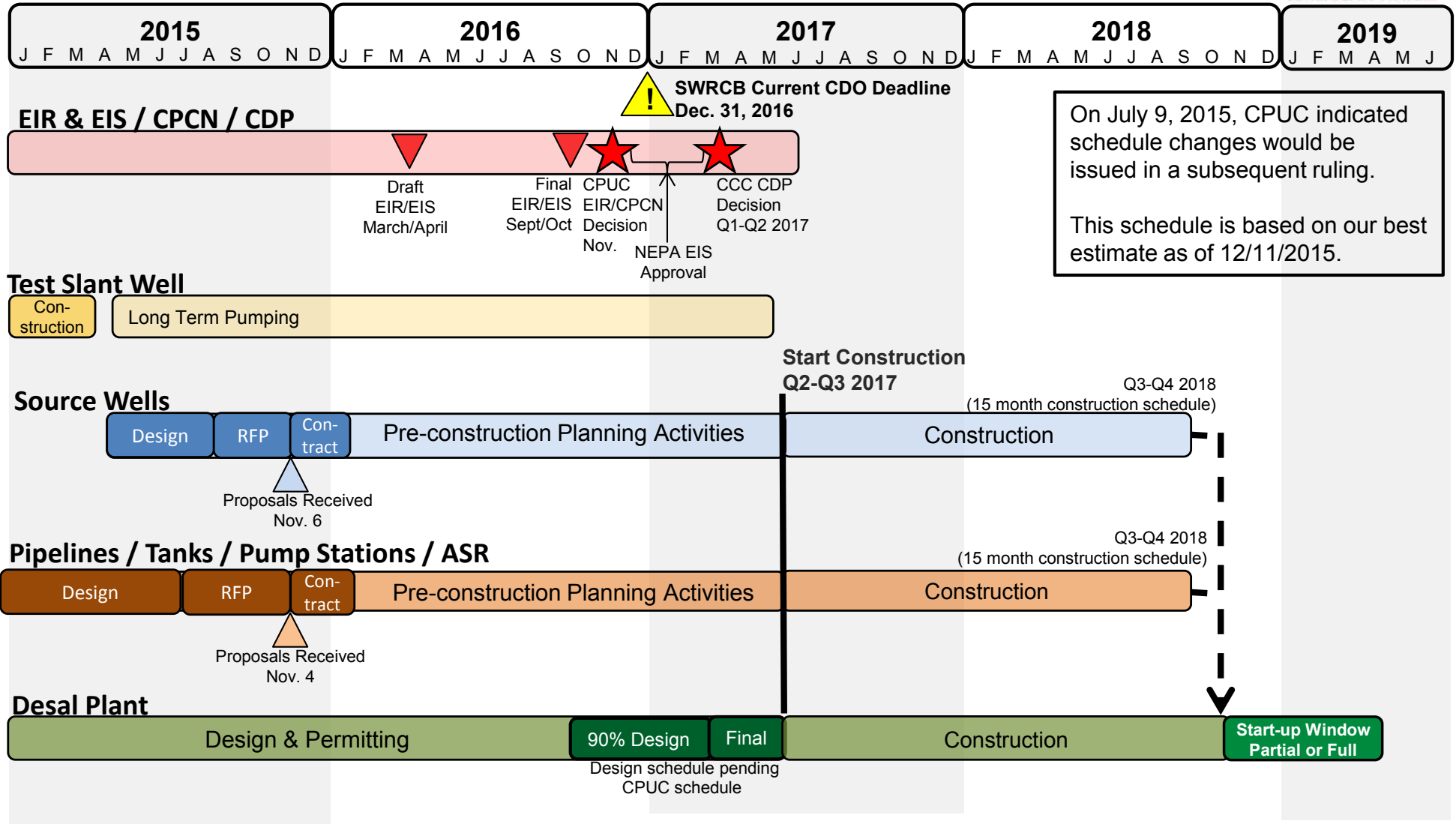
Pipeline Facilities: \$128M (11% spent to date)

NOTE: These figures are based on a 6.4 MGD desalination facility as described in the MPWSP Supplemental Testimony of Rich Svindland filed on December 15, 2015. Final costs will be determined by the California Public Utilities Commission in their decision on the project, which is expected later this year.

Timeline

Below is a timeline depicting the major components of the project and their expected delivery dates.

MPWSP Anticipated Schedule



Note: The schedule is based on the information and assumptions available at time of update and is accurate to +/-6 months.

Updated December 11, 2015