

# Monterey Peninsula Water Supply Project

## Progress Report

May 1, 2015



## Test Slant Well Operational

**California American Water successfully completed initial operations of its new test slant well located on the CEMEX property in Marina, California.**

The test well has been operating successfully for a number of weeks as part of the initial development of the well. Recently, the well underwent a five-day test that represented its first continuous operation over an extended period of time. The well ran continuously 24-hours per day at 2,000 gallons per minute for the five days. The well performed flawlessly in terms of pump and motor performance, well performance, electrical reliability and overall operation.

“The initial results of the slant well are so far meeting and exceeding our expectations,” California American Water’s engineering manager Ian Crooks said. “This is all, of course, very preliminary and many months of testing and analysis lie ahead before we can make any firm conclusions.”

During the five-day test, groundwater levels and salinity values were recorded and collected in each of the surrounding monitoring wells. At compliance monitoring well No. 4, groundwater levels and salinity value changes were significantly

better than the California Coastal Commission permit limits.

During the five-day well operation test, salinity of the shallow monitoring well No.1, which is located between the ocean and the test slant well, increased from about 26,000 mg/L Total Dissolved Solids prior to initial well pumping to nearly 30,000 mg/L at end of the testing period. Similarly, the salinity of the water produced from the test well itself increased from about 23,000 mg/L Total Dissolved Solids prior to initial well pumping to nearly 26,000 mg/L. These two trends are very

positive and indicate that ocean water is moving towards the well. Company experts believe this trend indicates the project design goal of capturing 96 percent ocean water is attainable.

Near the end of the five-day operating test, water quality samples were drawn in order to assess more than 65 different drinking water constituents. Results from these tests will be shared in the coming weeks.

The Hydrogeological Working Group will assess the data collected to date and submit information to the California Coastal Commission for review and approval before beginning longer term test pump operations.



## Project's Draft Environmental Impact Report Released Comment Period Ends July 1, 2015

After more than three years of analysis, the California Public Utilities Commission released its Draft Environmental Impact Report ("DEIR") on April 30. This report was performed in compliance with the California Environmental Quality Act.

The California Environmental Quality Act (CEQA) is a statute that requires state and local agencies to, prior to issuing a permit for certain projects, identify the potentially significant environmental impacts of the project and to implement conditions to avoid or mitigate those impacts.

CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity, which must receive some discretionary approval from a government agency. To require CEQA review, a proposed project must cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment. Most proposals for physical development in California are subject to the provisions of CEQA.

CEQA environmental review includes detailed procedural and substantive requirements. Depending on the potential impacts of the proposed project, the review may be conducted in the form of an Environmental Impact Report, which is the most stringent level of review under CEQA. A project may not be approved as submitted if feasible alternatives or mitigation measures are able to substantially reduce the potential of significant environmental impacts.

The CPUC's DEIR includes an exhaustive analysis of alternate desalination facility locations, including alternative project proposals to California American Water's Monterey Peninsula Water Supply Project.

The CPUC found that California American Water's proposed intake location at the CEMEX Property in Marina as the preferred alternative due to its favorable hydrological conditions and environmentally optimized slant-well intake method. The intake location is already disturbed, as it is part of an active sand mining operation.

**"We are pleased to see the CPUC's draft environmental review supports our approach to solving the Peninsula's water crisis," California American Water President Rob MacLean said. "Our project will ensure the community receives a long-term, drought-resistant water supply that will leave the smallest environmental footprint of all the considered alternatives."**

The draft report marks the beginning of a 60-day public review and comment period. This will include public meetings and open-house presentations to be given by the CPUC, which are scheduled as follows:

- Tuesday May 26, 2015, 1:00 pm: Marina Public Library, 188 Seaside Ave., Marina
- Wednesday May 27, 2015, 1:30 pm: Oldemeyer Center, Seaside Room, 986 Hilby Ave., Seaside
- Wednesday May 27, 2015, 6:30 pm: Oldemeyer Center, Laguna Grande Hall, 986 Hilby Ave., Seaside
- Thursday May 28, 2015, 1:30 pm: Sunset Center, Carpenter Hall, San Carlos Street, Carmel

The California Public Utilities Commission is the lead agency and author of the DEIR and as such all formal comments regarding the draft report should be submitted to the CPUC to:

Andrew Barnsdale  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108

Comments can be sent by fax to (415) 896-0332 or email to [mpwsp-eir@esassoc.com](mailto:mpwsp-eir@esassoc.com).

The CPUC will review and consider all comments and public testimony before releasing the Final EIR. **The public comment period closes on July 1, 2015.**

Those looking to obtain a copy of the DEIR may download it at:  
[www.cpuc.ca.gov/PUC/energy/Environment/Current+Projects/esa/mpwsp/index.html](http://www.cpuc.ca.gov/PUC/energy/Environment/Current+Projects/esa/mpwsp/index.html)

Copies of the report are also available for public review at the following locations:

- Castroville Public Library, 11160 Speegle St.
- Marina Public Library, 188 Seaside Ave.
- CSU Monterey Bay Library, 100 Campus Center, Seaside
- Seaside Public Library, 550 Harcourt Ave.
- Carmel Valley Public Library, 65 W. Carmel Valley Rd.
- Salinas, Buena Vista Public Library, 18250 Tara Dr.
- Salinas John Steinbeck Library, 350 Lincoln Ave.
- City of Marina Community Development Department, 209 Cypress Ave.
- City of Seaside Community Development Division, 440 Harcourt Ave.
- MPWMP, 5 Harris Court, Monterey
- MRWPCA, 5 Harris Court, Monterey

The Final EIR is scheduled for release in October 2015.

## Desalination Pipeline Map

While the test well in Marina is showing promising results for the proposed plant's intake, the water produced still needs to travel over 15 miles to be distributed to customers on the Peninsula. To do this, a pipeline from the desalination plant will run south through the County, Marina, Seaside, Monterey and Pacific Grove, where it finally connects to existing water reservoirs. The map to the right shows the proposed pipeline. Below is a list of roads that may be impacted by construction.

### IMPACTED ROADS

#### MARINA

Beach Rd  
 Del Monte Blvd  
 Marina Greens Rd  
 Palm Ave  
 Reservation Rd

#### MONTEREY

Airport Rd  
 Camino Agujaito Rd  
 Cypress Ave  
 Fairgrounds Rd  
 Fitch Ave (Presidio of Monterey)  
 Fremont St  
 Hartnell St  
 High St  
 Hoffman Ave  
 Jefferson St  
 Madison St  
 Mark Thomas Dr  
 Monroe St

Pipe Bridge (adjacent to Fairgrounds Rd Bridge)  
 Sinex Ave  
 Spencer Rd  
 Stillwell Ave (Presidio of Monterey)  
 Webster St  
 Withers Ave

#### MONTEREY COUNTY

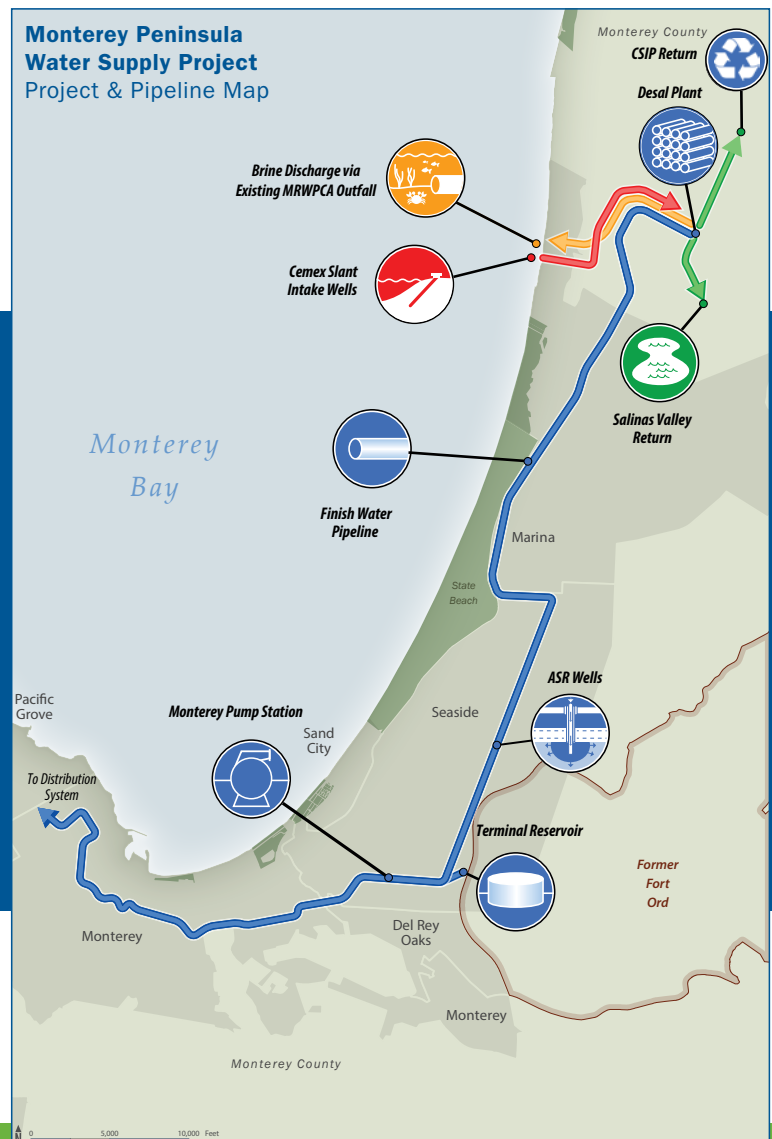
Access Rd  
 Cemex Plant Access Rd  
 Lapis Rd  
 MRWMD Landfill/MRWPCA WWTP Access Rd  
 Neponset Rd

#### PACIFIC GROVE

Sinex Ave

#### SEASIDE

Fremont St  
 General Jim Moore Blvd  
 Hilby Ave  
 Lightfighter Dr



## Video Updates

The latest test well update video is available on California American Water's YouTube channel. Feel free to visit this channel for this and other project updates:  
[www.youtube.com/caamwater](http://www.youtube.com/caamwater)

## About the Project

**The Monterey Peninsula is facing a severe water supply problem.** That's because the State Water Resources Control Board (SWRCB) 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% 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 (ASR)**
- ✓ **Groundwater Replenishment (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 produce a smaller environmental footprint than a larger desalination plant. Secondly, this strategy will build in redundancy that allows 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. Depending on the availability of water from the GWR project, the desalination plant will be sized at either 9,750 acre-feet per year (afy) or 6,250 afy. One acre-foot is equal to one acre filled with a foot of water, which is typically more than enough water to support three families of four on the Monterey Peninsula for a year.

California American Water purchased a 46-acre parcel of land located off of Charles Benson Road in Marina as the site for the proposed desalination plant. California American Water has also secured access to and the ability to purchase permanent easements for locations to host its slant intake wells.

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 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 our customers.

### 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.





### Pure Water Monterey: A Groundwater Replenishment Project

The proposed Pure Water Monterey project, a partnership between the Monterey Regional Water Pollution Control Agency 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.



### Budget: Major Portions of the Project

**Subsurface Intake System and Supply Return Facilities:** \$51M (15% spent to date)

**Desalination Plant:** \$95M (8% spent to date)

**Pipeline Facilities:** \$131M (6% spent to date)

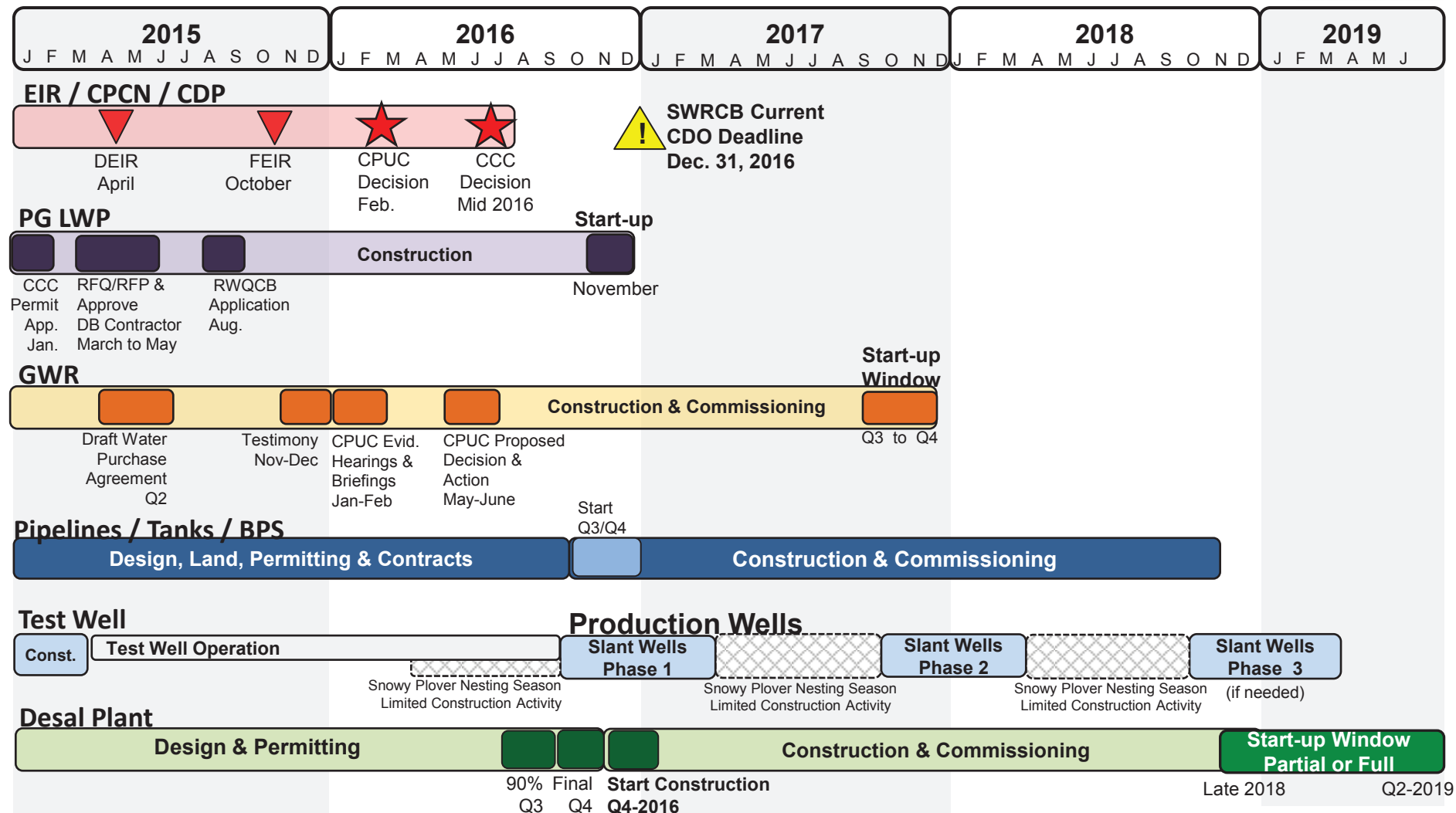
**Pre-Construction Cost\*:** \$8M (100% spent to date)

*NOTE: These figures are based on a 6.4 MGD desalination facility. Pre-construction costs are included in the \$277M project total. Further breakdown of the above components will occur after the CPUC issues a Certificate of Public Convenience and Necessity permit for the MPWSP.*

*\* These figures include financing and some contingency costs and therefore differ from the capital costs listed in the settlement.*

## Timeline

The **desalination plant** is expected to be completed in 2019. Below is a timeline chart depicting the major components of the project and their expected delivery dates.



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

Updated January 26, 2015