

**MEETING NOTICE AND AGENDA**  
***TECHNICAL ADVISORY COMMITTEE***  
***OF THE***  
***SEASIDE BASIN WATER MASTER***

**DATE: Wednesday, January 9, 2013**

**MEETING TIME: 1:30 p.m.**

**Monterey Regional Water Pollution Control Agency Offices  
5 Harris Court, Building D (Ryan Ranch)  
Monterey, CA 93940**

*If you wish to participate in the meeting from a remote location, please call in on the Watermaster Conference Line by dialing (877)810-9415. Use the Access Code of 4560043. Please note that if no telephone attendees have joined the meeting by 10 minutes after its start, the conference call will be ended.*

**OFFICERS**

**Chairperson: Eric Sabolsice, California American Water Company**

**Vice-Chairperson: Rob Johnson, MCWRA**

**MEMBERS**

California American Water Company	City of Del Rey Oaks	City of Monterey
City of Sand City	City of Seaside	Coastal Subarea Landowners
Laguna Seca Property Owners	Monterey County Water Resources Agency	
Monterey Peninsula Water Management District		

<u>Agenda Item</u>	<u>Page No.</u>
1. Public Comments	
2. Administrative Matters:	
A. Approve Minutes from November 14, 2012 Meeting	2
3. Update on Request from California American Water to Retire and Destroy Certain Wells in the Seaside Basin (Bob Jaques)	8
4. Presentation on Initial Results of Revising the Protective Water Levels for the Basin (HydroMetrics)	9
5. Informational Items on the Cal Am Monterey Peninsula Water Supply Project (Bob Jaques)	10
A. Notice of Preparation of an EIR for the Project	
B. Executive Summary from the “Draft Evaluation of Seawater Desalination Projects” Recently Prepared for the Monterey Peninsula Regional Water Authority	
6. Schedule (Bob Jaques)	39
7. Other Business	44
8. Set Next Meeting Date:	
9. The next regular meeting will be held on Wednesday February 13, 2013 at 1:30 p.m. at the MRWPCA Board Room	

**SEASIDE BASIN WATER MASTER  
TECHNICAL ADVISORY COMMITTEE**

**\*\*\* AGENDA TRANSMITTAL FORM \*\*\***

<b>MEETING DATE:</b>	January 9, 2013
<b>AGENDA ITEM:</b>	2.A
<b>AGENDA TITLE:</b>	Approve Minutes from November 14, 2012
<b>PREPARED BY:</b>	Robert Jaques, Technical Program Manager
<b>SUMMARY:</b>	<p>Draft Minutes from this meeting were emailed to all TAC members. Any changes requested by TAC members have been included in the attached version.</p>
<b>ATTACHMENTS:</b>	Minutes from this meeting
<b>RECOMMENDED ACTION:</b>	Approve the minutes

**D-R-A-F-T**  
**MINUTES**

**Seaside Groundwater Basin Watermaster  
Technical Advisory Committee Meeting  
November 14, 2012**

**Attendees: TAC Members**

City of Seaside – Rick Riedl  
California American Water – Eric Sabolsice  
City of Monterey – Norm Green  
Laguna Seca Property Owners – No Representative  
MPWMD – Joe Oliver  
MCWRA – No Representative  
City of Del Rey Oaks – Leon Gomez (via phone until completion of Agenda item 8)  
City of Sand City – Steve Matarazzo  
Coastal Subarea Landowners – Paul Bruno

**Watermaster**

Technical Program Manager - Robert Jaques

**Consultants**

HydroMetrics – Georgina King (via phone)

**Others:**

Russ McGlothlin (water attorney for Seaside, via phone for Agenda item 8)

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The meeting was called to order at 1:35 p.m. after waiting for a quorum to arrive.

**1. Public Comments**

There were no public comments.

**2. Administrative Matters:**

**B. Approve Minutes from October 10, 2012 Meeting**

On a motion by Mr. Riedl, seconded by Mr. Oliver, the minutes were unanimously approved as presented, with Mr. Bruno abstaining because he had not attended that meeting.

**3. Update on Request from California American Water to Retire and Destroy Certain Wells in the Seaside Basin**

Mr. Jaques introduced this agenda item. Mr. Oliver said that he and not had any discussion on this matter with Mr. Sabolsice since the last meeting. However, Mr. Sabolsice said Cal Am concurred with the conversion process for the three wells, and is currently getting pricing on conversion vs. destruction of the wells. He recommended deferring action on this item until the next TAC meeting when that information should be available. Mr. Oliver briefly described how the process could be submitted to the Monterey County Department of Health. Mr. Riedl asked if the wells will need to be surveyed after conversion. Mr. Oliver responded that the reference points at the wells will need to be checked after the work is done to correct the previously-surveyed elevations if necessary, but that MPWMD can do this without the need for assistance by an outside surveyor.

**4. Sentinel Well Induction Logging Results for 2012**

The Mr. Jaques summarized the agenda packet materials for this item. Mr. Oliver confirmed that the induction logging data was typical of prior years.

#### **5. Discuss and Provide Input on the 2012 Seawater Intrusion Analysis Report (SIAR)**

Mr. Jaques introduced this agenda item. Ms. King briefly described how the report was prepared and reviewed the Executive Summary. The third bullet in the Executive Summary describes three wells with either increasing chloride levels or decreasing sodium to chloride ratios. Based on this, one of the recommendations is to increase the sampling frequency at SBWM-4 to quarterly, which is the frequency that PCA-West is currently being sampled. Another recommendation is to use both the old and new sampling techniques for the next sampling of PCA-West Deep to see how the results compare using the two techniques.

Ms. King Reported that the groundwater levels in the Basin are the lowest they have been in a long time, and some have dropped between 20 and 40 feet since last year. Ms. King also reported that induction logging is not normally done at the times when quarterly sampling events are conducted and is not scheduled to occur in December, 2012. Therefore, a means of doing this will need to be developed.

Ms. King also reported that some Cal Am wells did not report data from a single sample; instead the analyses were performed on separate samples taken on separate days. She said that all data needs to be acquired from a single sample in order to be able to plot the Piper diagrams. Mr. Jaques will ask Mr. Evans to send emails to Travis Peterson at Cal Am, as well as to all other parties performing sampling on wells, to ensure that all the analyses are performed on a single sample.

Mr. Sabolsice asked if more money would be needed for the additional sampling. Mr. Oliver responded that it would probably be necessary to provide additional budget, but that it will not be needed until April 2013. He will come to the TAC prior to that date with a request for the additional amount.

Mr. Sabolsice asked if the work to provide further evaluation of the Sand City Public Works Well, which is also recommended in the SIAR, had been included in the budget. Mr. Jaques responded that it had been included in one of MPWMD's already-approved RFSs.

Mr. Jaques asked Ms. King how a change in 2009 in the sampling techniques could account for the steady upward trend of chloride in some of the wells. Mr. Lear described the differences in the two sampling techniques and how this could result in different water quality in the samples. He also clarified that the technique had only been changed on PCA-West Deep, and not on SBWM-4. Mr. Lear said that prior data shows ups and downs in the data, so this may just be another short-term trend.

Mr. Jaques and Mr. Sabolsice asked how long such a trend would need to persist before it would be considered to represent seawater intrusion. Ms. King responded that once any levels reach any of the SIRP trigger levels, the SIRP-recommended actions would need to be implemented.

Mr. Riedl asked if the Piper diagram for the Sand City well was troubling. Ms. King responded no, it simply shows differences from other wells in the Basin.

Mr. Riedl noted that in Recommendation No. 6 the word "to" should be changed to "by". Ms. King will make that correction.

Mr. Riedl asked if seawater intrusion could be coming from the Salinas Basin direction. Ms. King said that the Camp Huffman monitoring well had been installed, in part, to detect seawater intrusion coming from that direction. In the interest of time Mr. Sabolsice requested that TAC members contact Ms. King directly off-line to discuss any other questions they had about the SIAR unless there were glaring errors that needed to be discussed and corrected at today's meeting.

On a motion by Mr. Oliver, seconded by Mr. Riedl, the TAC unanimously approved the SIAR.

### **8. Request for Service for HydroMetrics to Model Basin Replenishment Scenarios**

[Note: In order to assist with a scheduling conflict for some of the attendees, Agenda Item No. 8 was taken out of order, immediately after Item No. 5.]

Mr. Jaques summarized the agenda packet materials for this item. Mr. Sabolsice commented that at the prior meeting there was discussion of protective water levels to determine whether or not to run the protective water level revision modeling analysis before running the replenishment scenarios.

Mr. Riedl asked Ms. King if it was costly to run the model for different time frames, e.g. twenty-five years vs. fifty years. Ms. King responded that running the model is not so costly, rather it is extracting the data, interpreting it, and reporting it which contributes to the cost.

There were questions and answers about what some of the tasks would consist of. The "Base Simulation" is the background information that needs to go into the model so it can be run out further in time. Under task 2.A all of the Standard Producers would reduce to their NSY levels by 2021 (via the 10 percent reductions), and the Alternative Producers would continue pumping at their allocated amounts. The question was raised as to whether under Task 2.B wouldn't it be better to revise the protective water levels first, and then to run the replenishment scenarios? Mr. Jaques responded that this could be done but that it would add to the cost.

Mr. McGlothlin expressed concerns about the time impacts of adding that work, noting that a recommendation on the replenishment rate needs to be provided to the Public Utilities Commission by early spring. Mr. Sabolsice reported that the Ad Hoc Committee had met yesterday and now plans to recommend to the Board that Cal Am do a 25 year replenishment program with replenishment at 700 acre feet per year. Mr. McGlothlin noted that this will have to go to Judge Randall for approval. He went on to say that if a more aggressive replenishment program is subsequently found to be necessary to reach protective water levels, then the Judge could direct a higher replenishment rate. Hence, he recommended performing Tasks 2.B and 3.B, and also estimating the rate of advance of the seawater intrusion front. Mr. Oliver said that the current protective water levels are believed to be conservative, so using them would provide a conservative analysis.

Mr. Bruno asked how long it would take to perform the protective water levels analysis. Ms. King responded that a rough estimate would be two weeks, but the elapsed time could be approximately one month. There was much discussion about whether or not to do the protective water level evaluation first. Ms. King said that one approach would be to do the scenarios first, and then do the protective water levels analysis later, as it would be easy to adjust the protective water level values in the scenarios.

Mr. Riedl asked if a ten-year analysis should also be performed. Mr. Jaques said that this could be done, but that again it would add to the time and cost of performing the work. Ms. King said it may not be feasible to reach protective water levels in a ten-year period, even if all pumping were completely stopped.

Mr. McGlothlin expressed the opinion that it would be very unlikely for the Judge to accept a 50 year replenishment period to restore protective water levels. Mr. Sabolsice noted that there was no agreed-to replenishment scenario schedule in the Memorandum of Agreement, which the judge had previously approved, and questioned why then the Judge could now require a specific and more aggressive schedule. Mr. McGlothlin responded that he felt the Judge could want to see an aggressive plan, once the Monterey Peninsula Water Supply Project is finalized.

Mr. Bruno asked Ms. King if there was anything that could be taken out of the scope of work to reduce the cost. Ms. King said it would depend on what the Watermaster wants to learn from the modeling.

Mr. Sabolsice then recommended performing Tasks 1 and 3.A, and refining the protective water levels. Mr. Oliver suggested updating the protective water levels first, and then performing the other work.

Mr. McGlothlin recommended performing task 3.B, rather than 3.A, so the Judge will know what it will take to reach protective water levels, and what Cal Am's contribution toward that would be at their 700 acre foot per year proposed replenishment rate.

Mr. Lear recommended performing Tasks 1, 2.B, and 3.B, and also updating the protective water levels.

Ms. King noted that for Task 3.B it may even be necessary to bring in outside water as well as cutting pumping back in order to reach protective water levels. Mr. Sabolsice responded that this would not be realistic, since the Alternative Producers don't have to cut back under the Decision. Mr. McGlothlin said that once Cal Am cuts back to its NSY share and repays its overpumping, if protective water levels still are not being reached, the Watermaster could charge all Basin users to pay to obtain outside water for replenishment purposes.

Mr. McGlothlin went on to say that if the cost of a replenishment project is too high, then the replenishment project may not be "feasible" and other approaches such as barrier wells could be considered. Under all scenarios, all Alternative Producers would continue pumping at their currently allowed levels.

Mr. Jaques suggested performing Task 3.B rather than 3.A.

Mr. Sabolsice made a motion to perform Tasks 1, 3 .A, and 3.B, and to revise the protective water levels. During discussion Mr. Lear said that for Task 1 it will only be necessary to extend the model out for 25 five years, not the previously expected 50 years, and therefore there should be some cost savings. Mr. Oliver noted that Tasks 4 and 5 should also be capable of being reduced in cost for the same reason. Mr. Bruno seconded the motion and it was passed with all voting in favor except Mr. Riedl who voted no.

Mr. Jaques said he would obtain a revised scope of work and cost proposal from HydroMetrics and would send it to the TAC for review and editing prior to sending it to the Board for approval.

## **6. Discuss and Provide Input on the Preliminary Draft Watermaster 2012 Annual Report**

Mr. Matarazzo asked that an explanation be added in the first paragraph of Section B. to explain why the injection rate under the ASR program in water your 2012 was so low, noting that he believed it was due to it being a very dry weather year. Mr. Sabolsice also commented that the amount that was injected was low due to diversion limitations caused by the amount of bypass flows necessary to sustain river flows.

Mr. Oliver had some questions about the amount of carryover water credits for Granite Rock as noted in Section B. At Mr. Jaques' request he agreed that he would discuss this directly with Ms. Dadiw who prepares that portion of the Annual Report, and either he or she would provide any necessary edits to Mr. Jaques for inclusion in the Annual Report.

Mr. Bruno asked if the issue of the Watermaster seeking Court approval to temporarily suspend the 10% pumping reductions had been raised in the Annual Report, and Mr. Jaques responded that it was included in the final paragraph of Section J.

On a motion by Mr. Matarazzo, seconded by Mr. Oliver, the TAC unanimously approved the Preliminary Draft Annual Report with the revisions as noted above.

**7. Informational Items on the Cal Am Monterey Peninsula Water Supply Project (Bob Jaques)**

**C. Notice of Preparation of an EIR for the Project**

**D. Executive Summary from the “Draft Evaluation of Seawater Desalination Projects”  
Recently Prepared for the Monterey Peninsula Regional Water Authority**

Mr. Sabolsice requested that in the interests of time this topic be continued over to the next TAC meeting.

**9. Schedules (Bob Jaques)**

**A. For remainder of 2012**

**B. For 2013**

Mr. Jaques reported there were no significant scheduling changes since the last TAC meeting, and there was no other discussion on this item.

**10. Other Business**

There was no other business discussed.

**11. Set Next Meeting Date:**

Since all of the work planned for the TAC in FY 2012 had been completed, the TAC cancelled its December 2012 meeting and will have its next meeting on Wednesday January 9, 2013.

The meeting adjourned at 3:40 p.m.

**SEASIDE BASIN WATER MASTER  
TECHNICAL ADVISORY COMMITTEE**

**\* \* \* AGENDA TRANSMITTAL FORM \* \* \***

<b>MEETING DATE:</b>	January 9, 2013
<b>AGENDA ITEM:</b>	3
<b>AGENDA TITLE:</b>	Update on Request from California American Water to Retire and Destroy Certain Wells in the Seaside Basin
<b>PREPARED BY:</b>	Robert Jaques, Technical Program Manager
<b>SUMMARY:</b>	
<p>At the TAC's October 10, 2012 meeting there was unanimous agreement to recommend to the Board that (1) Cal Am be asked to convert the Hilby, Military, and Luxton wells from production to monitoring wells on the understanding that conversion will be less costly than destruction, and (2) that destruction of the Darwin well can proceed because data from that well is not critical.</p> <p>At the October 10<sup>th</sup> meeting Mr. Oliver offered to provide Mr. Sabolsice with a proposed retrofitting procedure to convert these wells from production to monitoring wells. They also said they would discuss which of these parties would be able to perform the monitoring work, once the wells are converted to monitoring wells. At the TAC's November 14 meeting Mr. Sabolsice requested that this matter be carried over to today's meeting, so he could complete and report on Cal Am's findings regarding the costs of retrofitting vs. destruction.</p> <p>This item is on today's agenda to receive an oral update from MPWMD and Cal Am as to whether the proposed retrofitting procedure is acceptable to Cal Am and which party will perform the monitoring work, so the above-stated recommendations can be forwarded to the Board.</p>	
<b>ATTACHMENTS:</b>	None
<b>RECOMMENDED ACTION:</b>	Confirm direction from TAC at its October 10, 2012 meeting to make the above-stated recommendations to the Board

**SEASIDE BASIN WATER MASTER  
TECHNICAL ADVISORY COMMITTEE  
\* \* \* AGENDA TRANSMITTAL FORM \* \* \***

<b>MEETING DATE:</b>	January 9, 2013
<b>AGENDA ITEM:</b>	4
<b>AGENDA TITLE:</b>	Presentation on Initial Results of Revising the Protective Water Levels for the Basin
<b>PREPARED BY:</b>	Robert Jaques, Technical Program Manager
<b>SUMMARY:</b>	<p>HydroMetrics is under contract to develop revised Protective Water Levels as part of the scope of work for the modeling work they are doing to assess the impacts of CAW's proposed Basin replenishment proposal. They anticipate completing the Protective Water Levels portion of their contract in time to present their findings at today's meeting.</p> <p>HydroMetrics may or may not attend the TAC meeting in person to make their presentation. If they do not attend in person, they will participate via the telephone conference line. In either case graphical materials will be presented at the meeting so HydroMetrics can explain their findings and respond to questions from TAC members.</p>
<b>ATTACHMENTS:</b>	None
<b>RECOMMENDED ACTION:</b>	Provide input to HydroMetrics on this work as appropriate

**SEASIDE BASIN WATER MASTER  
TECHNICAL ADVISORY COMMITTEE**

**\*\*\* AGENDA TRANSMITTAL FORM \*\*\***

<b>MEETING DATE:</b>	January 9, 2013
<b>AGENDA ITEM:</b>	5
<b>AGENDA TITLE:</b>	Notice of Preparation of EIR for the Cal Am Monterey Peninsula Water Supply Project
<b>PREPARED BY:</b>	Robert Jaques, Technical Program Manager
<b>SUMMARY:</b>	<p>Attached are two items pertaining to Cal Am’s Monterey Peninsula Water Supply Project:</p> <ol style="list-style-type: none"> <li>1. The California PUC recently issued the attached Notice of Preparation (NOP) of an EIR for the Cal Am Monterey Peninsula Water Supply Project. The November 9, 2012 deadline for comments has already passed. The Monterey Peninsula Regional Water Authority and the MPWMD submitted the attached comment letters on the NOP. They describe issues pertaining to replenishment of the Seaside Basin.</li> <li>2. The Monterey Peninsula Regional Water Authority recently had a report prepared by its consultants titled “Draft Evaluation of Seawater Desalination Projects.” The full report is about 60 pages long, but the Executive Summary is attached.</li> </ol> <p>This agenda item is intended to keep TAC members abreast of progress toward implementation of this Project, and to invite TAC input on any comments the TAC feels it should provide to the Watermaster Board, if any, on either of these documents.</p> <p>Cal Am will be holding two Public Participation Hearings pertaining to this project on Wednesday January 9, 2013 (the date of today’s TAC meeting) in the Monterey City Council Chambers. One will be at 2:00 p.m. and one at 7:00 p.m.</p>
<b>ATTACHMENTS:</b>	<ol style="list-style-type: none"> <li>1. Notice of Preparation issued by the PUC and Comment Letters from the MPRWA and MPWMD</li> <li>2. Executive Summary from the “Draft Evaluation of Seawater Desalination Projects”</li> </ol>
<b>RECOMMENDED ACTION:</b>	Provide input to the Technical Program Manager regarding any comments the TAC may wish to provide to the Watermaster Board, if any, on any of these documents

**PUBLIC UTILITIES COMMISSION**505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298

## **NOTICE OF PREPARATION**

# **Environmental Impact Report for the CalAm Monterey Peninsula Water Supply Project**

### **Introduction**

In accordance with the provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines, the California Public Utilities Commission (CPUC), as CEQA Lead Agency, is preparing an Environmental Impact Report (EIR) for the California American Water Company's (CalAm) proposed Monterey Peninsula Water Supply Project (MPWSP or proposed project). The MPWSP is comprised of various facilities and improvements, including: a seawater intake system; a 9-million-gallons-per-day (mgd) desalination plant; desalinated water storage and conveyance facilities; and expanded Aquifer Storage and Recovery (ASR) facilities. If the Groundwater Replenishment Project proposed by the Monterey Regional Water Pollution Control Agency (MRWPCA) is timely approved and implemented, CalAm's proposed desalination plant would be sized at 5.4 mgd. This document serves as the Notice of Preparation (NOP) for the EIR and solicits relevant comments on the scope of environmental issues as well as alternatives and mitigation measures that should be explored in the Draft EIR. The 30-day public scoping period begins on October 10, 2012 and closes at 5pm on November 9, 2012. This NOP provides background information on prior CalAm planning efforts to meet the water supply needs of the Monterey Peninsula, and describes the proposed project, its location, and anticipated environmental effects.

### **Background**

In 2004, CalAm filed Application A.04-09-019 seeking a Certificate of Public Convenience and Necessity from the CPUC for the Coastal Water Project. The Coastal Water Project (CWP) was intended to replace existing Carmel River water supplies for the CalAm Monterey District service area that are constrained by legal decisions (see discussion under the heading, Project Purpose, for more information regarding the legal decisions). In general, the previously proposed CWP involved the production of desalinated water supplies, increased yield from the Seaside Groundwater Basin ASR system, and additional storage and conveyance systems to move the replacement supplies to the existing CalAm distribution system. The CWP proposed project (also referred to as the Moss Landing Project) was sized to meet existing water demand and did not include supplemental supplies to accommodate growth. The CWP was previously proposed to use the existing intakes at the Moss Landing Power Plant to draw source water for a new 10-mgd desalination plant at Moss Landing, construct conveyance and storage facilities, and facility improvements to the existing

Seaside Groundwater Basin ASR system.<sup>1</sup> On January 30, 2009, the CPUC published a Draft EIR analyzing the environmental impacts of the previous CWP, as well as the environmental impacts of two project alternatives—the North Marina Project<sup>2</sup> and the Regional Project.<sup>3</sup> The CPUC published the Coastal Water Project Final EIR (SCH No. 2006101004) in October 2009 and certified the EIR in December 2009 (Decision D.09-12-017). A year later, in Decision D.10-12-016, the CPUC approved implementation of the Regional Project alternative.

Subsequent to approval of the Regional Project, CalAm withdrew its support for the Regional Project in January 2012.<sup>4</sup> As a result, in April 2012, CalAm submitted Application A.12-04-019 to the CPUC for the Monterey Peninsula Water Supply Project (MPWSP). The MPWSP is intended to secure replacement water supplies for the Monterey District associated with legal decisions affecting existing supplies from both the Carmel River and the Seaside Groundwater Basin (see discussion under the heading, Project Purpose, for more information). The MPWSP includes many of the same elements previously analyzed in the CWP EIR; however, key components, including the seawater intake system and desalination plant, have been relocated and/or modified under the current proposal.

Pursuant to CEQA Guidelines Section 15162, the CPUC has determined that preparation of a Subsequent Environmental Impact Report is the appropriate level of CEQA review for the MPWSP.<sup>5</sup> Although the MPWSP EIR will qualify as a “Subsequent EIR” under CEQA, there are

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- <sup>1</sup> The existing Seaside Groundwater Basin ASR system includes several injection/extraction wells, and storage and conveyance facilities to store Carmel River water supplies during the wet season in the groundwater basin, and recover the banked water during the dry season for consumptive use.
  - <sup>2</sup> The North Marina Project alternative included most of the same facilities as the previously proposed CWP and, like the previously proposed CWP, would only provide replacement supplies to meet existing demand. The key differences between this alternative and the previously proposed CWP were that the slant wells and desalination plant would be constructed at different locations (Marina State Beach and North Marina, respectively), and the desalination plant would have a slightly greater production capacity (11 mgd versus 10 mgd).
  - <sup>3</sup> The Regional Project alternative was intended to integrate several water supply sources to meet both existing and future water demand in the CalAm service area. The Regional Project would have been implemented jointly by CalAm and Marina Coast Water District (MCWD). The Regional Project was to be implemented in phases and included vertical seawater intake wells on coastal dunes located south of the Salinas River and north of Reservation Road; a 10-mgd desalination plant in North Marina (Armstrong Ranch); product water storage and conveyance facilities; and expansions to the existing Seaside Groundwater Basin ASR system. This alternative would also develop supplemental supplies from the Salinas River by expanding an existing diversion facility and treatment plant in North Marina; expand the Castroville Seawater Intrusion Project (CSIP) by constructing additional storage and conveyance facilities; and expand the Seaside Groundwater Basin Replenishment Project by providing advanced water treatment for recycled water supplies generated at the MRWPCA Regional Wastewater Treatment Plant for injection into the groundwater basin.
  - <sup>4</sup> The CPUC subsequently closed the CWP proceeding in Decision D.12-07-008 (July 12, 2012).
  - <sup>5</sup> Per CEQA Section 21166 a Subsequent EIR would be required if: (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR, was certified as complete was adopted, shows any of the following: (a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration; (b) Significant effects previously examined will be substantially more severe than shown in the previous EIR; (c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or (d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

no special procedural requirements that apply to a Subsequent EIR; therefore, for simplicity we will simply call this new document an EIR. The MPWSP EIR will provide a comprehensive description and evaluation of all proposed components (including the new proposed elements and previously analyzed components) as the “whole of the action”. The MPWSP EIR may evaluate alternatives not previously considered in the CWP EIR. The CWP EIR will not in itself be incorporated by reference into the MPWSP EIR. However, the MPWSP EIR will utilize relevant data that was developed for the CWP EIR, and update the data and prior analyses as appropriate to address the effects of the current proposal. Environmental review of the MPWSP will have no effect on the certified CWP EIR or related approvals.

While it is not yet known whether the MPWSP would have additional or more severe impacts than the alternatives analyzed in the previous CWP EIR or whether new feasible alternatives or mitigation measures are available, the changes to the CWP EIR would not be so minor as to qualify for a supplemental EIR under CEQA Guidelines 15163. Therefore, the CPUC has determined that a Subsequent EIR is the most appropriate CEQA documents to evaluate the MPWSP. To assist in funding the MPWSP, CalAm is applying for a loan under the Clean Water State Revolving Fund (CWSRF) administered by the State Water Resources Control Board (SWRCB). For this reason, the MPWSP EIR will be prepared in compliance with the SWRCB’s CWSRF Guidelines and “CEQA-Plus” requirements. If it is determined through the scoping process that additional federal review is required, CPUC will coordinate with the appropriate agency to comply with the National Environmental Protection Act (NEPA).

Documents or files related to the MPWSP are available for review at the CPUC administrative offices in San Francisco, by appointment, during normal business hours. This information can also be obtained by visiting the CPUC website (<http://www.cpuc.ca.gov/PUC/energy/Environment/Current+Projects/esa/mpwsp/index.html>).

## CPUC Process

The CPUC is a constitutionally created state agency charged with the regulation of investor-owned public utilities within California. Consistent with its broad scope of authority, the CPUC regulates the construction and expansion of water lines, plants, and systems by private water service providers pursuant to Certificates of Public Convenience and Necessity (CPCN) (Public Utilities Code Section 1001) and authorizes water service providers to charge their customers “just and reasonable” rates for the provision of water services (Public Utilities Code Sections 451 and 454). The project proponent, CalAm, is a public utility under the CPUC’s jurisdiction and has applied to the CPUC for a CPCN under Public Utilities Code Section 1001 to build, own, and operate all elements of the MPWSP, and also for permission to recover present and future costs for the project through short-term rate increases. The CPUC administrative law judge will review the Final EIR and prepare a proposed decision for consideration by the CPUC regarding certification of the MPWSP EIR and approval of the MPWSP. In addition to the environmental impacts addressed during the CEQA process, the CPCN process will consider any other issues that have been established in the formal record, including but not limited to economic issues, social impacts, and the need for the project. During this process, the CPUC will also take into account testimony and

briefs from parties who have formally intervened in Proceeding A.12-04-019,<sup>6</sup> as well as formal records of all project-related hearings held by the administrative law judge.

## Project Purpose

The primary purpose of the MPWSP is to replace existing water supplies that have been constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources. SWRCB Order 95-10 requires CalAm to reduce surface water diversions from the Carmel River in excess of its legal entitlement of 3,376 acre-feet per year (afy), and SWRCB Order 2009-0060 (“Cease and Desist Order”) requires CalAm to develop replacement supplies for the Monterey District service area by December 2016. In 2006, the Monterey County Superior Court adjudicated the Seaside Groundwater Basin, effectively reducing CalAm’s yield from the Seaside Groundwater Basin from approximately 4,000 afy to 1,474 afy. A secondary purpose of the MPWSP is to provide adequate supplies for CalAm to meet its duty to serve customers in its Monterey District, as required by Public Utilities Code Section 451.

## Proposed Project

The proposed MPWSP would be comprised of the following facilities:<sup>7</sup>

- Seawater intake system consisting of eight 750-foot-long subsurface slant wells extending offshore into the Monterey Bay, and source water conveyance pipelines
- Desalination plant and appurtenant facilities, including source water receiving tanks; pretreatment, reverse osmosis, and post-treatment systems; chemical feed and storage facilities; brine storage and discharge facilities; and associated non-process facilities
- Desalinated water conveyance facilities, including pipelines, pump stations, clearwells, and a terminal reservoir
- Improvements to the existing Seaside Groundwater Basin ASR system, including two additional injection/extraction wells, a pump station, a product water pipeline, a pump-to-waste pipeline, and pump-to-waste treatment

The proposed MPWSP would include a 9-mgd desalination plant and facility improvements to the existing Seaside Groundwater Basin ASR system to provide replacement water supplies to meet existing demand for the approximately 40,000 customers in CalAm’s Monterey District

<sup>6</sup> Proceeding No. A.12-04-019, *Application of California-American Water Company (U210W) for Approval of the Monterey Peninsula Water Supply Project and Authorization to Recover All Present and Future Costs in Rates* (Filed April 23, 2012).

<sup>7</sup> Several facility components of the proposed MPWSP are similar or identical to facilities evaluated in the CWP EIR, including the product water storage and conveyance facilities and improvements to the existing ASR system. The primary difference between the desalination facilities proposed under the MPWSP and those described under the previously proposed CWP and CWP project alternatives are the site locations for the seawater intake system and desalination plant. The Regional Project alternative that was approved by the CPUC was envisioned as a joint project between CalAm, Monterey County Water Resources Agency and Marina Coast Water District (MCWD); at this time it is anticipated that the facilities and improvements proposed under the current MPWSP proposal would be owned and operated entirely by CalAm.

service area.<sup>8</sup> See **Figure 1** for an overview of MPWSP area. As an alternative to the 9-mgd desalination plant, CalAm’s application also includes a 5.4-mgd desalination plant coupled with a water purchase agreement for 3,500 afy of product water from the MRWPCA’s proposed Groundwater Replenishment Project. For purposes of the environmental analysis, this alternative is discussed below under the heading Alternatives to the Project.

The subsurface slant wells would extend offshore into the Monterey Bay and draw seawater from beneath the ocean floor for use as source water for the proposed desalination plant. Approximately 20 to 22 mgd of source water would be needed to produce 9 mgd of desalinated product water. The preferred site for the subsurface slant wells is a 376-acre coastal property located north of the city of Marina and immediately west of the CEMEX active mining area. New pipelines would convey the seawater (or “source water”) from the slant wells to the MPWSP desalination plant.

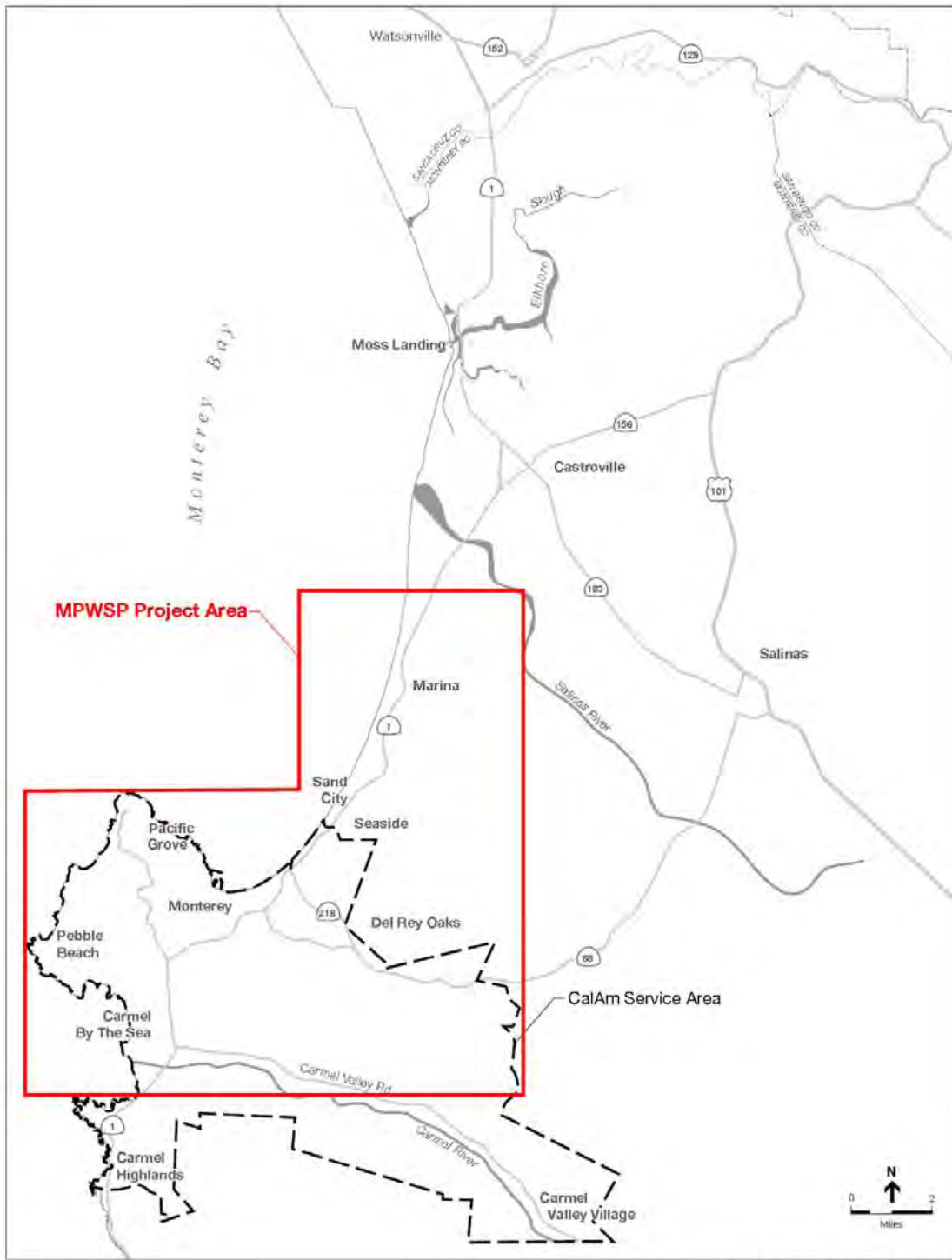
The MPWSP desalination plant and appurtenant facilities would be located on a 46-acre vacant parcel near Charles Benson Road, northwest of the Monterey Regional Water Pollution Control Agency’s (MRWPCA) Regional Wastewater Treatment Plant and the Monterey Regional Environmental Park. Facilities proposed at the MPWSP desalination plant include pretreatment, reverse osmosis, and post-treatment systems; chemical feed and storage facilities; a brine storage basin; and an administrative building. Brine produced during the desalination process would be conveyed to an existing MRWPCA ocean outfall and discharged to the Monterey Bay. Approximately 9,006 afy of potable water supplies would be produced by the proposed desalination facilities.

Desalinated product water would be conveyed south via a series of proposed pipelines to existing CalAm water infrastructure and customers in the Monterey Peninsula. Up to 28 miles of conveyance pipelines and water mains would be constructed under the MPWSP. In addition, if it is determined that the MPWSP needs to return water to the Salinas Valley Groundwater Basin, water could be conveyed southeast via a new pipeline to the existing Castroville Seawater Intrusion Project (CSIP) pond at the MRWPCA Regional Wastewater Treatment Plant for subsequent distribution to agricultural users in the Salinas Valley.

The primary function of the two additional ASR wells and the proposed improvements to the conveyance system is to allow desalinated water to be injected into the Seaside Groundwater Basin for subsequent distribution to customers. These improvements would also provide redundant injection capacity and improve the long-term reliability and efficiency of the ASR system for injecting Carmel River water into the Seaside Groundwater Basin. Improving the efficiency of the ASR system to inject Carmel River water into the Seaside Groundwater Basin when there is significant rainfall (wet and extremely wet years) increases the long-term annual yield from the ASR system to 1,920 afy.

A preliminary project facilities map is provided in **Figure 2**. Construction of the MPWSP is anticipated to occur over approximately three years.

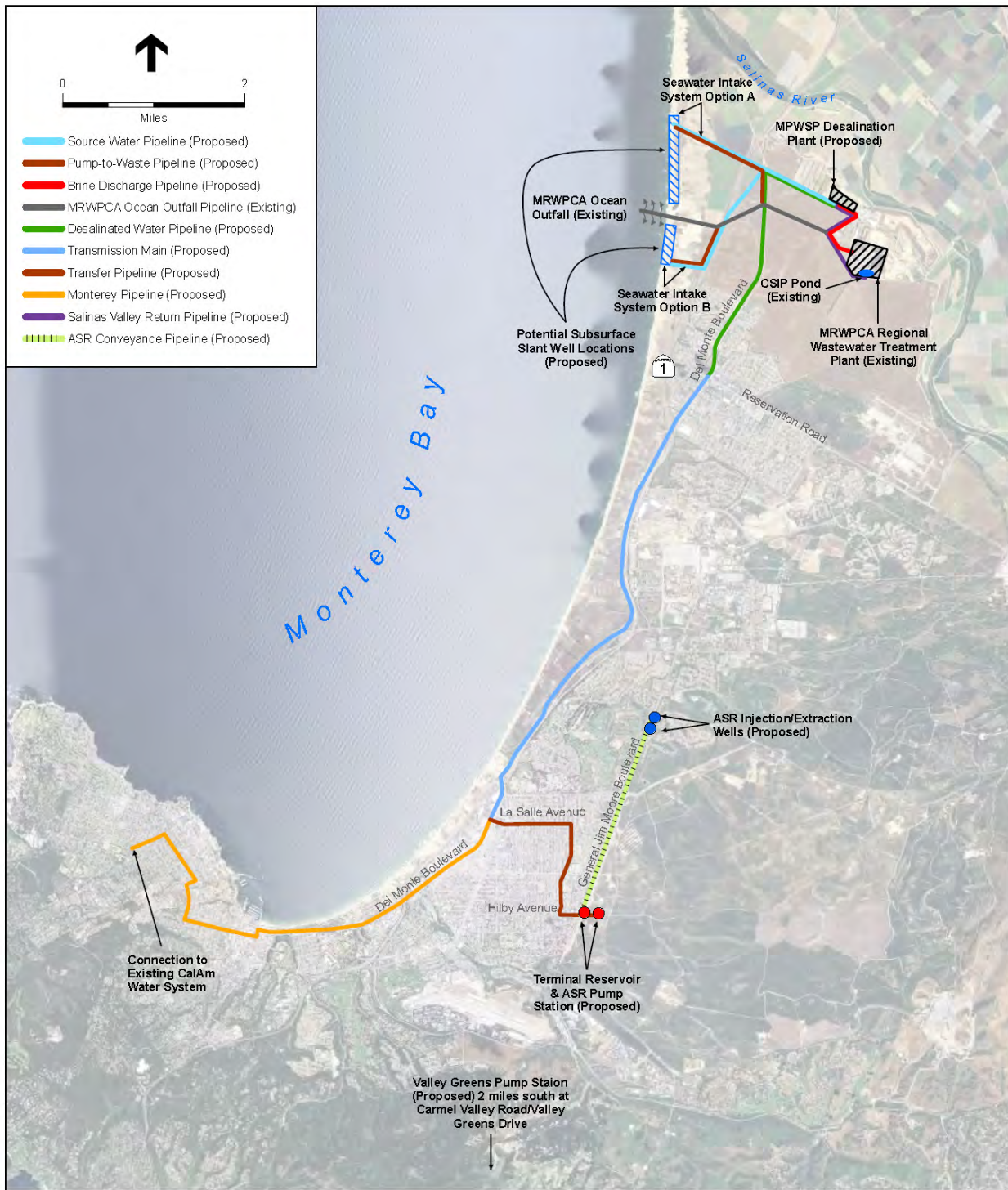
<sup>8</sup> CalAm’s Monterey District service area encompasses most of the Monterey Peninsula, including the cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside, and the unincorporated areas of Carmel Highlands, Carmel Valley, Pebble Beach, and the Del Monte Forest.



SOURCE: ESA, 2012

Monterey Peninsula Water Supply Project . 205335.01

**Figure 1**  
Project Location Map



SOURCE: ESA, 2012

Monterey Peninsula Water Supply Project . 205335.01

**Figure 2**  
Preliminary Project Facilities Map

## Issues to be Addressed in the EIR

This NOP is not accompanied by an Initial Study that screens out environmental topics; the MPWSP EIR will include an analysis for all topics identified in Appendix G of the CEQA Guidelines. The MPWSP EIR will address potential impacts associated with project construction, operation, and maintenance activities. The analysis will include, but will not be limited to, the following issues of potential environmental impact:

- **Surface Water Hydrology and Water Quality** – Construction and operation of the MPWSP could increase soil erosion and adversely affect water quality in receiving waterbodies. Project operations would generate brine, maintenance and cleaning solutions, and other effluents that would be discharged to the Monterey Bay, stormwater system, and sanitary sewer. The MPWSP EIR will evaluate impacts to surface water quality as a result of project construction and operations; changes to existing drainage patterns resulting in increased erosion or runoff; potential impacts related to the capacity of the existing MRWPCA ocean outfall; and potential adverse effects of brine discharges on offshore water quality.
- **Groundwater Resources** – Updated groundwater modeling will be used to evaluate potential impacts to groundwater levels and groundwater quality associated with slant well operations, including any effects on the seawater/freshwater interface. Water rights issues will be addressed as needed to evaluate project feasibility and project effects on groundwater.
- **Marine and Terrestrial Biological Resources** – The EIR will evaluate project impacts on terrestrial special-status animal and plant species, sensitive habitats, mature native trees, and migratory birds associated with facility siting and project-related construction activities. Particular attention will be given to the coastal dune habitat in the vicinity of the proposed subsurface slant wells. Potential impacts on marine resources to be evaluated include salinity changes at the MRWPCA ocean outfall from brine discharges and any related effects on benthic and pelagic organisms and environments. The EIR will also evaluate any potential conflicts with applicable plans, policies, and plans related to the protection of marine and terrestrial biological resources.
- **Air Quality and Greenhouse Gases** – The EIR will analyze construction-related and operational emissions of criteria air pollutants. Emissions estimates will be evaluated in accordance with all applicable federal, state, and regional ambient air quality standards. Potential human health risks at nearby sensitive receptors from emissions of diesel particulate matter and toxic air contaminants during project construction and operations will be addressed. The EIR will also estimate greenhouse gas (GHG) emissions associated with project construction and operations, and compare these to applicable plans and policies related to reducing GHGs.
- **Mineral and Energy Resources** – The EIR will evaluate potential impacts to mineral resources associated with facility siting. The MPWSP's energy requirements, particularly the energy needs for desalination, will be evaluated to reflect the proposed plant capacity, specifications, and operations.
- **Geology and Soils** – The EIR will review site-specific seismic, geologic, and soil conditions and evaluate project-related impacts. The analysis will address the potential for project construction activities to result in increased soil erosion or loss of topsoil, as well as potential slope instability issues associated with facility siting and construction. Particular attention will be given to potential increases in coastal erosion rates resulting from project

implementation, as well as damage to the slant wells and other facilities in the coastal zone resulting from natural erosion.

- **Hazards and Hazardous Materials** – The EIR will summarize documented soil and groundwater contamination cases within and around the project area, and evaluate the potential for hazardous materials to be encountered during construction. Inadvertent releases of hazardous construction chemicals, and contaminated soil or groundwater into the environment during construction will be addressed. The analysis will also consider the proper handling, storage, and use of hazardous chemicals that would be used during operations.
- **Noise** – The EIR will evaluate construction-related noise increases and associated effects on ambient noise levels, applicable noise standards, and the potential for indirect impacts to nearby land uses.
- **Transportation and Traffic** – Project construction activities would generate construction trucks and vehicles, resulting in a temporary increase in traffic volumes along local and regional roadways. The installation of pipelines along or adjacent to road right-of-ways could result in temporary land closures and traffic delays. Impacts to vehicular traffic, traffic safety hazards, public transportation, and other alternative means of transportation will be evaluated. Traffic increases associated with project operations will also be addressed.
- **Cultural Resources** – The EIR will evaluate potential impacts on historic, archaeological, and paleontological resources, and human remains. It is anticipated that any potential impacts to cultural resources would be limited to project construction and/or facility siting.
- **Land Use** – The EIR will evaluate potential conflicts with established land uses as a result of facility siting and during project construction. Potential conflicts with applicable plans and policies will also be evaluated. Particular attention will be given to consistency with the Coastal Plan.
- **Agricultural Resources** – Agricultural land uses are present within and around the project area. The EIR also evaluate potential impacts to designated farmland and Williamson Act contracts.
- **Utilities and Public Services** – The EIR will evaluate potential conflicts with existing utility lines during project construction, including potential service interruption. Particular attention will be paid to “high-priority” utilities that could pose a risk to workers in the event of an accident during construction. Potential impacts related to landfill capacity associated with the disposal of spoils and debris generated during project construction will be described. Project consistency with federal, state, and local waste diversion goals will also be considered.
- **Aesthetic Resources** – Project facilities would be sited along the coastal zone and Highway 1, a designated scenic highway. The EIR will evaluate visual impacts related to the new/proposed facilities.
- **Cumulative Impacts** – The environmental effects of the MPWSP, in combination with the effects of past, present, and future foreseeable cumulative projects in the vicinity, could result in significant cumulative impacts. Potential cumulative projects include the future expansion of the Salinas Valley Water Project, a desalination plant for the Marina Coast Water District/Fort Ord area, and the Groundwater Replenishment Project (if groundwater replenishment is not made part of the proposed project or an alternative). The EIR will evaluate the project’s contribution to any identified cumulative impacts.

The MPWSP EIR will describe water supply and demand in the CalAm service area and the relationship of the proposed project (including facility sizing and capacities) to such supply and demand. The potential for implementation of the MPWSP to result in growth-inducing effects will be evaluated.

To comply with the CEQA-Plus requirements under the CWSRF Guidelines, the EIR will include information to support federal agency consultations under Section 106 of the National Historic Preservation Act, Section 7 of the Federal Endangered Species Act, the Federal Clean Air Act General Conformity Rule,<sup>9</sup> and any other applicable federal consultations. If it is determined through the scoping process that additional federal review is required, CPUC will coordinate with the appropriate federal agency to comply with NEPA.

Where feasible, mitigation measures will be proposed to avoid or reduce any identified environmental impacts attributable to the project.

Comments received during the EIR scoping period will be considered during preparation of the MPWSP EIR. Public agencies and interested organizations and persons will have an opportunity to comment on the Draft EIR after it is published and circulated for public review.

## Scoping and Draft EIR Schedule

During this NOP review period, the CPUC is soliciting comments on the scope of environmental issues as well as reasonable alternatives and mitigation measures that should be explored in the Draft EIR.<sup>10</sup> Written scoping comments may be submitted by hand, mailed, faxed, or sent by email during the NOP review period, which closes at 5:00 p.m. on November 9, 2012. Please include a name, address, and telephone number of a contact person to receive future correspondence on this matter. Please send your comments to:

Andrew Barnsdale  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108  
Fax: 415.896.0332  
Or email to: [MPWSP-EIR@esassoc.com](mailto:MPWSP-EIR@esassoc.com)

## Scoping Meetings

CEQA Statute Section 21083.9 mandates that a scoping meeting be held for projects of statewide, regional or area-wide significance. Given the high level of interest in and the importance of this proposed project to the Monterey County region and to ensure that the public and regulatory

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<sup>9</sup> The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. As of March 30, 2012, the North Central Coast Air Basin (NCCAB) meets all National Ambient Air Quality Standards and is not subject to a maintenance plan with conformity obligations. Therefore, the MPWSP EIR will describe why the General Conformity Rule would not apply to the MPWSP.

<sup>10</sup> Publication of the Draft EIR is scheduled for summer 2013.

agencies have an opportunity to ask questions and submit comments on the scope of the EIR, a series of scoping meetings will be held during the NOP review period. The scoping meetings will start with a brief presentation providing an overview of the proposed project and the project alternatives identified to date. Subsequent to the presentation, interested parties will be provided an opportunity to interact with technical staff. Participants are encouraged to submit written comments, and comment forms will be supplied at the scoping meetings. Written comments may also be submitted anytime during the NOP scoping period to the mailing address, fax number, or email address listed above. The locations and dates of the scoping meetings are listed below:

<b>October 24, 2012</b>	<b>October 25, 2012</b>	<b>October 25, 2012</b>
6:30 p.m. to 8:30 p.m.	1:30 p.m. to 3:30 p.m.	6:30 p.m. to 8:30 p.m.
Rancho Canada Golf Club	Oldemeyer Center	Oldemeyer Center
4860 Carmel Valley Road	Blackhorse Room	Laguna Grande Hall
Carmel, CA 93923	986 Hilby Avenue	986 Hilby Avenue
	Seaside, CA 93955	Seaside, CA 93955

## Preliminary List of Alternatives to the Project

In accordance with CEQA Guidelines Section 15126.6, the EIR will describe a reasonable range of potentially feasible alternatives to the MPWSP, or to the location of the project, that would achieve most of the basic objectives of the project while avoiding or substantially lessening any of the significant effects of the project, and will also evaluate the comparative merits of the alternatives. Alternatives to the proposed MPWSP are briefly introduced below. The alternatives set forth below comprise a preliminary list of potentially feasible alternatives. This list will be refined, and may be expanded or contracted, as warranted based upon comments received and data gathered as part of the EIR preparation process on such topics as feasibility (as well as economic, environmental, legal and social factors), ability to avoid significant effects of the project, and ability to meet the basic objectives of the project.

### 5.4-mgd Desalination Plant with Groundwater Replenishment

As an alternative to the proposed 9-mgd desalination plant, CalAm would implement a 5.4-mgd desalination plant and enter into a water purchase agreement with the Monterey Peninsula Water Management District (MPWMD) to purchase up to 3,500 afy of product water from the Groundwater Replenishment Project. CalAm has entered into a Memorandum of Understanding with the MRWPCA and Monterey Peninsula Water Management District to collaborate on development of the Groundwater Replenishment Project. The MRWPCA currently owns and operates two plants that treat wastewater influent from the Monterey Peninsula and Salinas Valley service area: the Regional Wastewater Treatment Plant treats community wastewater for discharge to the ocean; also, in the mid-1990s, the MRWPCA constructed and now operates a tertiary treatment plant known as the Salinas Valley Reclamation Project, which treats water for agricultural irrigation that is distributed via the Castroville Seawater Intrusion Project.<sup>11</sup>

<sup>11</sup> The Salinas Valley Reclamation Project and the Castroville Seawater Intrusion Project are projects being operated in partnership with the Monterey County Water Resources Agency and growers in the Salinas Valley.

The Groundwater Replenishment Project would include replenishment of the Seaside Groundwater Basin with wastewater treated at a proposed advanced water treatment plant to be located at the Regional Treatment Plant. The Groundwater Replenishment Project would convey the treated water into the Seaside Basin for dilution and storage. Replenishment could occur at either inland or coastal locations and could include vadose zone wells and/or injection wells. Vadose zone wells would be used for recharge of the unconfined Paso Robles Aquifer, and injection wells would directly replenish the confined Santa Margarita Aquifer. The Groundwater Replenishment Project could be operated during the winter months and during other non-peak months. Extraction from the Seaside Groundwater Basin can occur later, at any time of the year.

## DeepWater Desal Alternative

DeepWater Desal LLC is proposing the DeepWater Desal Alternative, a 25-mgd seawater reverse osmosis desalination facility that would serve Santa Cruz, San Benito, and Monterey Counties. The desalination facility would be constructed at Capurro Ranch on a leased 8.14-acre property located on Highway 1 near Moss Landing. This site is immediately north of the Moss Landing harbor in Santa Cruz County, and approximately 1 mile from the proposed seawater intake to be located at the Sandholdt pier, which would be rebuilt under this alternative.<sup>12</sup> The intake and brine discharge pipes would be anchored to the Sandholdt pier. Approximately 50 million gallons of raw seawater per day would be drawn via a passive<sup>13</sup> open-water intake at a depth of about 100 feet through an existing pipeline and easement<sup>14</sup> located on the edge of the Monterey Submarine Canyon. The desalination system would use some existing facilities at the Moss Landing Power Plant. Approximately 25 mgd of brine discharge would be diluted in the Moss Landing Power Plant's cooling water discharge and returned to the ocean. The desalination system would include pretreatment facilities and onsite storage tanks and would utilize an electrical power-source mix. The DeepWater Desal Alternative could qualify for tax-free municipal bond financing. DeepWater Desal LLC anticipates that municipal agencies within the Monterey Bay area would form a joint powers authority to assume ownership of the DeepWater Desal Alternative.<sup>15</sup> No details are available at this time regarding the infrastructure needed to convey product water to the Monterey Peninsula or other service areas.

## People's Moss Landing Water Desalination Project (People's Project) Alternative

The People's Project would be a 10-mgd desalination facility located at the Moss Landing Green Commercial Park, adjacent to the Moss Landing Power Plant on the former National Refractories & Minerals Corporation site. The proposed 200-acre site is currently zoned for light and heavy industrial use, and approximately 25 acres would be designated for the desalination plant. The People's Project would consist of the following major components: screened, passive open-water

<sup>12</sup> Construction of the DeepWater Desal Alternative would include the reconstruction of the Sandholdt Pier on its historical site.

<sup>13</sup> "Passive intake" means that the maximal velocity of seawater being drawn in through the "wedge-wire" screen will never exceed 1 foot per second.

<sup>14</sup> DeepWater Desal LLC intends to lease this pipeline easement from Dynegy.

<sup>15</sup> DeepWater Desal LLC, "Our Location" and "Our Approach." Available online at <http://deepwaterdesal.com/>. Accessed August 2012. Updated 2011.

intake (existing, located at the former National Refractories and Minerals Plant site); outfall pipeline (existing); intake pump station (existing); pretreatment media filtration system; 10-mgd seawater desalination system; 45-mgd onsite product water storage tanks; post-treatment facilities; product water pump station; solids handling system; electrical and solar power supply and energy recovery system; and approximately 13 miles of transmission and/or distribution pipeline to convey product water to the Monterey Peninsula. The transmission pipeline would be constructed in paved and unpaved areas and would require crossings at Mojo Cojo Slough, Tembladero Slough, and the Salinas River. The City of Pacific Grove has agreed to serve as the lead public agency for The People's Moss Landing Water Desalination Project.<sup>16</sup>

## Conservation Alternative

As an alternative to the proposed project, CalAm would implement water reduction efforts and other conservation measures to reduce demand on the existing water supply. The Monterey Peninsula Water Management District currently works with CalAm to provide education and encourage water conservation in an effort to protect water resources in the community. These conservation efforts include: conservation billing rates, limited watering schedule, free water audits, free water-saving devices, rebates on high-efficiency appliances, rebates for low water landscaping, and turf removal. This alternative, which would further expand conservation programs, could set stricter conservation requirements for residential and commercial customers. Under this alternative, CalAm would reduce system water loss via leakage control zones, pressure control, acoustic monitoring, transmission main testing, and main replacement programs. CalAm would use tiered rates to reduce water use. CalAm would also work with customers to promote water-wise landscaping and turf replacement, graywater use, plumbing retrofits, and other best management practices. It is yet to be determined if the Conservation Alternative would be a project alternative, or if the Conservation Alternative, implemented in conjunction with desalination, would enable the proposed MPWSP desalination plant to be reduced in size.

## Locational Alternatives

The MPWSP EIR will also consider locational alternatives to the MPWSP preferred project, including alternative desalination plant locations and sizes (capacity); alternate pipeline alignments; and alternate intake well locations and configurations (i.e. open water intake; vertical wells; Ranney collector wells; etc.).<sup>17</sup>

<sup>16</sup> The People's Moss Landing Water Desal Project, "The Project." Available online at <http://www.thepeopleswater.com/theproject.html>. Accessed August 2012. Updated March 2012.

<sup>17</sup> A Ranney well is a radial arrangement of screens that form a large infiltration gallery with a single central withdrawal point used to extract water from an aquifer with direct connection (caisson constructed in the sand) to surface water.

## MONTEREY PENINSULA REGIONAL WATER AUTHORITY

**Directors:**  
Chuck Della Sala, President  
Felix Bachofner, Vice President  
Carmelita Garcia, Secretary  
Jerry Edelen, Treasurer  
Jason Burnett  
David Pendergrass



**Executive Director:**  
Fred Meurer (Interim)

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November 8, 2012

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

RE: CPUC Application 12-04-019  
Subj: Notice of Preparation for Environmental Impact Report

Dear Mr. Barnsdale:

This letter sets forth the comments of the Monterey Peninsula Regional Water Authority ("Authority") concerning the California Public Utilities Commission's ("CPUC") Notice of Preparation of an Environmental Impact Report ("EIR") for the California American Water Company's ("Cal-Am") proposed Monterey Peninsula Water Supply Project. The Authority respectfully requests the EIR address the following principal comments:

1. The project alternatives should be evaluated with the same level of detail that the EIR evaluates the proposed project (i.e., a "project level" analysis).
2. The production capacity of the desalination facility, identified for review in the EIR, should be sufficient to both replace water supplies that Cal-Am will lose from the Carmel River and the Seaside Groundwater Basin and to provide water for Cal-Am to meet its replenishment obligations to the Seaside Basin, the quantity and timing of which is presently being determined.
3. The capacity of the project pipelines and other project components that cannot be expanded at a later date (i.e., those that are not modular), identified for review in the EIR, should be sufficient to accommodate potentially necessary upsizing of the project in the future.
4. The CPUC should confer with federal agencies that may have permitting responsibility over the project to determine whether compliance with the National Environmental Policy Act ("NEPA") will be required so that the EIR can be developed as a joint EIR/EIS to satisfy NEPA's requirements, if necessary.

Further detail concerning these requests is set forth below.

### **I. Detailed Analysis of Project Alternatives**

There is considerable uncertainty pertaining to the feasibility and timing of the proposed project. Uncertainties include the technical viability of the proposed slant wells for source water, water rights associated with the Salinas Valley Groundwater Basin, access to ocean outfall capacity, and project financing, among other matters.

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It is also not presently clear that the proposed project is the most cost-effective in comparison to other potentially feasible alternatives, including the DeepWater Desal Project (DeepWater Project) and People's Moss Landing Water Desalination Project (People's Project).<sup>1</sup> These issues will hopefully be resolved during the pendency of the subject application. It is possible that one of the project alternatives will become the preferred project for approval by the CPUC within the Certificate of Public Convenience and Necessity. To avoid the delay that would result should the draft EIR need to be revised and recirculated to address the chosen alternative, the Authority respectfully requests that the proposed alternatives be evaluated with the same level of detail that the EIR evaluates the Proposed Project. The alternatives that should receive such "project-level" analysis include the DeepWater Project, the People's Project, Cal-Am's proposed 5.4 MGD desal project developed in conjunction with the Monterey Regional Water Pollution Control Agency's proposed Groundwater Replenishment Project, and the potential alternatives for critical project components that may be necessary to address contingencies (e.g., alternative desalination plant locations and intake well locations and configurations).<sup>2</sup>

The authority is mindful that, as a general rule, project alternatives need not be evaluated in the same level of detail as the proposed project (CEQA Guidelines § 15126.6(d)), and that more expansive evaluation of the project alternatives will require greater expenditures. However, the Authority believes that the additional effort is justified because of the tight timeframe facing the Monterey Peninsula to complete the development of a replacement water supply project ahead of the 2017 deadline established by the State Water Resources Control Board. The Authority is comprised of the Mayors of all six peninsula cities and represent communities that in aggregate represent the majority of the affected Cal-Am ratepayers. In this role, the Authority is in an ideal position to weigh the tradeoff between the increased expenditures on one hand and the increased risk of project delay on the other hand. The Authority strongly believes the increased expenditure is justified because it will reduce the risk of much more costly project delay. The Authority therefore urges the CPUC to undertake the proposed expanded review of the project alternatives to ensure that the most appropriate project can be developed ahead of this deadline.

## II. Desal Project Sizing

The necessary sizing of the desalination project is not yet settled and several considerations warrant caution in establishing the size of the project to be evaluated in the EIR. First, while Cal-Am is legally obligated to replenish the Seaside Basin, it is not yet clear what rate of annual replenishment will be required of Cal-Am. Cal-Am recently proposed a replenishment rate of 350 acre-feet per year for roughly 50 years. It is likely that Cal-Am will be required to satisfy its replenishment obligation in a greater amount per year over a shorter period. We understand that the Seaside Basin Watermaster may soon commission basin modeling to assist in determining a recommended replenishment rate. Also, the ultimate decision will likely be made by the Monterey Superior Court that oversees the Watermaster and the Seaside Basin adjudication judgment. The requisite replenishment rate will likely be determined within three to six months. At this time, we urge the CPUC to proceed conservatively, with an assumption that the replenishment rate will likely be substantially greater than 350 acre-feet a year or, alternatively, to evaluate several possible replenishment rates in the EIR so that the eventual rate chosen will be bounded by rates considered in the EIR.

Second, Cal-Am's modeling of demand projections in comparison to the proposed project sizing of 10,306 acre-feet of new supply (15,250 of total supply), as presented at the workshop held on July 26, 2012, demonstrates a thin quantity of contingency water. Should Cal-Am's demand projections turn out to be understated (e.g., because of higher than anticipated water demands or other unknown factors<sup>3</sup>), additional replacement water

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<sup>1</sup> The Authority has not yet determined whether it will support Cal-Am's proposed Project or one of two proposed alternative desalination projects. The Authority has retained the consulting engineering firm, Separation Processes, Inc. ("SPI"), to review the proposed project in comparison to the alternative projects to determine which project is most likely to be completed in a timely and cost-effective manner. SPI has just issued its final report to the Authority earlier this week. Once the Authority has time to review the report, it will then determine which of the three projects it intends to support within the CPUC proceeding.

<sup>2</sup> The DeepWater Project and the People's Project continue to develop. Therefore, the Authority urges the CPUC to collaborate with the proponents of these projects to identify and include all new data, descriptions and reports for these projects.

<sup>3</sup> As one example of a potential unknown factor that could affect Cal-Am's water demand, should the Seaside Basin experience seawater intrusion, the Watermaster's seawater intrusion plan could require Cal-Am to

supplies will be needed. The Authority believes that it is inappropriate to place the community's future welfare in potential jeopardy because of an improperly undersized project. We therefore recommend that the size of the desalination project, that will be evaluated in the EIR, be sufficient to provide adequate water to satisfy the yet-to-be-determined Seaside Basin replenishment rate and a reasonable buffer to meet potential contingencies.

The Authority also notes that the City of Pacific Grove has proposed a suite of three potential small projects that may reduce a portion of Cal-Am's water demands in the future. By recognizing the coupling of the desalination project and the small projects as an alternative to the desalination project alone, the EIR should consider how these projects may factor into the sizing or operations of the desalination project, as well as other potential environmental impacts.

### **III. Sizing of Pipelines and Non-Modular Project Components**

It is particularly important that the pipelines for source and product water, and certain other components of the project that are not susceptible to modular addition in the future, be sized conservatively to allow for future project expansion if necessary.<sup>4</sup> While certain aspects of the project can be modularized to address future contingencies, several other components, such as pipelines, cannot be modularized. For this reason, the Authority urges the CPUC to be particularly conservative in choosing a capacity of these components to be evaluated in the EIR, which will accommodate modular upsizing of the project in the future if needed.

The Authority recognizes that pipeline flow capacity is affected by pipeline diameter and pressure, and that higher flows may be achieved by increasing pressure, which requires additional horsepower, and thus, energy consumption. The optimal pipeline size, that will be evaluated in the EIR, should accommodate a conservative estimate of potential demand, including Seaside Basin replenishment and other demand considerations. Once this demand projection is established, the pipeline sizing determination must balance the higher capital costs of larger diameter pipelines with the energy costs to operate the system, with the goal of achieving the most cost-effective pipeline sizing for ratepayers over the long-term.

### **IV. Conferencing with Federal Agencies; Potential NEPA Compliance**

There is a significant possibility that one or more federal agencies may need to issue a permit for the proposed project or one of the alternatives if an alternative project is chosen as the preferred project. For example, a permit may be required from the Office of National Marine Sanctuaries for the intake of source water or discharge of brine (depending upon the chosen project and its configuration). The Authority believes the CPUC should collaborate with all relevant federal agencies to determine the scope of permits that would be required for the proposed project as well as the alternative projects, and to consider developing the EIR as a joint EIR/EIS to comply with the provisions of NEPA if NEPA compliance is required.

Thank you for your consideration of the Authority's comments as set forth above. Should you desire, I will gladly make myself and others from the Authority available to further discuss these comments. The Authority is grateful to the CPUC for its efforts to assist the Monterey Peninsula in achieving the most appropriate replacement water supply project in a timely manner.

Sincerely,



Chuck Della Sala  
President, Monterey Peninsula Regional Water Authority

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substantially reduce its extraction of groundwater below its share of the presently assumed safe yield (Cal-Am's share is assumed to be 1,474 AFY). This reduction would need to be offset from greater replacement water.

<sup>4</sup> A larger project may be necessary if, for example, one of the other water supply projects does not produce the anticipated quantity of water.



November 8, 2012

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

Subject: Monterey Peninsula Water Supply Project (Application A.12-04-019)

Dear Mr. Barnsdale:

The Monterey Peninsula Water Management District (MPWMD or District) appreciates the opportunity to comment on the Notice of Preparation (NOP) of a subsequent Environmental Impact Report (EIR) for the Monterey Peninsula Water Supply Project (MPWSP) proposed by California American Water Company (Cal-Am). The District is responsible for the integrated management of water resources within its boundaries, which includes most of the service area of Cal-Am's main water distribution system in the Monterey Peninsula area. The District's comments are presented below.

In addition, the District is a Responsible Agency under CEQA. Should the California Public Utilities Commission (CPUC or Commission) certify an EIR and issue a Certificate of Public Convenience and Necessity (CPCN), the District will consider an amendment to Cal-Am's existing permit from MPWMD for its water distribution system. In this capacity, the District will rely on the EIR certified by the CPUC in order to issue an amendment.

**Alternatives Should be Evaluated at the "Project Level"** – While CEQA guidelines (Sec. 15126.6(d)) do not require project alternatives to be evaluated at the same level of detail as the proposed project, we believe that in this case it is warranted. The proposed DeepWater Desal project and the People's Moss Landing desalination project continue to advance their progress and have the potential to be economically competitive or superior to the Cal-Am proposal. The Groundwater Replenishment Project in conjunction with a smaller desal project continues to be the community's preferred alternative. These project alternatives should be evaluated with the same level of detail that the EIR examines the proposed project at (i.e., the "project level"). Given the timelines established by the State Water Resources Control Board's (SWRCB) cease and desist order (WRO 2009-0060 as revised by WRO 2010-0001), it is imperative that the EIR evaluate all potential projects so that the Commission's CPCN addresses the most appropriate project for the Peninsula.

**Identify and Incorporate New Data for Alternatives** – The descriptions of the project alternatives in the NOP appear out of date or do not accurately reflect the current configuration of some of the alternatives. The District urges you to directly contact the project proponents to gather new information. Proponent information is as follows:

DeepWater Desal, LLC  
Brent Constantz

www.deepwaterdesal.com  
brent@dwdesal.com

831-632-0616

Additional information is posted at the following website: <http://www.mprwa.org/mprwa/>

**Early Determination of NEPA Requirements** – It has been reported that the Monterey Bay National Marine Sanctuary believes it has regulatory authority over the proposed slant wells for desalination feed water. Whether that ultimately proves to be true, the District urges that you make an early determination if the project requires federal approvals and if so immediately structure the scope to encompass a joint EIR/EIS document.

**Groundwater Replenishment Impacts Considered** – Although the Groundwater Replenishment (GWR) project is on a path to perform a separate CEQA process, its impacts should be considered as they relate to the proposed desalination facility. That is, GWR allows for a smaller desalination facility. In so doing, several environmental benefits result: (a) reduced wastewater discharge to Monterey Bay, (b) reduced brine discharge to the Bay, (c) reduced energy consumption and carbon footprint (GWR uses 1/8<sup>th</sup> to 1/10<sup>th</sup> the energy of desalination), (d) fewer wells in the coastal dune habitat initially, and (e) fewer replacement wells going forward.

**Sizing of Project Capacity** – The District believes that project sizing should be limited to replacement of the unlawful diversions from the Carmel River and the reductions in pumping imposed by the Seaside Basin adjudication. However, consideration must also be given to replenishment of the Seaside Groundwater Basin, economic recovery, and Cal-Am delivery system reliability. Total production capacity must provide enough flexibility to satisfy all of these requirements.

The desired rate of replenishment of the Seaside Basin has not yet been determined by the Watermaster, hence the EIR should address alternative scenarios. Recently, Cal-Am proposed replenishment of 350 acre-feet per year (AFY) for 50 years, a rate which would require no additional capital investment in infrastructure. However, it is unknown where the freshwater/seawater interface actually lies, thus it is difficult to predict if pumping at the natural safe yield determined by the adjudication is, or is not, exacerbating seawater intrusion, or if the adjudication-imposed ramp-down to natural safe yield will be reached before seawater intrusion occurs. Given that water levels in the primary aquifer in the coastal areas of the basin are below sea level, it is quite possible that pumping even at reduced rates may induce seawater intrusion. If all pumping were to cease, then Cal-Am's 2021 production limit of 1,474 AFY would allow in lieu recharge (natural inflows) to replenish Cal-Am's deficit in just under twelve years. That would require an increase in water from other sources, such as the desalination plant. In lieu recharge can be augmented by injection at Aquifer Storage and Recovery (ASR) or GWR sites, but that would reduce the production from those lower-cost resources, and the current permit regime for ASR would not allow it. Therefore, the replenishment solution might be somewhere in between the 12-year and 50-year scenarios, but would likely require additional desal plant capacity and/or other capital investment.

Economic recovery concerns the resurgence of the hospitality and tourism industry as it relates to existing capacity in hotels, restaurants, and other visitor-serving facilities. The hospitality industry is a \$2 billion per year business, providing 22,000 jobs in Monterey County, most on the Peninsula. Occupancy levels for the 1998-2001 period, based on four full service properties in Monterey and one full service property in downtown Carmel, indicated a weighted average occupancy rate of 74.83%. The key months of June through October consistently achieved occupancies from 78% to a high of over 90% during those "best years" for the Peninsula. For the year 2011, occupancy was below 68%. If the economy should once again fuel an increase in occupancy rates, then non-residential water use would increase. The

“commercial” sector accounts for 27% of Cal-Am consumption. Hence, project sizing must be able to accommodate an increase in water use based on the in situ number of rooms and seats, but under an improving economic climate. This must be distinguished from water for legal lots of record or general plan build-out.

Reliability must be accommodated in the project sizing. The Cal-Am proposal already has the plant operating at a very high capacity factor in general. The plant size must have sufficient redundancy to meet outages and required maintenance, as well as satisfy peak day and peak month demand.

**Sizing of “In-Ground” Components** – A significant amount of new and upgraded conveyance facilities will be required in order to serve water to the Monterey Peninsula from proposed desalination facilities located in either Marina or Moss Landing. Installation of conveyance facilities associated with a desalination project will be a large percentage of the overall cost. The CPUC should consider sizing and construction of conveyance facilities that would not only supply a replacement level of water, but allow additional desalinated water to be delivered for future growth or unforeseen changes in the availability of Cal-Am’s existing water supplies. It should be noted that MPWMD is not advocating that the CPUC consider sizing production facilities at this time for future growth. Any decision to increase the production capability of a desalination project above what is necessary for replacement supplies should be considered as a separate decision; however, the CPUC should recognize that once replacement supply projects are complete, it is likely that additional water supply projects will be proposed that will require more conveyance capacity than what would be associated with a replacement supply level.

Retrofitting or expanding conveyance infrastructure once it is in place is one of the more expensive components in a water supply project. It is likely that the marginal cost of increasing the size of conveyance facilities for the desalination project is far less than the net present value of new facilities in the future to expand conveyance. In addition to a future growth component, it is clear that future supplies from sources within the existing Cal-Am system (i.e., Carmel River Basin and Seaside Groundwater Basin) are limited and that those sources may be subject to further restriction below the level of current legal authorized use. It is likely that future water supplies above and beyond existing replacement needs will come from sources outside of the existing Cal-Am system, such as from the proposed desalination project. Therefore, the CPUC should consider increasing the size of conveyance facilities to meet some or all of the following contingency needs:

Future Build-Out Demand. Based on input from Monterey Peninsula jurisdictions, MPWMD estimated in 2006 that 4,545 AFY in additional new water supplies in excess of replacement supplies will be necessary to meet legal lots of record and General Plan build-out estimates for the period 2006 to 2026. Once replacement supplies are constructed, it is likely that there will be demand for a new water supply to satisfy at least a portion of the estimated 20-year build-out demand.

Potential loss of Carmel River diversion rights. Cal-Am depends on Carmel River diversion rights at Los Padres Dam and Reservoir for 2,179 AFY. In 1995, Cal-Am’s diversion right at this location was reduced (due to siltation) to its current level from 3,030 AFY by SWRCB, which retains continuing jurisdiction over this diversion right. This reservoir is located in a watershed subject to unpredictable and episodically high rates of erosion. The long-term average siltation rate is 21 AFY. Recently, the National Marine Fisheries Service (NMFS) published *Public Review Draft South-Central California Coast Steelhead Recovery Plan September 2012*. That plan identifies removal of Los Padres Dam as a critical recovery action for Carmel River steelhead (see Table 10-3). Although the NMFS plan does not describe a timetable or method for removal of Los Padres Dam, if Cal-Am were required to remove this dam or substantially modify

it to pass steelhead, the license to divert the flow of the Carmel River could be reviewed by SWRCB and changed. A reduction in diversion right or change in diversion season could require Cal-Am to seek additional supplies from outside of the existing resource system in order to meet customer demand.

In March 2012, Cal-Am indicated that increasing pipeline conveyance from 8,800 AFY to 12,500 AFY would require an increase in pipeline pressure at the plant of less than 10 psi and less than 100 horsepower. However, this change translates to almost 75kW or 600,000 kWh/year at a 90% capacity factor. At energy costs of \$0.15/kWh, that is an additional \$90,000 per year in energy costs alone. More importantly, the effects from use of carbon fuels to increase conveyance should be considered.

**Groundwater Impacts** – Attachment 3 to the April 23, 2012 Direct Testimony of Richard C. Svindland is a memorandum from RBF Consulting which details proposed operations of the Cal-Am desalination facility. Tables 2 and 3 of the memorandum show monthly average flows into and out of the Seaside Groundwater Basin from the desalination facility, GWR, and ASR. To date, there has not been sufficient data presented to address the following issues:

1) Sourcewater mixing – Carmel River water diverted to ASR generally has 300 mg/L TDS (total dissolved solids) and 26 mg/L Chloride and native Seaside Basin groundwater (Santa Margarita aquifer) is generally 600 mg/L TDS and 120 mg/L Chloride. What will desalinated water and GWR water TDS and Chloride levels be and will the mixing of these sources yield adequate water quality within the basin?

2) Potential for seawater intrusion – does the hydrogeology of the basin permit operating as proposed with no impacts to seawater intrusion or changes in the production capacity of existing well owners? e.g., Will production only occur from injection sites, or will production occur from wells at different locations from injection? What are the impacts to water quality and quantity in the basin from these operational alternatives?

MPWMD believes there is a need for mixing studies, hydrogeology flow and operations modeling, and hydraulic analyses to demonstrate impacts. The EIR should address these issues.

Thank you for the opportunity to comment on the NOP. We trust that our comments and concerns will be addressed in the Draft EIR for the project.

Sincerely yours,



David J. Stoldt  
General Manager

cc: MPWMD Board of Directors  
D. Laredo

**EXECUTIVE SUMMARY**

Separation Processes Inc. (SPI) in association with Kris Helm Consulting (KHC) is providing engineering and consulting support to the Monterey Peninsula Regional Water Authority (MPWRA) to assist with the evaluation of three candidate desalination projects on the Monterey Peninsula. This report presents the results of our evaluation of the projects, targeted at replacing supplies currently extracted from the Carmel River but subject to a 1995 order from the State Water Resources Control board to secure an alternate source of supply by December, 2016.

The proposed strategy for meeting the projected annual demand within the California American Water service area of 15,250 acre-feet is a multi-pronged approach including permitted extractions from the Carmel River and Seaside Basin, an aquifer-storage and recovery system, and the existing Sand City desalination plant--totaling 6,250 acre-feet; leaving a 9,000 acre-feet gap in supply. Two alternatives are under consideration to compose this final supply—a 9,000 acre-feet production seawater desalination plant; or a 5,500 acre-feet seawater desalination plant in concert with a groundwater water replenishment project using advanced treated recycled water of 3,500 acre-feet.

This report presents the results of our evaluation of three candidate alternatives for the seawater desalination component of the overall water supply portfolio. California American Water is actively engaged with the California Public Utilities Commission to build a facility and secure the required supply. Two other development groups have proposed alternative projects for consideration—DeepWater Desal, LLC and the People’s Moss Landing Water Desal Project. The three projects were analyzed on functional, performance, economic and implementation grounds in an effort to provide a balanced evaluation for consideration by the MPRWA.

**PROJECT SUMMARIES**

The three projects are in the conceptual or preliminary stage of development and all three have as their objective to provide California American Water the seawater desal component of the required replacement water supply under State Water Resources Control Board Order No. 95-10. The DeepWater Desal group proposes to provide an expandable plant capable of serving additional regional water needs as well, outside of the California American Water service area. Brief summaries of the projects follow:

Project Name	Monterey Peninsula Water Supply Project (MPWSP)
Proponent(s)	California American Water (Cal-Am)
Location	46-acre site of vacant, disturbed land west of the MRWPCA Regional Treatment Plant (RTP).
Purpose	To supply supplemental desal component of the Monterey Peninsula regional water supply  This project is currently under consideration by the California Public Utilities Commission (CPUC).
Production Volume	5.4 mgd or 9.0 mgd



Project Name	DeepWater Desal (DWD)
Proponent(s)	DeepWater Desal, LLC, Dynegy Moss Landing Power Plant, MFJK Partnership of the Capurro Ranch, PV2 Solar, and Ecomert Technologies
Location	Capurro Ranch Property, north of /Elkhorn Slough
Purpose	Phase 1 to supply supplemental desal component of the Monterey Peninsula regional water supply Phase 2 to supply northern customers
Production Volume	Phase 1: 4.9 mgd or 9.1 mgd Phase 2: 22.0 mgd

Project Name	The People's Moss Landing Water Desal Project (PML)
Proponent(s)	DeSal America, LLC composed of Moss Landing Commercial Park, LLC; and Stanley and Patricia-Vance Lueck
Location	Moss Landing Commercial Park
Purpose	To supply supplemental desal component of the Monterey Peninsula regional water supply This project is currently proposed as alternative to the Cal-Am MPWSP.
Production Volume	4.8 mgd or 9.4 mgd

### PROJECT FUNCTION

We evaluated the function of each project in terms of project purpose, customers identified, adequacy of treatment approach, residuals handling, feed water characterization, quality of project information, and any omissions or fatal flaws in the information provided. The evaluation was conducted based on information provided in response to a 56-item questionnaire prepared by the MPRWA technical advisory committee and submitted by each proponent; along with additional information each provided in response to specific questions and interviews from SPI and KHC.

All three projects have available sites for building the required treatment facilities; and credible seawater intake and brine disposal approaches, though there are substantive differences among them. Cal-Am proposes to use a group of subsurface slant intake wells (up to eight for the maximum capacity plant alternative); DWD proposes a new screened open ocean intake installed at roughly 60-ft of depth; and PML is considering options to use either an existing seawater intake pump station drawing from the Moss Landing Harbor, or potentially a new screened open ocean intake installed coincident with an existing 51-in diameter concrete outfall pipeline owned

by the Moss Landing Commercial Park. Cal-Am has projected there may up to 3 percent of groundwater from the Salinas Valley Groundwater Basin (SVGB) entrained with their intake supply that would need to be returned (as facility product water) to the basin. For brine disposal, Cal-Am and DWD propose to blend concentrated brine from the desal plants with existing outfall flows—Cal-Am blending with the existing Monterey Peninsula Regional Water Pollution Control Agency’s wastewater plant outfall; and DWD using the existing cooling water return outfall at the Moss Landing Power Plant. Both sources have sufficient dilution and hydraulic capacities. PML proposes to use their existing 51-in diameter outfall, currently permitted to discharge magnesium-depleted seawater. There is some evidence of disrepair of the outfall in terms of pipeline integrity and condition of the existing diffusers which would need to be addressed along with the permitting of a non-shore diluted brine stream.

Cal-Am and PML propose to serve only the identified demand within the Cal-Am service area at the two plant capacity increments under consideration; while DWD envisions a higher capacity regional project, capable of producing up to 25,000 AFY. DWD has not yet secured agreements with any potential customers.

In terms of treatment approach—all three candidate teams propose to use reverse osmosis (RO) as the primary desalination technology. However, both DWD and PML propose a single pass RO system; while Cal-Am has proposed a partial double or two pass system—treating a portion of the product water from the first pass RO system with a second RO system and blending the supplies to form the final treated water. The issue relates to the quality of product water produced, more than treatment function; as either approach is considered functional.

Pre- and post-treatment approaches are similar. All incorporate granular media filtration of the incoming seawater, with PML following on with a low pressure membrane filtration system (microfiltration or ultrafiltration) to deal with the anticipated higher solids load from water extracted from Moss Landing Harbor. In the case of Cal-Am, the aquifer filtration provided by the slant wells could obviate the need for media filtration; but the potential presence of iron and manganese in the supply could just as well make them necessary—so the approach is considered conservative. In the case of DWD, the incoming seawater extracted at depth will be cold (roughly 15 °C) and warmed through a proprietary warming system at the Moss Landing Power Plant prior to transmission to the treatment plant site. All three proponents propose to use calcite beds, carbon dioxide and sodium hydroxide for re-mineralization/stabilization of the RO treated product water and chlorine disinfection.

Cal-Am and DWD will require offsite pipelines for feed, product water and brine disposal; while PML proposes to use existing intake and outfall pipelines originating on site; requiring only a product water delivery pipeline. DWD’s site location north of the Elkhorn Slough is likely to entail complex issues with crossings for all three of their large diameter pipelines (one 48-in and two 36-in).

All three proponents were cooperative with our evaluation and provided all available and requested information. The Cal-Am project through past work on other regional projects as well as ongoing procedures with the California Public Utilities Commission has produced the most detailed information on their project, followed by DWD who have prepared a fair amount of pre-design data on their proposed system along with active environmental investigations for their proposed intake. PML is at a more preliminary level of engineering and planning in comparison.

Importantly however, we have not found any fatal flaws associated with any of the candidate projects.

### PROJECT PERFORMANCE

Performance of each proposed system was gauged relative to categories of plant design capacity, targeted product water quality and disinfection strategy.

For plant capacity, we considered the proposed instantaneous design capacity of each treatment facility in comparison to the required annual production increment—either 5,500 AFY or 9,000 AFY. What we found were wide variations—with Cal-Am proposing capacities of 5.4 mgd and 9.0 mgd; DWD of 4.9 mgd and 9.1 mgd; and PML at 4.8 mgd and 9.4 mgd. We considered the level of equipment redundancy proposed by each team in the context of the amount of “online” time it would require a facility at a given rated capacity to deliver the required annual allotment. For Cal-Am, we gauged their planned design capacities adequate considering the need to return flow to the SVGB as well as meet the 5,500 AFY or 9,000 AFY into their distribution system. At capacities of 5.4 mgd and 9.0 mgd, the plant(s) would need to operate 98 percent of the time to meet production—not overly conservative but achievable given the level of equipment redundancy (including spare process units) in their proposed facility. DWD, with similar proposed levels of redundancy, would have equivalent minimum facility capacity requirements of 5.0 mgd and 8.2 mgd; somewhat lower than Cal-Am as they lack the requirement to return flow to the SVGB. PML did not provide a detailed equipment list indicating numbers of process units; so gauging proposed levels of equipment redundancy was uncertain. However, we feel the facility should have adequate reliability and conducted our evaluation on that basis—recommending equivalent capacity ratings to DWD of 5.0 mgd and 8.2 mgd.

The product quality produced by the proposed systems would differ based on the configuration of their proposed RO systems. Cal-Am’s proposed partial two-pass system could likely achieve chloride, boron, and total dissolved solids (TDS) consistent with current Carmel River supplies; but the single pass systems would not. We consider a lower salinity product supply an asset and evaluated all three projects (from an economic perspective) as having partial two-pass RO systems. The recommended product quality goal is summarized in **Table ES-1**.

**Table ES-1 - Summary of Proposed Product Water Quality**

Parameter	Units	Value
Total Dissolved Solids	mg/L	380
Chloride	mg/L	60
Boron	mg/L	0.5
pH	units	≥ 8.0
Calcium	mg/L as CaCO <sub>3</sub>	40
Alkalinity	mg/L as CaCO <sub>3</sub>	40

For disinfection, the proposed facilities must comply with the Surface Water Treatment Rule and Long-Term 2 Enhanced Surface Water Treatment Rule. Under these regulations, pathogen removal/inactivation requirements are set on a logarithmic (log) scale, with the California Department of Public Health establishing specific log removal for priority pathogens, including giardia, cryptosporidium (crypto), and virus. The levels set will be based on source water quality and other factors, and are expected to be in the range of 3-5 for giardia, 2-4 for crypto, and 4-6 for virus, based on each of the project source waters being classified as surface waters or under the influence of surface waters. We find all three projects are likely to achieve sufficient log removal credits under their proposed treatment schemes to comply.

## ECONOMICS

A primary focus of our evaluation was to provide a balanced, “apples to apples” comparison of the candidate projects from an economic perspective. We implemented this by focusing on the following principles:

- Uniformity in plant design capacity for the two non-regional approaches; equivalent capacity allocation for the proposed DWD regional project.
- Equivalency in treatment to achieve: a common RO feed water quality following pretreatment; a common treated water quality goal; and pathogen removal credits required for the applicable supply source.
- Uniformity in equipment redundancy.
- Uniformity in unit cost criteria for common items.
- Uniformity in cost factors applied to aggregated costs (e.g., contingencies; electrical and I&C costs; etc.).
- Uniformity in unit costs for chemicals and other consumables for treatment evaluations.

To implement the above, we adjusted plant capacities for the evaluation on the basis described in the Project Performance discussion, rating Cal-Am’s proposed system at design capacities of 5.4 mgd and 9.0 mgd; and the DWD and PML systems at 5.0 mgd and 8.2 mgd. In terms of treatment process, we attempted to maintain the overall proposed process design of the proponents, but did evaluate all as including a partial (40 percent) capacity second pass RO system. We also assumed N+1 redundancy on all rotating equipment and major treatment process units (e.g., filters, RO membrane trains). We employed an equivalent basis in developing our capital equipment cost estimates, relying on targeted quotes for equipment and SPIs cost information from past, similar seawater RO projects. For indirect costs, we assumed fixed factors and applied them uniformly to each project.

We implemented a similar strategy on annual operating and maintenance expenses, using common chemical unit prices along with pricing on common consumables, such as the RO process membranes. The results of our evaluation are presented in **Table ES-2**.

Table ES-2 - Summary of Evaluated Capital and Operating Cost Estimates

Cost Element	Project Proponent					
	Cal-Am		DWD		PML	
	9 kAFY	5.5 kAFY	9 kAFY	5.5 kAFY	9 kAFY	5.5 kAFY
<b>CAPITAL COSTS (in Millions 2012 Dollars)</b>						
Intake/Outfall	\$37.0	\$31.7	\$2.71	\$1.66	\$3.00	\$3.00
Pretreatment & Residuals Handling	\$10.6	\$7.94	\$11.2	\$7.94	\$20.2	\$13.6
Desalination System	\$22.3	\$15.1	\$19.4	\$13.2	\$19.9	\$14.0
Post-Treatment	\$1.48	\$0.88	\$1.48	\$0.88	\$1.66	\$1.07
Distribution	\$17.0	\$16.0	\$29.0	\$28.9	\$22.4	\$22.3
Site Structures	\$11.5	\$10.8	\$3.65	\$2.52	\$10.0	\$7.00
Indirect Costs <sup>1</sup>	\$58.0	\$50.8	\$54.5	\$47.5	\$67.9	\$62.3
Contingency Allowance (30%)	\$47.4	\$40.0	\$36.6	\$30.8	\$43.6	\$37.0
Mitigation Allowance (1%)	\$1.60	\$1.30	\$1.20	\$1.00	\$1.50	\$1.20
<b>TOTAL</b>	<b>\$207</b>	<b>\$175</b>	<b>\$160</b>	<b>\$134</b>	<b>\$190</b>	<b>\$161</b>
<b>ANNUAL O&amp;M COSTS (in Millions 2012 Dollars)</b>						
Energy	\$5.83	\$3.54	\$3.93	\$2.41	\$4.20	\$2.56
Chemicals	\$0.32	\$0.19	\$0.83	\$0.50	\$0.93	\$0.57
Expendables	\$0.69	\$0.45	\$1.02	\$0.68	\$1.09	\$0.65
Other Proponent Expenses	–	–	\$2.85	\$2.60	–	–
O&M Labor	\$2.69	\$2.36	\$2.69	\$2.36	\$2.69	\$2.36
Equipment Replacement <sup>2</sup>	\$1.50	\$1.23	\$1.01	\$0.83	\$1.16	\$0.92
<b>TOTAL</b>	<b>\$11.0</b>	<b>\$7.77</b>	<b>\$12.3</b>	<b>\$9.38</b>	<b>\$10.1</b>	<b>\$7.06</b>
<b>ANNUAL COST OF WATER (in Millions 2012 Dollars)</b>						
Capital Recovery <sup>3</sup>	\$12.0	\$10.1	\$9.24	\$7.77	\$11.0	\$9.34
Total Annual Cost	\$23.0	\$17.9	\$21.5	\$17.2	\$21.1	\$16.4
<b>Production Cost of Water (\$/AF)</b>	<b>\$2,555</b>	<b>\$3,250</b>	<b>\$2,395</b>	<b>\$3,120</b>	<b>\$2,345</b>	<b>\$2,980</b>

<sup>1</sup>Includes implementation costs at 25% ROW easement and land costs, mobilization/demobilization at 2% electrical and I&C systems at 18% engineering and startup at 15% and additional project proponent prescribed costs. All percentages applied to plant facilities costs.

<sup>2</sup>Calculated as 1.5% of plant facilities costs.

<sup>3</sup>Capital recovery factor based on an interest rate of 4.0% and term of 30 years.

Overall, the final water production costs are fairly equivalent given the overall accuracy of the estimate and degree of project development. Cal-Am’s capital cost is the highest; owing largely to its high intake system cost. PML is proposing to reuse existing intake infrastructure; while DWD has an unspecified separate business entity which will be funding its intake, outside of the assigned DWD facility budget. Cal-Am’s operating cost is also relatively high, owing in large measure to higher stipulated energy costs than either DWD or PML—roughly \$0.13/kW-hr vs. \$0.08 kW-hr.

**IMPLEMENTATION CONSIDERATIONS**

The three projects are at varying states of development in terms of the regulatory permitting process. Cal-Am is further along than either DWD or PML, though DWD has completed or is nearing completion of their initial CEQA compliance documents. Forecast project implementation schedules were identified for each project proponent, based on a select number of key environmental and permitting tasks, including:

1. A project description must be completed.
2. An Environmental Assessment must be made.
3. An EIR/EIS must be completed (CEQA/NEPA compliance).
4. Commercial Agreements must be negotiated/ Cal-Am must obtain a Certificate of Public Convenience and Necessity (CPCN), after certification of the EIR.
5. Jurisdictional Permits must be obtained for facilities impacting Waters of the U.S.
6. NPDES Permits must be amended/obtained.
7. Coastal Development Permits must be obtained.

It was further assumed that each proponent had the financial capacity to proceed with predesign preparation/procurement package development such that the project could be put out to final design and construction bid coincident with approval of the final project permits. The schedules are provided below as **Figure ES-1, Figure ES-2 and Figure ES-3.**

**Figure ES-1 - Projected Cal-Am Project Implementation Schedule**

ID	Task Name	2013					2014					2015					2016					2017				
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
1	Final EIR	[Bar]																								
2	NOD and CPCN					[Bar]																				
3	RWQCB Brine Discharge Permit					[Bar]																				
4	Coastal Development Permit					[Bar]																				
5	Test Slant Well			[Bar]																						
6	Desal Plant Preliminary Design					[Bar]																				
7	Desal Plant Design/Construction									[Bar]																
8	Desal Plant Startup																					[Bar]				



Figure ES-2 - Projected DWD Project Implementation Schedule

ID	Task Name	2013				2014				2015				2016				2017				2018			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
1	Complete EIR/EIS	[Bar]																							
2	Negotiate Commercial Agreements							[Bar]																	
3	Jurisdictional Permits									[Bar]															
4	NPDES Permit Amendment											[Bar]													
5	Coastal Development Permit													[Bar]											
6	Desal Plant Preliminary Design													[Bar]											
7	Desal Plant Design/Construction																	[Bar]							
8	Desal Plant Startup																							[Bar]	

Figure ES-3 - Projected PML Project Implementation Schedule

ID	Task Name	2013				2014				2015				2016				2017				2018				2019		
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
1	Prepare Project Description	[Bar]																										
2	Conduct Environmental Assessment							[Bar]																				
3	Complete EIR/EIS									[Bar]																		
4	Negotiate Commercial Agreements															[Bar]												
5	NPDES Permit Amendment															[Bar]												
6	Coastal Development Permit															[Bar]												
7	Desal Plant Preliminary Design															[Bar]												
8	Desal Plant Design/Construction																	[Bar]										
9	Desal Plant Startup																							[Bar]				



**SEASIDE BASIN WATER MASTER  
TECHNICAL ADVISORY COMMITTEE**

**\*\*\* AGENDA TRANSMITTAL FORM \*\*\***

<b>MEETING DATE:</b>	January 9, 2013
<b>AGENDA ITEM:</b>	7
<b>AGENDA TITLE:</b>	Schedule
<b>PREPARED BY:</b>	Robert Jaques, Technical Program Manager
<p><b>SUMMARY:</b> As a regular part of each monthly TAC meeting, I will provide the TAC with an updated Schedule of the activities being performed by the Watermaster, its consultants, and the public entity, MPWMD, which is performing certain portions of the work.</p> <p>Attached is the most recent update of the Work Schedule for FY 2013.</p>	
<b>ATTACHMENTS:</b>	Schedule of Work Activities for FY 2013
<b>RECOMMENDED ACTION:</b>	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedule

# Seaside Basin Watermaster Monitoring and Management Program 2013 Work Schedule

ID	Task Name	2013												2014									
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	<b>CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK</b>																						
2	<b>2014 Administration, Operations and Replenishment Budgets</b>																						
3	Prepare M&MP Draft Budgets (Same as Task 19)																						
4	TAC Approves M&MP Budgets (Same as Task 20)																						
5	Board Approves M&MP Budgets (Same as Task 21)																						
6	<b>Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports</b>																						
7	Watermaster Prepares Combined Quarterly Water Production, Water Level, and Water Quality Reports for 1st & 2nd Quarters (Same as Task 41)																						
8	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports for 3rd and 4th Quarters (Same as Task 42)																						
9	Watermaster Prepares Annual Water Production, Water Level, and Water Quality Report for 2013 (Same as Task 43)																						
10	<b>Replenishment Assessment Unit Costs for Water Year 2014</b>																						
11	B&F Committee Develops Replenishment Assessment Unit Cost for 2014 Water Year																						
12	If Requested, TAC Provides Assistance to B&F Committee in Development of 2014 Water Year Replenishment Assessment Unit Cost																						
13	Board Adopts and Declares 2014 Water Year Replenishment Assessment Unit Cost																						
14	<b>Replenishment Assessments for Water Year 2013</b>																						
15	Watermaster Prepares Replenishment Assessments for Water Year 2013																						
16	Watermaster Board Approves Replenishment Assessments for Water Year 2013 (At November Meeting)																						
17	Watermaster Levies Replenishment Assessment for 2013																						

# Seaside Basin Watermaster Monitoring and Management Program 2013 Work Schedule

ID	Task Name	2013												2014									
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
18	<b>Monitoring &amp; Management Program (M&amp;MP) Budgets for 2012 and 2013</b>																						
19	Preliminary Discussion of Potential Scope of Work for 2014 M&MP																						
20	Prepare Draft 2014 and 2015 M&MP O&M and Capital Budgets																						
21	TAC approves Draft 2014 and 2015 M&MP O&M and Capital Budgets																						
22	Board approves 2014 and 2015 M&MP O&M and Capital Budgets																						
23	<b>2013 Annual Report (Note: Schedule Reflects Court Approval of Later Submittal Date for Annual Report)</b>																						
24	Prepare Preliminary Draft 2013 Annual Report																						
25	TAC Provides Input on Draft 2013 Annual Report																						
26	Prepare Revised Draft 2013 Annual Report (Incorporating TAC Input)																						
27	Board Provides Input on Revised Draft 2013 Annual Report (At November Board Meeting)																						
28	Prepare Final 2013 Annual Report (Incorporating Board Input)																						
29	Watermaster Submits Final 2013 Annual Report to Judge																						
30	<b>MANAGEMENT</b>																						
31	<b>M.1 PROGRAM ADMINISTRATION (All Work Performed by Watermaster Staff)</b>																						
32	Prepare Initial Consultant Contracts for 2014																						
33	TAC Approval of Initial Consultant Contracts for 2014																						
34	Board Approval of Initial Consultant Contracts for 2014 (At November Board Meeting)																						
35	<b>IMPLEMENTATION</b>																						
36	<b>I.2.a DATABASE MANAGEMENT</b>																						

## Seaside Basin Watermaster Monitoring and Management Program 2013 Work Schedule

ID	Task Name	2013												2014																
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun							
37	<b>I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance</b>					[Bar spanning Jan to Dec]																								
38	<b>I.2.b DATA COLLECTION PROGRAM</b>					[Bar spanning Jan to Dec]																								
39	<b>I.2.b.2 Collect Monthly Water Levels (MPWMD)</b>					[Bar spanning Jan to Dec]																								
40	<b>I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)</b>					[Bar spanning Jan to Dec]																								
41	<b>I.2.b.6 Reports (from MPWMD)</b>					[Bar spanning Jan to Dec]																								
42	Watermaster Prepares Combined Quarterly Water Production, Water Level, and Water Quality Reports for 1st & 2nd Quarters																													
43	Watermaster Prepares Annual Water Production, Water Level, and Water Quality Report for 2013																													
44	<b>I.3.a ENHANCED SEASIDE BASIN GROUNDWATER MODEL</b>																													
45	<b>I.3.a.2 Develop Protective Water Levels</b>																													
46	Board Approves RFS to HydroMetrics																													
47	HydroMetrics Revises Protective Water Levels																													
48	HydroMetrics Progress Report to TAC																													
49	HydroMetrics Presents Draft Revised Protective Water Levels Report to TAC																													
50	HydroMetrics Presents Report to Board																													
51	<b>I.3.a.3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions</b>																													
52	Board Approves RFS to HydroMetrics																													
53	HydroMetrics Models Replenishment Scenarios																													
54	HydroMetrics Presents Draft Replenishment Modeling Report to TAC																													

## Seaside Basin Watermaster Monitoring and Management Program 2013 Work Schedule

ID	Task Name	2013												2014									
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
55	HydroMetrics Presents Draft Replenishment Modeling Report to Board																						
56	<b>I.3.c Refine and/or Update the BMAP</b>																						
57	<b>I.3.d Evaluate Coastal Wells for Cross-Aquifer Contamination Potential</b>																						
58	MPWMD Migrates Well Data from Newly Identified Wells into Watermaster's Database																						
59	<b>I.4.a HydroMetrics &amp; MPWMD Provide Oversight of Seawater Intrusion Detection and Tracking</b>																						
60	<b>I.4.b MPWMD Performs Focused Hydrogeologic Investigation in Vicinity of Sand City Public Works Well</b>																						
61	<b>I.4.c Annual Seawater Intrusion Analysis Report (SIAR)</b>																						
62	HydroMetrics Provides Draft SIAR to Watermaster																						
63	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)																						
64	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)																						
65	I.4.c Annual Seawater Intrusion Analysis Report (SIAR)																						
66	<b>I.4.d Complete Preparation of Seawater Intrusion Response Plan (SIRP)</b>																						
67	<b>I.4.e Refine and/or Update the SIRP</b>																						

**SEASIDE BASIN WATER MASTER  
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<b>MEETING DATE:</b>	January 9, 2013
<b>AGENDA ITEM:</b>	7
<b>AGENDA TITLE:</b>	Other Business
<b>PREPARED BY:</b>	Robert Jaques, Technical Program Manager
<b>SUMMARY:</b>	<p>The "Other Business" agenda item is intended to provide an opportunity for TAC members or others present at the meeting to discuss items not on the agenda that may be of interest to the TAC.</p>
<b>ATTACHMENTS:</b>	None
<b>RECOMMENDED ACTION:</b>	None required – information only