

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

DATE: Wednesday, June 8, 2011

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: Diana Ingersoll, City of Seaside

1st Vice-Chairperson: Eric Sabolsice, California American Water Company

2nd 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

Public Member Richard Willis

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The next regular meeting will be held on Wednesday, July 13, 2011 at 1:30 p.m. at the MRWPCA Board Room	

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 8, 2011
AGENDA ITEM:	1.A
AGENDA TITLE:	Approve Minutes from May 11, 2011
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: Draft Minutes from this meeting were emailed to all TAC members. Any changes requested by TAC members have been included in the attached version.	
ATTACHMENTS:	Minutes from this meeting
RECOMMENDED ACTION:	Approve the minutes

D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
May 11, 2011**

Attendees: TAC Members

City of Seaside – Rick Riedl
California American Water – Eric Sabolsice
City of Monterey – Norm Green
Laguna Seca Property Owners – Bob Costa
MPWMD – Joe Oliver
Public Member – Richard Willis
MCWRA – No Representative
City of Del Rey Oaks – No Representative
City of Sand City – Richard Simonitch
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques

Consultants

None

Others:

None

The meeting was called to order at 1:34 p.m.

1. Administrative Matters:

A. Approve Minutes from March 9, 2011 Meeting

On a motion by Mr. Costa, seconded by Mr. Riedl, the Minutes were unanimously approved as presented.

2. Continued Discussion of Changes to the Inputting and Management of Data in the Watermaster Database

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Costa reported that at the last Watermaster Board meeting, which he attended, Mr. Anthony of CAW appeared concerned that the agenda item regarding revisions to the Rules and Regulations of the Watermaster did not make it clear that one of the revisions would require water meter readings to be submitted. Mr. Costa reported that Mr. Anthony's concern did not appear to be that providing such data should not be done, rather than it had not been properly agendized for action by the Board.

Mr. Oliver explained that having water meter readings is helpful in resolving discrepancies in reported production quantities.

Mr. Sabolsice described CAW's water meter reading systems and procedures. He said he needed to research what CAW's water meter reading schedule is in order to see if their procedures would match

the proposed reporting schedule. It was agreed that this topic would be carried over for discussion at the June TAC meeting.

Mr. Riedl asked if entities could submit their water quality data in electronic form. Mr. Oliver said that MPWMD collects water quality data for most of the reporting entities, and receives that data from the laboratory in electronic form, but for those entities that collect their own water quality data, this suggestion could be made to see if they are interested. Also, it would be good to re-notify them that if they would like the Watermaster (via MPWMD under contract to the Watermaster) to collect their water quality and/or water level data (at a cost) they can request that. Mr. Jaques will pursue this with Mr. Evans.

With regard to the proposed reporting format for water quality data, Mr. Riedl said he did not feel that the Maximum Contaminant Level (MCL) should be provided, rather the Practical Quantification Limit (PQL) should be provided. There was consensus that this change should be made.

Mr. Oliver said he will coordinate directly with their IT consultant with regard to hosting the database on the MPWMD server.

Mr. Sabolsice said he was supportive of making the changes as presented in the agenda packet, along with the revisions discussed above.

Mr. Willis asked if the reports under the new Access database approach would include additional parameters. Mr. Oliver responded that the Access database will be configured to include additional parameters that the original database was not designed to include.

Mr. Willis suggested that a note be added in the database including saying that data which is earlier than that shown in the database is not available.

Mr. Willis recommended adding a link on the Website, if possible, to "Open Office", so people who do not have Excel software can download it free in order to be able to use the Excel files from the database.

Mr. Sabolsice recommended that legal research with regard to information that might be confidential only be undertaken if a request comes in for information that has the potential to be considered confidential data.

On the motion by Mr. Sabolsice, second by Mr. Riedl, the proposed changes in how the database is populated and managed were unanimously approved with the revisions described above.

3. Continued Discussion of Offer by Pasadera to Discuss Possible Use of Storm Water Runoff from Pasadera as a Water Source for Helping to Recharge the Seaside Basin

Mr. Jaques summarized the agenda packet materials for this item. He reported that Mr. Leonard had been out of the office for some time due to a medical issue.

Mr. Oliver reported that Byron Leonard (Dean Leonard's son) may be taking over some of the duties previously performed by Dean Leonard. Mr. Jaques will try to contact Byron Leonard to discuss these issues.

4. Progress Report on Wellhead Surveying Work

Mr. Jaques summarized the agenda packet materials on this item.

Mr. Green and Mr. Oliver briefly discussed natural earth movements that David Edson of Central Coast Surveyors will take into account in preparing his report on the well head surveying work.

Mr. Oliver said that some other basins have experienced subsidence on the order of feet to many feet.

Mr. Sabolsice said that any mapping provided along with the wellhead survey report should not show specific locations of wells, as that may be confidential information.

5. Schedule

Mr. Jaques briefly summarized some of the Schedule milestones and noted that next month's TAC meeting would include discussion with regard to the Regional Water Project and Scenario 2 groundwater modeling, as previously agreed to by the TAC.

6. Other Business

Mr. Sabolsice reported that approximately 1,000 acre feet of ASR water has been injected into the Seaside Groundwater Basin this year. Mr. Green asked if the water was treated before being injected, and Mr. Sabolsice responded that it is treated at CAW's Begonia Iron Removal Plant before it is injected. He reported that the cost for this water is less than \$1,000 per acre foot, compared to \$2,000 or more per acre foot for desalinated water.

Mr. Green urged that ways to capture and treat/reuse storm water runoff be looked into.

Mr. Oliver said that MPWMD had done some evaluations of this topic in the past. Mr. Sabolsice also said that his firm had done some work for the city of Pacific Grove on capture/reuse of storm water, but the cost was on the order of \$4,000 per acre foot which is much more costly than desalinated water. Mr. Sabolsice went on to say that conservation is a good approach to help reduce demands on both the Carmel and Seaside basins.

Mr. Riedl asked if it was feasible to pump the extraction wells more vigorously and inject water along the coast to create a freshwater mound. Mr. Oliver stated that this has been used at other aquifers in California to battle seawater intrusion but is no longer done once an alternative water source is found. Mr. Riedl asked if this method was successful for the other aquifers as an interim solution. Mr. Oliver stated he would look into it.

Mr. Simonitch reported that military installations use a lot of water.

Mr. Riedl asked if they would be possible to get an update from MRWPCA on the Groundwater Replenishment Project and the Regional Urban Water Augmentation Project. Mr. Jaques will pursue this request with MRWPCA.

Mr. Jaques asked if the TAC would like to have an item on a future TAC agenda for a discussion of ideas and approaches to help augment the Regional Water Project. It was agreed that this could potentially be done in conjunction with discussions at the next meeting with regard to the Regional Water Project and Scenario 2 groundwater modeling.

7. Set next meeting date:

The next regular meeting was set for Wednesday, June 8, 2011 at 1:30 p.m. at the MRWPCA Board Room.

The meeting adjourned at 2:50 p.m.

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

MEETING DATE:	June 8, 2011
AGENDA ITEM:	2
AGENDA TITLE:	Status Report on Implementing Changes to the Inputting and Management of Data in the Watermaster Database
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: At the May 11, 2011 TAC meeting the proposed changes to the inputting and management of data in the Watermaster Database were approved. My initial intent was to provide the TAC's recommendations for these changes to the Board for their approval at their June 1 meeting. Assuming that the Board approved, then the next step would be to develop a contract amendment with MPWMD to have them implement these changes. However, the Board cancelled its June 1, 2011 meeting due to a lack of sufficient agenda items to warrant holding a meeting. I discussed this with Dewey Evans and we were in agreement that the Board typically defers to the TAC on detailed issues such as those involved in the proposed Database changes. Consequently, he and I are both comfortable moving ahead with development of a contract with MPWMD to perform this work, which would then go to the Board, along with background information describing the changes, at the Board's July 6 meeting. An initial meeting was held with MPWMD staff to begin drafting the contract, and the completed contract is expected to be available for inclusion in the Boards July 6 Agenda packet.	
ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

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

MEETING DATE:	June 8, 2011
AGENDA ITEM:	3
AGENDA TITLE:	Status Report on Offer by Pasadera General Manager to Discuss Possible Use of Storm Water Runoff from Pasadera as a Water Source for Helping to Recharge the Seaside Basin
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: At the May 11 TAC meeting I reported that Dewey Evans had been in contact with the main office of Pasadera and had learned that Mr. Leonard had experienced a medical condition that has kept him out of his office for some period of time. This is likely why I have not received responses to my phone calls or emails to him on this matter. Joe Oliver reported that Byron Leonard, Dean Leonard's son, has taken on some of the duties previously performed by Dean. Mr. Evans said he had been in contact with Byron several times on other issues, and would contact Byron to see if he would be able to discuss the offer made by his father. I will update the TAC as I learn more about the situation.	
ATTACHMENTS:	None
RECOMMENDED ACTION:	None Required – Information Only

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

MEETING DATE:	June 8, 2011
AGENDA ITEM:	4
AGENDA TITLE:	Discussion of: A. Issues and Timing Pertaining to Groundwater Modeling of Scenario 2 – the Regional Water Supply Project B. Updating the BMAP C. Refining Protective Water Levels
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

In this year's schedule of planned activities, the TAC and/or the Watermaster has included considering whether or not to pursue any or all of the three topics listed in the Title of this Agenda Item. A brief description of each topic is provided below, and the attachments to this Agenda Item contain more details from various staff and consultant reports. Attachment 1 contains excerpts from the Agenda for, and the Minutes from, the January 12, 2011 TAC meeting at which a discussion was held regarding whether or not to move ahead with Groundwater Modeling of Scenario 2 (the impacts on the Seaside Basin of implementing the Regional Water Supply Project).

The intent of placing this item on the TAC agenda is in keeping with prior TAC decisions to revisit these issues at periodic intervals. It is also responsive to discussions at the May TAC meeting at which requests by TAC members were made for updates on some of the possible supplemental water supply projects, e.g. the RUWAP and the GWRP being proposed by MRWPCA and MCWD, as well as to examine/brainstorm other potential projects.

A. Issues and Timing Pertaining to Groundwater Modeling of Scenario 2 – the Regional Water Supply Project.

The Hydrometrics report titled "Seaside Groundwater Basin Modeling and Protective Groundwater Elevations" dated November 9, 2009 (Hydrometrics Modeling Report) describes several potential modeling scenarios. HydroMetrics RFS No. 2010-04 provided for modeling of two scenarios, one pertaining to increased pumping within the Laguna Seca Subarea (Scenario 1) and one pertaining to impacts on the SGWB of implementing the Regional Water Supply Project (Scenario 2).

A detailed description of the proposed Scope of Work for Scenario 2, taken from that RFS No. 2010-04, is contained in Attachment 4.

Modeling of Scenario No. 1 was completed in mid-2010, but a decision was made to delay the start of work on Scenario No. 2 until the Regional Water Supply Project had more fully evolved. Mr. Sabolsice and Mr. Johnson will provide an oral update on the status of progress toward implementing the Regional Water Supply Project.

B. Updating the BMAP

The BMAP notes that providing supplemental supplies on the order of 2,600 acre-feet per year (AFY), to help

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

AGENDA ITEM:

4 (Cont'd)

bring SGWB pumping down to the Natural Safe Yield of 3,000 AFY will have the effect of halting water level decline within the Seaside Groundwater Basin (SGWB), but will still leave groundwater levels in some part of the SGWB below sea level. Supplemental supplies in excess of 2,600 acre-feet will be needed for a period of years to raise groundwater levels to protective levels.

The Executive Summary from the Basin Management Action Plan is contained in Attachment 3. The BMAP recommended that a groundwater model be used to evaluate the effectiveness of each supplemental supply and its impacts on groundwater levels, and to improve and refine the estimate of the amount of supplemental water needed to increase groundwater levels to protective levels.

The BMAP recommended that water conservation be given high priority for Watermaster support, and that the following initial projects, which appeared to be the most cost-effective and most likely to be implemented, would provide the greatest benefit to the Seaside Groundwater Basin in the short-term:

1. Irrigate the Bayonet and Blackhorse Golf Courses with water from the Ord Community Water System [This is being implemented by the City of Seaside]
2. Reactivate the Marina Coast Water District Desalination Plant [This was apparently found not to be cost-effective by MCWD]
3. Provide Interties Between CAW's Main, Bishop Ranch, and Ryan Ranch Water Systems [The status of this work can be reported on by Cal Am]
4. Install new inland and coastal subarea wells in coordination with the Watermaster [This project is not currently being pursued]
5. Sand City Desalination Plant [This project has been completed and is in operation]

The BMAP also recommended selecting, evaluating and developing supplemental supplies for the SGWB as expeditiously as possible, and supporting those projects by facilitating between parties, providing data and information on the SGWB, and ensuring that Material Injury does not result from any of the proposed projects. A description of potential supplemental water supply projects, taken from work performed when preparing the Water Year 2008-2009 Replenishment Assessment Unit Cost Calculations, is contained in Attachment 2, along with some updated information on certain of these projects.

C. Refining Protective Water Levels

The Hydrometrics Modeling Report included a section pertaining to Protective Groundwater Elevations within the SGWB. The portion of the Executive Summary from that Report pertaining to Protective Water Levels is contained in Attachment 5.

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AGENDA ITEM:

4 (Cont'd)

As indicated in that Report, even with reduced pumping from the SGWB as mandated by the Court Decision, to be made possible using desalinated water produced by the Regional Water Supply Project, it will take a long time for wells in the Santa Margarita aquifer to reach protective elevations without artificial recharge.

ATTACHMENTS:

1. Excerpt from the Agenda for, and the Minutes from, the January 12, 2011 TAC Meeting
2. Description of Potential Supplemental Water Supplies
3. Executive Summary from the Basin Management Action Plan
4. Excerpt from HydroMetrics RFS No. 2010-04 pertaining to the Scope of Work for Modeling Scenario No. 2
5. Portion of the Executive Summary from the HydroMetrics Modeling Report pertaining to Protective Water Levels

**RECOMMENDED
ACTION:**

None – Information Only

Attachment 1: Excerpt from the Agenda for, and the Minutes from, the January 12, 2011 TAC Meeting

Below are excerpts from the Agenda for, and the Minutes from, the January 12, 2011 TAC meeting at which a discussion was held regarding whether or not to move ahead with Groundwater Modeling of Scenario 2 (the impacts on the Seaside Basin of implementing the Regional Water Supply Project).

Agenda Excerpt:

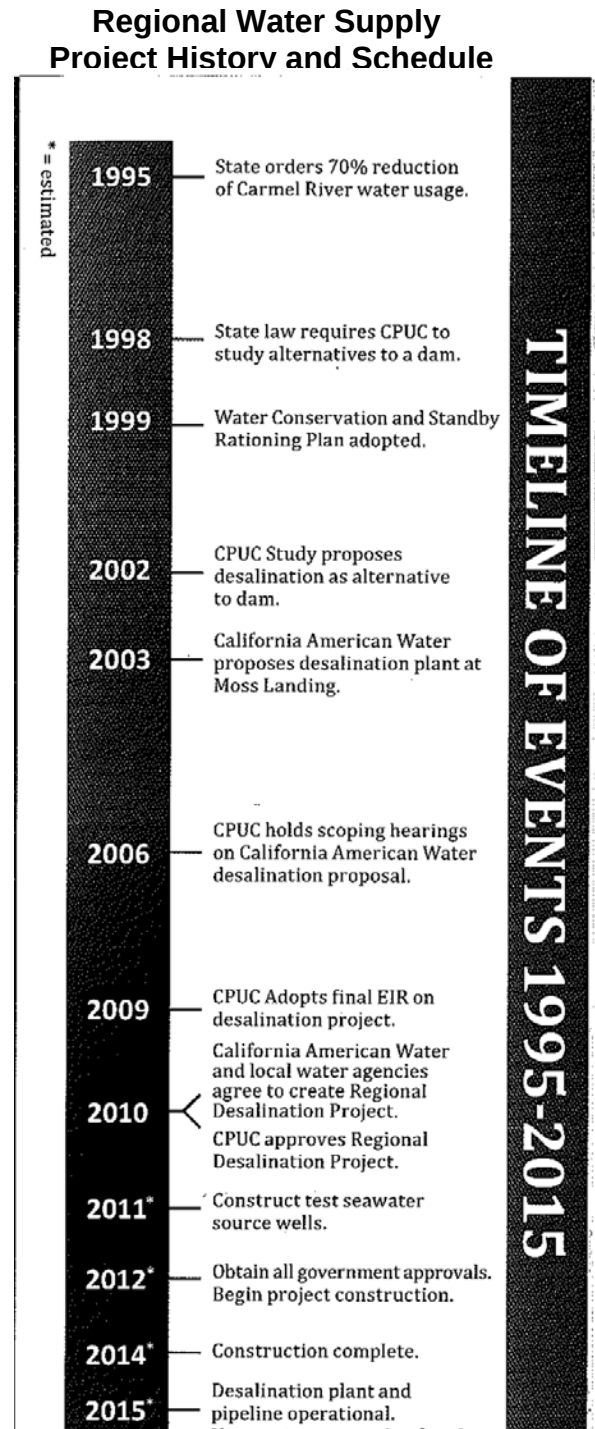
The TAC and Board agreed that it would be appropriate to defer starting work on Groundwater Modeling of Scenario 2, which pertains to the impacts on the Seaside Basin of implementing the Regional Water Supply Project, until the scope of that project could be better defined, and the quantities of water it will supply and how they will impact the Seaside Basin can be better understood.

That Project was approved by the PUC Board in December 2010. That approval was one of the milestones identified 2011. before which it would be appropriate to reexamine 2012. an appropriate time frame to undertake the Scenario 2013. 2 modeling work.

Mr. Sabolsice has provided the recently updated History and Schedule for the Project (on the right), and will discuss the milestone dates with the TAC. He and Mr. Johnson will provide oral reports on the current status of issues pertaining to the Regional Water Supply Project.

Related to the status of the Regional Water Supply Project were the tasks of updating the BMAP and refining the PWLs, both of which have been deferred while waiting for the Regional Water Supply Project issues to be better defined.

With the updated information to be provided by Mr. Sabolsice and Mr. Johnson at today's meeting, the TAC can decide whether to continue deferring the Scenario 2 modeling work or when to schedule it to occur.



Minutes Excerpt:

Discuss Timing of Proceeding with Modeling Scenario 2, Updating the Basin Management Action Plan (BMAP), and Refining the Protective Water Levels (PWLs)

Mr. Sabolsice summarized the agenda packet material on this item. He reported that PUC approval of the Regional Water Supply Project has now been received, but that the test wells to determine the salinity of the aquifer from which the desalination plant intake wells would draw their water have not yet been constructed.

Mr. Johnson reported that, barring permitting issues, the test wells are expected to be constructed by approximately June 2011. Mr. Sabolsice said it would be important to obtain data from these wells in order to make proper assumptions for performing the modeling work.

Mr. Johnson and Mr. Sabolsice reported that Coastal Commission permitting will be a major approval issue for both the test well project and the Regional Water Supply Project itself.

Mr. Green asked several questions with regard to O&M costs and institutional arrangements for the Regional Water Supply Project, and Mr. Sabolsice and Mr. Johnson provided responses.

Mr. Sabolsice noted that some of the Regional Water Supply Project EIR information has now been superseded by events occurring subsequent to its preparation, and that this may impact the quantities of water that the Regional Water Supply Project will be able to deliver for the benefit of the Carmel and Seaside Basins.

Ms. King cautioned that the amount of time before sea water intrusion into the Seaside Basin will occur is unknown, and that the longer that part of the Basin remains below Protective Water Levels, the greater the risk of sea water intrusion occurring. She said that HydroMetrics does not expect the Regional Water Supply Project to be able to achieve Protective Water Levels in the Seaside Basin, and that additional water will be needed to accomplish this.

Mr. Johnson said it would probably require three to four months of data collection from the test wells and about one month to evaluate the data before conclusions with regard to the salinity issue could be drawn. Thus it will probably not be possible to have these conclusions developed until October or November of 2011.

Mr. Riedl felt that, since HydroMetrics expects the amount of refinement that the test well data will provide will likely be minor, it would be better not to further delay the modeling work. Mr. Lear said that one approach would be to say the worst-case scenario with regard to the salinity issue would be to find that 85% sea water is contained in the groundwater, and that the best case scenario would likely be that 95% of the water is sea water. The Scenario 2 modeling could then be conducted for these two conditions to bracket the likely range of possibilities. Mr. Sabolsice noted that if higher than 85% sea water is found to be the case, the desalination plant could potentially produce more water to help restore the Seaside Basin water levels to Protective Water Levels.

In response to a question from the TAC, Mr. Jaques provided cost information, taken from the RFS previously prepared for HydroMetrics, to run the Scenario 2 Model.

Mr. Riedl asked Mr. Sabolsice about his reluctance to run the Scenario 2 Model now. Mr. Sabolsice responded that the cost to run the Model is not the concern. Rather, the concern is ensuring that data is available to develop good assumptions for purposes of running the Model. If the decision were made to proceed with the modeling work now, HydroMetrics could be told to assume certain water quantities to

be provided by the Regional Water Supply Project to benefit the Seaside Basin. It might be possible to use some of the salinity trend data taken from the recently installed Sand City desalination wells to help develop the Scenario 2 modeling assumptions.

There was discussion with regard to several topics including the relative cost of Seaside Groundwater Basin water vs. desalination plant water, difficulties involved in operating the desalination plant at varying production levels, and the use of vertical vs. slant wells.

Ms. King recommended doing a "best case" condition for Scenario 2 to see if even under the best case condition Protective Water Levels can be achieved. If Protective Water Levels could not be achieved under the best case condition, this would indicate that additional water would be needed to achieve Protective Water Levels.

Mr. Johnson said that the TAC could propose running the 80% sea water and 95% sea water conditions on just the Protective Water Level wells to bracket the possibilities. Ms. King recommended running just the 95% condition first to see what is learned from that work.

Following this discussion Mr. Sabolsice made a motion to table further discussion on performing the Scenario 2 modeling work, updating the BMAP, and refining the Protective Water Levels (all of the items covered under agenda item No. 3) until the June 2011 TAC meeting. The motion carried with Mr. Riedl dissenting. Mr. Costa was not present at the time this vote was taken.

Attachment 2: Description of Potential Supplemental Water Supplies

The descriptions below were prepared in conjunction with development of the Water Year 2008-2009 Replenishment Assessment Unit Cost Calculations. Where more recent data was readily available, it has been added to the original descriptions, with the updated verbiage shown in *italics*.

1. Moss Landing Desalination Plant – Local Alternative: This is the only Moss Landing Desalination Plant alternative being considered in the CWP DEIR. It would produce 8,800 AFY, and all of this would be supplied to the CAW distribution system. It should not be included in the Replenishment Assessment Unit Cost calculations because the Regional Desalination project is considered to be the most viable of the desalination projects. ***The Regional Desalination project is still considered to be the most viable, so this project need not be considered.***
2. Moss Landing Desalination Plant – Regional Alternative: This alternative is not being considered in the CWP DEIR, and should therefore not be included in the Replenishment Assessment Unit Cost calculations. ***The Regional Desalination project is still considered to be the most viable, so this project need not be considered.***
3. North Marina Desalination Plant – Local Alternative: This is one of the alternative projects to the CAW Moss Landing Desalination Plant. It would be similar to the Moss Landing Desalination Plant alternative, but the desalination plant would be located in north Marina. It would produce 9,600 AFY, with 8,800 AFY going to the CAW distribution system and 800 AFY going to the Castroville Seawater Intrusion Project (CSIP) to offset groundwater taken from the Salinas Basin by the desalination plant. It should not be included in the Replenishment Assessment Unit Cost calculations because the Regional Desalination project is considered to be the most viable of the desalination projects. ***The Regional Desalination project is still considered to be the most viable, so this project need not be considered.***
4. North Marina Desalination Plant – Regional Alternative: This alternative is not being considered in the CWP DEIR, and should therefore not be included in the Replenishment Assessment Unit Cost calculations. ***The Regional Desalination project is still considered to be the most viable, so this project need not be considered.***
5. MPWMD's 95-10 Desal Plant: This alternative is not being considered in the CWP DEIR, but it is still considered an active project by the MPWMD. It should not be included in the Replenishment Assessment Unit Cost calculations because the Regional Desalination project is considered to be the most viable of the desalination projects. ***The MPWMD contact for this project is Larry Hampson, and it is currently referred to as Water Project 3. Planning is for a small local desalination facility that could provide supplemental water supply (e.g., jurisdiction-planned future water use needs) for the Monterey Peninsula community. Currently, investigation is focused on a potential 2 MGD facility at the former Monterey Treatment Plant site across Del Monte Avenue from the Naval Postgraduate School. MPWMD may give a further update on the status and feasibility of this project at the TAC meeting.***
6. Sand City Water Supply Project: This project has been completed and is currently going through its testing phase. However, all of the water that is not needed for new connections within Sand City will be used by CAW to reduce the amount of water CAW takes from the Carmel River Basin, and thus it will not benefit the Seaside Basin. Therefore, this project should not be included in the Replenishment Assessment Unit Cost calculations. ***This project has been completed and is already in operation.***
7. Salinas River Surface Water Treatment Plant: This project is considered to be a Phase 1 component of what is now referred to simply as the "Regional Project" in the CWP DEIR. Unless it is learned that this is no longer a viable component of the Regional Project, it should continue to be included in the Replenishment Assessment Unit Cost calculations. ***MCWRA can give an update on the status and feasibility of this project.***

8. Regional Desalination: This project is the key Phase 1 component of what is now referred to simply as the “Regional Project” in the CWP DEIR. It would produce 10,500 AFY, with 8,800 AFY going to the CAW distribution system and 1,700 AFY to MCWD to offset groundwater taken from the Salinas Basin by the desalination plant. Therefore, this project should continue to be included in the Replenishment Assessment Unit Cost calculations. ***Cal Am and MCWRA can give an update on the status and feasibility of this project.***
9. Regional Urban Water Augmentation Project: This project is considered to be a Phase 1 component of what is now referred to simply as the “Regional Project” in the CWP DEIR. The RUWAP is being pursued by MCWD and MRWPCA. Since it is an element of the Regional Project, it should continue to be included in the Replenishment Assessment Unit Cost calculations.
The RUWAP has an initial capacity of 1,727 AFY and an ultimate design capacity of 3,000 AFY.

Under the original design concept MRWPCA had completed the design of its portion of the RUWAP project, which consisted of the Recycled Water Pump Station and a short section of the recycled water transmission pipeline to the property line of the RTP. At that location the MCWD portion of the project, consisting of all of the other RUWAP facilities, e.g. transmission pipeline, turnouts to irrigation sites, pump stations, storage facilities, etc., was to connect to the recycled water transmission line.

With the implementation of the Salinas River Diversion Project’s inflatable dam, a portion of the water going to the SVRP’s treated water storage pond now includes river water as well as tertiary water from the SVRP. Because of this, as well as MCWD’s desire to have better control over the operation of the system to serve customers located in the northern portion of the recycled water service area, design changes are being considered by MCWD’s new design firm, Carollo Engineers who took over the design work from RMC. These changes may involve having the Recycled Water Pump Station located on MCWD property adjacent to the RTP, and having a gravity-flow intake pipeline to that pump station from a point in the system upstream of the SVRP’s treated water storage pond. In addition a flow equalization pond may be included at the MCWD location in order to better match supply and demand levels. Right-of-way acquisition for the project is nearly complete

MCWD anticipates that user-agreements for parties that will be using recycled water from the Project will be prepared in conjunction with developers seeking to secure water to serve their projects. Due to the slowdown in the economy, and the commensurate slowing of development on the former Fort Ord, MCWD is not pressing ahead with implementation of the RUWAP at this time, but anticipates doing so when development resumes. In the meantime “purple pipe” (used to transmit recycled water) is being installed as a component of roadway and development projects on the former Fort Ord, for example in the recent reconstruction of a lengthy section of General Jim Moore Boulevard.

Although the RUWAP is listed as a Phase 1 project in the EIR for the Coastal Water Project, due to the reasons stated above there has only been modest recent progress made toward implementing it. A “Leadership Committee” was recently created involving Board members and managers from MCWD and MRWPCA to identify any areas that might help expedite the RUWAP.

With regard to financing for the project, MCWD has filed an application with the SWRCB for a State Revolving Fund (SRF) loan to help pay for the construction of the project, and the SWRCB informed MCWD that its project would qualify (be eligible for) such a loan. However, since the project is not ready to move into the construction phase no actual loan

contract has been approved by or offered to MCWD by the SWRCB. Much of the funding for the RUWAP was, and still is, expected to come from development fees collected by FORA. However, with little development going on, there has not been the previously anticipated flow of development fees to help fund the project.

MCWD has expressed concerns to MRWPCA that the cost of water from the RUWAP will be too high to attract users. With the current lack of development within the area to be served by the RUWAP, MCWD does not consider the project to be financially viable at this time. MRWPCA has suggested phasing of construction of the project to serve the largest customers first, and also to Value Engineer the project, both for the purpose of seeking to lower the cost of water to the users.

In the meantime winter storage of recycled water may soon be evaluated to allow expanding the area served by the RUWAP to include the Laguna Seca and Pasadera golf courses in order to achieve a greater economy of scale to lower unit costs of water.

At the TAC meeting MRWPCA and MCWD may be able to provide a further update on the status and feasibility of this project.

10. Seaside Aquifer Storage and Recovery Project: This project is considered to be a Phase 1 component of what is now referred to simply as the “Regional Project” in the CWP DEIR. The Seaside ASR Project is being pursued by MPWMD. When the October 2007 Replenishment Assessment Unit Cost was calculated the TAC concluded that, since all of the water production of this project will be used by CAW to reduce the amount of water CAW takes from the Carmel River Basin and thus it will not benefit the Seaside Basin, it should not be included in the calculation of the Seaside Basin Replenishment Assessment Unit Cost, and it was not included in the 2007 calculation. When the October 2008 Unit Cost calculation was prepared, this project was included in the calculation. There was no record in the TAC meeting minutes to explain why this project was included in 2008 when it had not been included in 2007. It was therefore concluded that including it in the 2008 calculation was an oversight, and that it should not be included in the Replenishment Assessment Unit Cost calculations, even though it is an element of the Regional Project. *The MPMWD contact for this project is Joe Oliver. The Phase 1 (or Santa Margarita) project component is currently referred to as Water Project 1. The site is located on General Jim Moore Boulevard south of Eucalyptus Road in Seaside. All facilities for Phase 1 are not yet completely constructed, but the project has been operating in permanent status since it transitioned from a testing program in Water Year (WY) 2008.*

The WY 2011 injection season, which ended May 31, achieved the highest single-year injection volume since MPWMD began injection operations in 2001 at the Water Project 1 site. During the injection season between December 1 and May 31, a total of 1,117 acre-feet (AF) of Carmel River Basin water was diverted, treated and transported through the California American Water (Cal-Am) supply distribution system and injected into the two specially-constructed ASR wells for storage in the Santa Margarita aquifer. The WY 2011 total is slightly greater than last year’s injection volume of 1,111 AF, and marks the second consecutive year that the estimated average annual project storage of 920 AF was exceeded.

This stored water will be extracted and delivered back into the Cal-Am distribution system for community use later this year, to reduce water-production related impacts to the Carmel River during the low-flow period. In addition to this site, the first ASR well is being developed at a second ASR site at the Seaside Middle School. This site is currently referred to as Water Project 2. This first ASR well has an estimated average annual storage of 500 AF and must be ready for injection operations before December 1, 2011 to comply with State Water Resources Control Board Order 2009-0060 (i.e., the Cease and Desist Order).

MPWMD and Cal Am may give a further update at the TAC meeting.

11. ***MRWPCA Groundwater Replenishment Project for the Seaside Basin:*** Based on information provided by MRWPCA during the development of the Seaside Basin Groundwater Model in the Spring of 2009, the GWRP would be initially sized to provide 2,800 AFY to the Seaside Basin, and could potentially start-up in 2015. This estimated start-up date was based in part on the expectation that the GWRP would eventually be included as a Phase 1 component of the Regional Project. However, the CWP EIR listed the GWRP as a Phase 2 component of the Regional Project, and no time schedule for implementation of Phase 2 project components was presented in the CWP EIR. Since it is a Phase 2 component, it should not be included in the Replenishment Assessment Unit Cost calculations. ***Work on the GWRP was put temporarily on hold in 2009. MRWPCA reported that work on the GWRP recently resumed.***

Approximately \$200,000 is included in MRWPCA's FY 2011-2012 budget for pilot testing for the GWRP. MPWMD has expressed its support for the GWRP, and there had been discussions between MRWPCA and MPWMD regarding sharing in the costs for the pilot testing work. However, a recent decision by the PUC to limit the fees MPWMD can collect on the CAW water bills to fund certain of MPWMD's activities may reduce its ability to help financially support such projects. Consequently, the cost sharing concept is now on hold as MPWMD assesses the impacts of the PUC decision.

It appears that the California Department of Public Health is about to relax its previous requirements regarding the amount of dilution water that would be required for groundwater recharge projects involving recycled water, based on extensive testing and operational experience in the Orange County and West Basin projects.

MRWPCA is in discussions with General Electric Corporation with regard to the feasibility of establishing a public-private partnership to help finance the GWRP. One of General Electric's subsidiary companies manufactures membranes used in reverse osmosis technology and has expressed interest in being involved in the project.

MRWPCA can provide a further update on the status and feasibility of this project.

12. ***Seawater Conversion Vessel:*** This project was listed, but not included, in the Replenishment Assessment Unit Cost Calculation for Water Year 2008-2009, because there did not appear to be any sponsor for it. This appears to still be the case, so this project should not be included in the Replenishment Assessment Unit Cost calculations. ***No new information was available on this project, but it does not appear to be one that is being given serious consideration by any of the entities.***
13. ***Pacific Grove Stormwater Project:*** This Project is listed in the CWP DEIR as a Phase 2 component of the Regional Project. No time schedule for implementation of Phase 2 project components was presented in the CWP DEIR. A feasibility study has reportedly been completed indicating that the City of Pacific Grove should pursue this project, which could produce an estimated 200 AFY of water. The estimated capital cost of the project, including engineering and construction, is reportedly \$13.2 million in 2008 dollars. No O&M cost estimate and no contingency percentage was provided. Using the same financing assumptions as were used for the Regional Project in Table 2, the Annualized Capital Cost of such a project, with no additional contingencies or other implementation costs added, would be approximately \$868,500. With a 200 AFY production capacity, this results in a unit cost of approximately \$4,340. Since it is a Phase 2 component, it should not be included in the Replenishment Assessment Unit Cost calculations. ***Eric Sabolsice had mentioned, I believe at the last TAC meeting, that he either had worked on or was aware of some additional study of what the water under this project would cost. He may be able to provide an update on that. Note: On a related topic, MPWMD prepared an evaluation of capturing and reusing storm water within its jurisdiction in 2000.***

If the TAC desires, that report can be placed on the agenda for a future TAC meeting to serve as a basis of discussing that topic.

14. Conservation: Conservation was listed, but not included in the Replenishment Assessment Unit Cost Calculation for Water Year 2008-2009, because there was no cost data for it. This appears to still be the case, so this project should not be included in the Replenishment Assessment Unit Cost calculations. ***However, as Eric mentioned at the last TAC meeting, Conservation may be one of the most cost-effective ways of reducing demands on the Seaside Basin, and is therefore quite worthy of continuing efforts.***

Attachment 3: Executive Summary from the Basin Management Action Plan

EXECUTIVE SUMMARY

Introduction

It is the Seaside Groundwater Basin's court-appointed Watermaster's role to administer and enforce the provisions of the Amended Decision (California American Water v. City of Seaside et al., 2007). One provision of the Amended Decision was the requirement to develop a Monitoring and Management Plan (M&MP). The Seaside Basin M&MP was subsequently developed in May 2006, and included general suggestions for a Basin Management Plan. This current document constitutes the Basin Management Plan outlined in the M&MP.

State of the Seaside Groundwater Basin

The Seaside Groundwater Basin as delineated in Exhibit B of the original Decision (March 2006) is bound by the Pacific Ocean, faults, bedrock, and a groundwater flow divide on the northern boundary. The Basin is subdivided internally by the Laguna Seca Anticline which separates the northern and southern subbasins. This feature, including the segment of the Ord Terrace Fault that offsets the anticline, forms a subsurface hydraulic barrier to groundwater flow. The Amended Decision subdivides the subbasins into coastal and inland subareas even though groundwater flow is continuous between coastal and inland subareas.

The Seaside Groundwater Basin comprises three aquifers: a deep aquifer, a shallow aquifer, and surficial Aromas Sands. The deep aquifer generally consists of the Purisima Formation and Santa Margarita Sandstone. The shallow aquifer refers collectively to numerous discontinuous lenses of sand and gravel in the depth interval of the Paso Robles Formation overlying the Santa Margarita Sandstone and below the surficial Aromas Sand layer.

Much of the *Total Stored Groundwater* in the Seaside Groundwater Basin is not easily extracted due to the clustered location of wells in the Basin. The Basin's *Usable Stored Groundwater*, which is a subset of *Total Stored Groundwater*, is estimated to be at most 72,000 acre-feet as of fall 2007. In the unsaturated portion above the *Total Stored Groundwater* there is at most approximately 52,030 acre-feet of *Total Usable Storage Space*. Of this 52,030 acre-feet of *Total Usable Storage Space*, 31,770 acre-feet are in the Coastal and Northern Inland Subareas and 20,260 acre-feet are in the Laguna Seca Subarea. The total actual and potential groundwater storage in the Seaside Groundwater Basin is approximately 124,000 acre-feet (*Total Stored Groundwater* plus *Total Usable Storage Space*). These initial storage estimates, as required by the Amended Decision, will be revised as improved tools for estimating storage become available.

Over the last five years since the last comprehensive study was completed, groundwater levels in much of the Seaside Groundwater Basin have continued the downward trend documented previously. This is reflected in the annual estimated loss of stored groundwater of between 1,300 and 1,430 acre-feet per year. The declines confirm that the current basinwide Operating Yield of 5,600 acre-feet per year exceeds the basinwide Natural Safe Yield of 3,000 acre-feet per year (as both set forth in the Amended Decision) plus approximately 1,000 acre-feet per year needed to prevent seawater intrusion. While no seawater intrusion or operational problems have been reported as a result of these lowering groundwater levels, this trend is not sustainable over the long-term.

Supplemental Water Supplies

Long-term supplemental supplies will be needed in order to be able to reduce pumping in the Seaside Groundwater Basin to the Safe Yield, and to provide water which can be used to replenish the Basin. Developing these supplemental supplies is the strategy that will have the greatest impact on the Basin and allow for its long-term management and use in the future. The initial feasibilities of a number of supplemental supplies have been evaluated by various project proponents. Most of these supplies are being evaluated as parts of other larger programs. Many of the proposed supplemental supply projects are designed to provide up to 2,000 acre-feet per year of supplemental supply to Seaside Groundwater Basin for offsetting existing pumping, with one project proposing to provide up to 6,700 acre-feet per year. A supplemental supply of 2,000 acre-feet per year is below the 2,600 acre-feet of annual over-production, calculated as the difference between the current Operating Yield of 5,600 acre-feet and the Court's initially assumed Natural Safe Yield of 3,000 acre-feet per year. Therefore it is doubtful that any single supplemental supply project, other than combined Monterey Regional Water Supply Program projects, will be adequate for long-term basin management; project capacity of the supplemental supplies should be increased or projects combined, and coupled with demand reduction, to provide adequate supply.

Providing supplemental supplies on the order of 2,600 acre-feet per year will have the effect of halting water level decline, but will still leave groundwater levels below sea level. Supplemental supplies in excess of 2,600 acre-feet will be needed for a period of years to raise groundwater levels to protective levels. It is recommended that a groundwater model be used to evaluate the effectiveness of each supplemental supply and its impacts on groundwater levels. Furthermore, the model can be used to improve and refine the estimate of the amount of supplemental water needed to increase groundwater levels to protective levels.

All of the supplemental projects, except one, are physical projects with capital costs associated with them. The exception is water conservation which does not produce additional supply but rather results in a demand reduction. Water conservation should be given high priority with respect to Seaside Groundwater Basin Watermaster's (Watermaster) support of projects that reduce the amount of groundwater pumped from the Seaside Groundwater Basin.

Groundwater Management Actions

A number of immediate actions could be implemented by various water agencies to initially meet requirements of the Amended Decision to reduce the Operating Yield by 10 percent triennially, as well as to delay the onset of seawater intrusion and maximize the use of existing groundwater. Any action that would assist in appropriate management of the Seaside Groundwater Basin should be encouraged and supported by the Watermaster.

Of the near-term management actions reviewed, the following appear to be the most cost-effective and most likely to be implemented, and provide the greatest benefit to the Seaside Groundwater Basin in the short-term:

1. Irrigate the Bayonet and Blackhorse Golf Courses with water from the Ord Community Water System,
2. Reactivate the Marina Coast Water District Desalination Plant,
3. Provide Interties Between CAW's Main, Bishop Ranch, and Ryan Ranch Water Systems,
4. Install new inland and coastal subarea wells in coordination with the Watermaster, and
5. Sand City Desalination Plant.

The recommended interim actions are not intended to provide long-term solutions for restoring groundwater levels in the Seaside Groundwater Basin, although many interim solutions will have long-term benefits.

Other Recommendations

This BMAP identifies other basin management issues that need to be addressed and pursued by the Watermaster. One such issue is the dynamic nature of the Basin's northern boundary. This boundary (flow divide), although delineated in the Amended Decision will change location over time in response to changes in pumping in the Seaside area, Marina, the Salinas Valley and the lower El Toro Creek area. Given that this boundary is controlled by hydraulic factors, it is possible that if pumping in the Seaside area ceased completely and groundwater levels recovered to a certain point, groundwater in the northern portion of the Basin might flow into the Salinas Valley. Similarly, increased pumping in the Seaside Groundwater Basin might capture groundwater from the Salinas Valley.

Whatever management strategies are ultimately recommended, their impacts need to be assessed before implementation. Issues such as the fate of water that is recharged in the Basin at different locations, pumping redistribution, and establishing protective groundwater levels need to be addressed. For example, it will be important to know if recharge water will be lost to the ocean or the Salinas Valley, and whether the extraction wells in the Basin are located in the correct places to recover stored water. In order to assess these impacts, the most efficient method would be groundwater modeling. The model would be a management tool with which informed decisions regarding the management of the Basin can be made, assist in a better understanding of basin impacts from supplemental supplies on the groundwater basin, and to develop a plan for how the supplemental water could be best used to benefit the Seaside Groundwater Basin and water purveyors. A calibrated model should be developed in order to be ready to evaluate Basin impacts of planned supplemental supply projects and other management actions in a timely manner.

Selecting, evaluating and developing supplemental supplies for the Seaside Groundwater Basin should be done as expeditiously as possible. The Watermaster can support this by facilitating between parties, providing data and information on the Basin, and ensuring that Material Injury does not result from any of the proposed projects.

Managing the Basin requires evaluating impacts associated with implemented strategies. Monitoring of groundwater levels, quality and production are the means by which this can be done. The Watermaster should continue to install monitoring wells and continue with its monitoring program. In locations where the Watermaster determines additional data are needed, the monitoring network should be expanded.

Attachment 4: Excerpt from HydroMetrics RFS No. 2010-04 pertaining to the Scope of Work for Modeling Scenario No. 2

Scenario 2: Model the effects of implementing the “Monterey Regional Water Supply Project –Phase 1” as that project is defined in the Final EIR for the Coastal Water Project. The following parameters describe Phase 1 of this project, and were taken directly from the Final EIR:

- Conservation Programs potentially saving up to 1,000 AFY. Note, however, that this amount is not counted on in terms of reducing demands on the CAW Monterey Peninsula distribution system.
- Sand City Desalination Project providing on average 300 AFY. This amount is counted as reducing demand on the CAW Monterey Peninsula distribution system.
- Regional Urban Water Augmentation Project (RUWAP) which on average would deliver 1,000 AFY of recycled water for landscaping and golf course irrigation on lands some of which overlie the Seaside Basin. However, with the exception of the water currently being pumped from the Seaside Basin by the Seaside Golf Course wells (Bayonet and Blackhorse Golf Courses), which has an allocation of 540 AFY under the Seaside Basin Court Adjudication Decision, the RUWAP would not decrease pumping demands on the Seaside Basin, because the water supplying the demands of the remaining landscape and golf course uses is pumped by MCWD from the Salinas River Basin.
- Regional Desalination System, the principle components of which are:
 - 6 Vertical Seawater Wells located inland of the sand dunes and west of Highway 1 in an area south of the Salinas River and north of Reservation Road.
 - 10 MGD Regional Desalination Facility located just south of the MRWPCA Regional Wastewater Treatment Plant, with brine disposal to MRWPCA’s outfall. This desalination plant on average would produce 10,500 AFY of potable water and would deliver 8,800 AFY of this water to the CAW Monterey Peninsula distribution system for urban users. Of this 8,800 AFY, 2,975 AFY is to offset Cal Am's pumping from the Seaside Basin, and 272 AFY is to offset other users pumping from the Seaside Basin, for a total amount of 3,247 AFY of pumping from the Seaside Basin being reduced by delivering that quantity of water from the Regional Desalination Plant and the Carmel River ASR facilities. The other 1,700 AFY of potable water from the desalination plant would be delivered to MCWD, in order for MCWD to be able to reduce its pumping of water from the Salinas River Groundwater Basin by this amount to offset the amount of Salinas Basin groundwater that would be extracted by the Vertical Seawater Wells that supply the desalination plant.
- Approximately 56,000 LF of 36” diameter pipelines (referred to as the Product Water Pipeline and the Transmission Main South) from the Desalination Facility to a point of connection in Seaside to the existing CAW distribution system and to the Terminal Reservoirs, and through another pipeline, the Monterey Pipeline, to a point of connection to the existing CAW distribution system in Pacific Grove.
- 2 - 3 MG Terminal Reservoirs located east of General Jim Moore Boulevard in Seaside on the former Fort Ord. These reservoirs can receive water during dry weather periods from the Desalination Facility and/or the ASR Wells, and via a pipeline from the Carmel River during wet weather diversion periods.
- 2 Existing ASR Wells and 2 New ASR Wells, all located near General Jim Moore Boulevard in Seaside. On average 1,300 AFY of Carmel River water would be stored in the Seaside Basin and then pumped out of the Basin and into the CAW distribution system to potable urban users. This amount is counted as reducing demand on the CAW Monterey Peninsula distribution system.

- Interconnecting piping between certain of the components listed above, and other facilities, to comprise an operational system.
- Start-up of Phase 1 is projected in the FEIR to occur on November 30, 2012. However, for this Scenario the start-up date will be revised to a date later than 2012 to reflect delays being experienced in implementing the early work of Phase 1. The updated date will be provided to the PROFESSIONAL by the WATERMASTER just prior to the start of work on this Scenario.

Phase 2 of the Regional Water Supply Project is not included in Scenario 2, because the components of Phase 2 are not as fully developed as those for Phase 1 and thus were not fully addressed in the CWP FEIR. In addition, the time schedule for implementation of the Phase 2 components is less certain than the schedule for implementation of the Phase 1 components. Phase 2 would consist of some or all of the following components:

- Pacific Grove Stormwater Diversion Project (up to 200 AFY)
- Expanded Salinas River Diversion Facility (SRDF) delivering river water to a 14 MGD Surface Water Treatment Plant to be located adjacent to the Phase 1 Desalination Facility. This Surface Water Treatment Plant would initially deliver on average up to 2,980 AFY of potable water to urban customers. These facilities could be further expanded at a subsequent date to increase the delivery of water to urban customers to 5,800 AFY.
- Expanded Regional Desalination Facility to 13 MGD capacity and 2 additional intake wells to increase the desalination capacity by 4,400 AFY.
- Groundwater Replenishment Project using highly treated recycled water from MRWPCA for injection of up to 6,720 AFY into the Seaside Basin.
- Auxiliary components that would potentially be needed to support the other Phase 2 components could include:
 - o Further expansion of the SRDF
 - o Expansion of the Castroville Seawater Intrusion Project (CSIP)
 - o Additional ASR wells and pumping capacity
 - o Additional Terminal Reservoirs

Under Scenario 2 average rainfall, rather than historical cyclical rainfall data, will be used

Under Scenario 2, California American Water will start using its full Regional Project water supply in the Phase 1 start-up year, and 3,247 acre-feet per year from the Desalination Plant will be used to offset pumping from the Seaside Groundwater Basin by delivering this amount of water to the California American Water distribution system.

Attachment 5: Portions of the Executive Summary **From the HydroMetrics Modeling Report** **Pertaining to Protective Water Levels**

DEVELOPMENT OF PROTECTIVE GROUNDWATER ELEVATIONS

In order to measure how successful any groundwater management scenario is, groundwater elevation targets were established. The targets are groundwater elevations that are high enough to protect the Seaside Groundwater Basin from seawater intrusion. These protective groundwater elevations were established using a different series of models than the regional groundwater flow model. The models were required to be different because variable density models are needed for establishing protective groundwater elevations, while the regional groundwater flow model does not require variable density ability. Furthermore, the size of the regional model would cause prohibitively long model run times if variable density was included. The U.S. Geological Survey's SEAWAT 2000 model code (Guo and Langevin, 2002) was used for protective groundwater elevation modeling. Figure ES-2 shows the relationship between the regional flow model and the protective groundwater elevation models.

The protective groundwater elevation models simulate groundwater conditions in four vertical planes through the earth, extending out under the ocean. The inland side of each protective groundwater elevation model is anchored to one of the four coastal monitoring wells: CDM-MW-4, MSC well, PCA-West well, or Sentinel Well 3 (SBWM-3). The locations of these four vertical planes (cross-sections) are shown in Figure ES-3. The models were used to estimate the groundwater elevation that must be maintained in each monitoring well to prevent seawater from intruding into the Santa Margarita aquifer. Additional analyses were performed to estimate the groundwater elevation that must be maintained to prevent seawater from intruding into the Paso Robles aquifer, and to prevent seawater from intruding into the top 90% of the Santa Margarita Sandstone aquifer. To account for uncertainty of offshore geology and aquifer parameters, the modeling included an uncertainty analysis that allowed us to attach a level of confidence to the protective groundwater elevation targets. The target elevations for each monitoring well are shown in Table ES-1.

CONCLUSIONS

The five groundwater management scenarios [*which were modeled in this Report*] show that the mandated triennial pumping reduction will result in a slow increase in most groundwater elevations. Additionally, the mandated pumping reduction decreases, but does not eliminate inflow from the ocean. Model scenarios with significant injection are most successful at raising groundwater elevations to protective elevations. Because the Santa Margarita aquifer is highly confined beneath thick clay beds near the ocean, it does not receive significant deep percolation recharge near the ocean. Therefore, it will take a long time for wells in the Santa Margarita aquifer to reach protective elevations without artificial recharge.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 8, 2011
AGENDA ITEM:	5
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: As a regular part of each monthly TAC meeting, I will provide the TAC with an updated Consultants Work Schedule of the activities being performed by the Watermaster's consultants and the public entity, MPWMD, which is performing certain portions of the work, and of the Critical Program Milestones Schedule. Attached is the Consultants Work Schedule for FY 2011.	
ATTACHMENTS:	Schedule of Work Activities for FY 2011
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to these Schedules

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																	
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	F
1	CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK																		
2	2011 Administration, Operations and Replenishment Budgets																		
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	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports																		
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 Report for 3rd Quarter (Same as Task 42)																		
9	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Report for 4th Quarter (Same as Task 43)																		
10	Replenishment Assessment Unit Costs for Water Year 2012																		
11	B&F Committee Develops Replenishment Assessment Unit Cost for 2012 Water Year																		
12	If Requested, TAC Provides Assistance to B&F Committee in Development of 2012 Water Year Replenishment Assessment Unit Cost																		
13	Board Adopts and Declares 2012 Water Year Replenishment Assessment Unit Cost																		

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																		Jan	F
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
14	Replenishment Assessments for Water Year 2011																				
15	Watermaster Prepares Replenishment Assessments for Water Year 2011																				
16	Watermaster Board Approves Replenishment Assessments for Water Year 2011																				
17	Watermaster Levies Replenishment Assessment for 2011																				
18	Monitoring & Management Program (M&MP) Budgets for 2012 and 2013																				
19	Prepare Draft 2012 and 2013 M&MP O&M and Capital Budgets																				
20	TAC approves Draft 2012 and 2013 M&MP O&M and Capital Budgets																				
21	Board approves 2012 and 2013 M&MP O&M and Capital Budgets																				
22	2011 Annual Report (Note: Schedule May be Relaxed if Court Approves Later Submittal Date for Annual Report)																				
23	Prepare Preliminary Draft 2011 Annual Report																				
24	TAC Provides Input on Draft 2011 Annual Report																				
25	Prepare Revised Draft 2011 Annual Report (Incorporating TAC Input)																				
26	Board Provides Input on Revised Draft 2011 Annual Report																				
27	Prepare Final 2011 Annual Report (Incorporating Board Input)																				
28	Watermaster Submits Final 2011 Annual Report to Judge																				

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																		
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	F	
29	MANAGEMENT																			
30	M.1 PROGRAM ADMINISTRATION (All Work Performed by Watermaster Staff)																			
31	Prepare Initial Consultant Contracts for 2012																			
32	TAC Approval of Initial Consultant Contracts for 2012																			
33	Board Approval of Initial Consultant Contracts for 2012																			
34	IMPLEMENTATION																			
35	I.2.a DATABASE MANAGEMENT																			
36	I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance																			
37	I.2.b DATA COLLECTION PROGRAM																			
38	I.2.b.2 Collect Monthly Water Levels (MPWMD)																			
39	I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)																			
40	I.2.b.6 Reports (from MPWMD)																			
41	Watermaster Prepares Combined Quarterly Water Production, Water Level, and Water Quality Reports for 1st & 2nd Quarters																			
42	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Report for 3rd Quarter																			
43	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Report for 4th Quarter																			

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																	Jan	F
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
44	New Task: Resurvey Wellheads and Prepare Subsidence Evaluation																			
45	TAC Provides Direction Regarding Performing a Re-Survey of Wellheads and Preparing a Subsidence Evaluation	Completed																		
46	Technical Program Manager Negotiates Scopes of Work and Costs with Central Coast Surveyors and MPWMD to Perform Re-Survey of Wellheads		Completed																	
47	Board Approves Contracts with Central Coast Surveyors and MPWMD to Perform Re-Survey of Wellheads			Completed																
48	Perform Re-Survey of Wellheads						Completed													
49	Prepare Subsidence Evaluation																			
50	TAC Reviews and Provides Input on Subsidence Evaluation																			
51	Board Reviews and Provides Input on Subsidence Evaluation																			
52	I.3.a ENHANCED SEASIDE BASIN GROUNDWATER MODEL																			
53	I.3.a.2 Develop Protective Water Levels																			
54	TAC Continues Discussion Regarding Refining Protective Water Levels				Completed															
55	TAC Continues Discussion Regarding Refining Protective Water Levels																			
56	Board Approves Contract with HydroMetrics to Refine Protective Water Levels (Board Deferred Performing this Work to an Unspecified Future Date)																			
57	HydroMetrics Refines Protective Water Levels																			

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																			
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	F		
58	HydroMetrics Makes Summary Report to TAC on Refinement of Protective Water Levels					TIMING TBD AT JUNE 8, 2011 TAC MEETING...															
59	HydroMetrics Makes Summary Report to Board on Protective Water Levels					TIMING TBD AT JUNE 8, 2011 TAC MEETING...															
60	I.3.a.3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions																				
61	TAC Continues Discussion of Issues and Timing Pertaining to Scenario 2 - Regional Water Supply Project Scenario				Completed	◆															
62	TAC Continues Discussion of Issues and Timing Pertaining to Scenario 2 - Regional Water Supply Project Scenario										◆ 6/8										
63	Board Approves HydroMetrics Contract to Model Scenario 2					TIMING TBD AT JUNE 8, 2011 TAC MEETING															
64	HydroMetrics Evaluates Scenario 2 - Regional Water Supply Project					TIMING TBD AT JUNE 8, 2011 TAC MEETING															
65	HydroMetrics Makes Summary Report to TAC Regarding Evaluation of Scenario 2					TIMING TBD AT JUNE 8, 2011 TAC MEETING															
66	HydroMetrics Makes Summary Report to Board Regarding Evaluation of Scenario 2					TIMING TBD AT JUNE 8, 2011 TAC MEETING															
67	I.3.c Refine and/or Update the BMAP																				
68	TAC Continues Discussion Regarding Updating the BMAP				Completed	◆															
69	TAC Continues Discussion Regarding Updating the BMAP										◆ 6/8										
70	Prepare Contract with HydroMetrics for Updating the BMAP					TIMING TBD AT JUNE 8, 2011 TAC MEETING...															
71	TAC Approves Contract with HydroMetrics for Updating the BMAP					TIMING TBD AT JUNE 8, 2011 TAC MEETING...															

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																		Jan	F
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
72	Board Approves Contract with HydroMetrics for Updating the BMAP																				
73	HydroMetrics Updates the BMAP																				
74	HydroMetrics Makes Presentation on Draft Updated BMAP to TAC																				
75	HydroMetrics Makes Presentation of Final Updated BMAP to Board and Board Adopts Final Updated BMAP																				
76	I.3.d Evaluate Coastal Wells for Cross-Aquifer Contamination Potential																				
77	TAC Approves Scope of Work for MPWMD to Perform Further Evaluations of these Wells	Completed																			
78	Board Approves Well Evaluation Work to be Done in 2011		Completed																		
79	MPWMD Performs Further Evaluations of these Wells																				
80	MPWMD Makes Presentation of Well Evaluations to TAC																				
81	MPWMD Makes Final Presentation of Well Evaluations to TAC & TAC Determines if Further Work Should be Done in 2011																				
82	If Further Work is Recommended for 2011 Board Approves Contract with MPWMD to Perform this Work																				
83	I.4.a HydroMetrics & MPWMD Provide Oversight of Seawater Intrusion Detection and Tracking																				
84	I.4.b HydroMetrics Analyzes and Maps Water Quality from Coastal Monitoring Wells																				
85	I.4.c Annual Seawater Intrusion Analysis Report (SIAR)																				

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name					2011															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	F		
86	HydroMetrics Provides Draft SIAR to Watermaster																				
87	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)																				
88	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)																				
89	I.4.d Complete Preparation of Seawater Intrusion Response Plan (SIRP)																				
90	I.4.e Refine and/or Update the SIRP																				

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 8, 2011
AGENDA ITEM:	6
AGENDA TITLE:	Other Business
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: 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.	
ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only