

MEETING NOTICE AND AGENDA

TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER

DATE: Wednesday, June 10, 2009

TIME: 1:30 p.m.

LOCATION: City of Seaside City Hall – Portable Buildings Conference Room
440 Harcourt Avenue
Seaside, CA 93955

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.

OFFICERS

Chairperson: Diana Ingersoll, City of Seaside

Vice-Chairperson: Tom. Bunosky, California American Water Company

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 (John Fischer)

Agenda Item

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| 7. Set next meeting dates: | |
| A. There will be no TAC meeting in July. The next regular meeting will be held on Wednesday August 12, 2009 at 1:30 p.m. at the Seaside City Hall Portable Office Buildings Conference Room | |

In compliance with the Americans with Disabilities Act, the City of Seaside does not discriminate against persons with disabilities. Both Seaside City Hall and the Portable Office Buildings Conference Room are accessible facilities. If you wish to attend this meeting and you will require assistance in order to participate, please contact the Office of the City Clerk (831) 899-6707 at least three days in advance of the event to make necessary arrangements. If you need assistance in speaking on a specific item noted on the agenda, please inform staff as to which item you would like to comment on and arrangements will be made for you to participate. Portable microphones and assisted listening devices are available upon request.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 10, 2009
AGENDA ITEM:	1.A
AGENDA TITLE:	Approve Minutes from May 13, 2009
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: Draft Minutes from this meeting were emailed to all TAC members. Proposed changes 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 13, 2009**

Attendees: TAC Members

City of Seaside – Rick Riedl
California American Water – Tom Bunosky
City of Monterey – Todd Bennett
Laguna Seca Property Owners – No Representative
MPWMD – Joe Oliver
Public Member – John Fischer
MCWRA – Rob Johnson
City of Del Rey Oaks – No Representative
City of Sand City – No Representative
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques

Consultants

HydroMetrics LLC - Derrik Williams and Georgina King (via telephone)
Martin Feeney Hydrogeologist - Martin Feeney

Others:

MPWMD – Jonathan Lear

Note: Prior to the start of the meeting, Mr. Fischer asked Mr. Bunosky if Judge Randall's recent discussions had any impact on the Watermaster. Mr. Bunosky responded that he felt the Judge's direction only pertained to MPWMD and not to the Watermaster. Mr. Oliver concurred with this interpretation of the Judge's direction.

The meeting was called to order at 1:35 p.m.

1. Administrative Matters:

A. Approve Minutes from April 8, 2009 Regular Meeting

On a motion by Mr. Bunosky, seconded by Mr. Fischer, the minutes were unanimously approved as presented.

B. Approve Minutes from April 23, 2009 Special Meeting

On a motion by Mr. Bunosky, seconded by Mr. Fischer, the minutes were unanimously approved as presented, with Mr. Bennett abstaining.

C. Cancel July, 2009 TAC meeting

The TAC was in unanimous agreement with not having a TAC meeting in the month of July.

2. Progress Reports

A. MPWMD

Mr. Oliver briefly summarized the agenda packet materials for this item. He noted that the former U.S. Army well west of Highway 1 has now been formally added to the Watermaster's monitoring well list via the State Parks issuance of a permit for that purpose. Mr. Fischer asked Mr. Oliver if the addition of this well will simply provide more data from this location, or whether it will avoid the need to provide another monitoring well in this area. Mr. Oliver said that it will avoid having to put in an additional well in this area. He noted that this is a coastal well, not an inland well.

Mr. Feeney and Mr. Oliver said that the well was apparently completed in the Aromas Sands (~180 foot) aquifer. Only a small amount of historical water level data in this area exists. Mr. Feeney said that a datalogger has now been installed in this monitoring well for continuous data acquisition.

B. HydroMetrics

Mr. Williams and Ms. King explained that most of their work is currently focused on model-related activities. Some layers and grids have been set up, and the recharge budget is going along well. HydroMetrics is trying to get some more data for input into the model - the boldfaced items on page 16 of today's agenda packet are still needed. Mr. Johnson reported that he anticipates that by Tuesday May 19th he will be able to provide the Groundwater Level Data. However, for IGSM GIS data some computer program code problems have been encountered that are currently preventing being able to compile some of the data and send it to Ms. King. Following brief discussion it was agreed that Ms. King and Mr. Johnson will discuss this further separately.

Mr. Bunosky reported that the CAW monthly delivery data is not directly available, and that it would be a considerable effort to manually compile it. Mr. Oliver proposed a simpler alternative approach that would not be quite as accurate, but which may be satisfactory for the purposes of the model. It would take into account actual historical delivery patterns. Ms. King pointed out that the data is needed by service area, and Mr. Oliver said that his approach would provide that level of information. Mr. Oliver will e-mail an example of his approach to Mr. Bunosky and Ms. King for their review. Ms. King said that she also needs monthly delivery data from MCWD.

Ms. King said the model will be running by the June TAC meeting. She also reminded that the Protective Water Levels Workshop meeting will be held on May 28, and that a Technical Memorandum for that meeting will be coming out next week via e-mail to all TAC members.

C. Technical Program Manager

Mr. Jaques summarized the agenda packet materials pertaining to the Database Issues item. Mr. Oliver and Mr. Riedl recommended making Level 2 Users be able to add, but not delete, documents. Mr. Johnson recommended revising the User Access Level numbers so that the highest number has the maximum access.

Mr. Johnson asked if there is a provision to have data entry verified or checked by a separate person before it goes into the database. Mr. Oliver responded that no, this is not the case, but that the program does have a checking feature to make sure most data that is entered falls within acceptable ranges.

On a motion by Mr. Riedl, seconded by Mr. Johnson, the database recommendations as presented in the agenda packet were approved with the modifications described above. These revisions are shown in the final versions of Tables 2 and 3 (from the agenda packet) below:

Table 2. Revised User Access Levels

User Access Level	Password Required?	Persons Assigned to this User Access Level	General Description of User Capabilities
4	Yes	<u>Database Administrators:</u> Joe Oliver & Bob Jaques	<ul style="list-style-type: none"> • View and edit all data and documents in the Database • Assign and change passwords and User Levels • Prepare and download reports
3	Yes	<u>Regular Users and Data Entry Personnel:</u> Laura Dadiw and certain MPWMD personnel	<ul style="list-style-type: none"> • Enter and edit data to <u>all</u> of the <u>data entry</u> screens • View and be able to add, but not to delete or edit, things in the Documents screen • Prepare and download reports
2	Yes	<u>TAC Members and Consultants Working for the Watermaster:</u> All members of the TAC, and consultants such as HydroMetrics and Martin Feeney	<ul style="list-style-type: none"> • View only, but not be able to edit, <u>all</u> screens and documents contained in the Database • Prepare and download reports
1	No	<u>General Public:</u> Anyone who wishes to get information on issues pertaining to the Database	<ul style="list-style-type: none"> • View only, but not be able to edit, <u>selected</u> screens contained in the Database • Prepare and download reports

Table 3. Revised User Capabilities

User Access Level	<i>Tab & Screen List Showing Proposed Capabilities at Each Access Levels</i>										
	<i>Contacts</i>	<i>Well Database</i>							<i>Reports</i>		
		Well List	Gen'l Info.	Second'y Info	Water Quality	Depth	Production	Docs	Water Quality	Depth	Production
4	E	E	E	E	E	E	E	E	Report	Report	Report
3	E	E	E	E	E	E	E	View and Add	Report	Report	Report
2	View	View	View	View	View	View	View	View	Report	Report	Report
1	View	View	None	None	None	None	None	None	Report	Report	Report

Notes: Abbreviations used in the Table above are:

Edit – Can view, add, change, or delete data in this screen

View – Can view all data in this screen, but cannot add, change, or edit the data

View and Add – Can view all documents in this screen, and can add documents to this screen, but cannot delete or edit the documents already in this screen

None – Access is not authorized to this screen

Report – Can prepare customized reports and download them

Mr. Jaques summarized the agenda packet materials pertaining to the Selection of "Site for New Monitoring Well" item. Mr. Feeney commented that based on his previous work with BLM on another monitoring well, he anticipated it would probably be about three weeks from this point in the process to obtain their permit to proceed with work at their site.

Mr. Jaques summarized the agenda packet materials pertaining to the "Calibration of Production Well Meters" item. Mr. Feeney said that he has experience and information with regard to the CAW calibration reports, and he will share this with Mr. Jaques.

3. Approval of Selection of Scenarios to be Evaluated Using the Updated Groundwater Model

Mr. Williams and Ms. King opened discussion on this item, starting with the revised Draft Technical Memorandum No. 2 contained in the agenda packet. Mr. Williams asked that any editorial comments or other edits to that document be e-mailed directly to Ms. King for incorporation into the final version.

Mr. Jaques asked Mr. Williams to incorporate the "Model Scenarios" document, which had been e-mailed to the TAC prior to today's meeting, into the finalized version of Technical Memorandum No. 2. Mr. Williams will edit the "Model Scenarios" document based on today's TAC input and send it out for final TAC review. It will then be finalized and integrated into Technical Memorandum No. 2.

Mr. Bunosky asked Mr. Williams, with reference to pp. 30 and 31 of the agenda packet for today's meeting, whether the Baseline Scenario would also provide information on storage capacities and volumes. Mr. Williams responded that this is somewhat problematic, but he will do this by making certain assumptions that will be stated in the document. These items will be added to the bulleted list in this section of the Technical Memorandum.

Mr. Riedl asked if historical rainfall data was going to be used for the model, and Mr. Williams responded that it would. He said the different pumping scenarios will be superimposed on that historical rainfall data. There was discussion with regard to how to do this and what assumptions should be made.

Mr. Riedl and Mr. Williams discussed revising wording in item 2 on page 30 of the agenda packet with regard to the 10 percent pumping reduction topic, and also with regard to the intent of including Sand City's desalination plant with its 300 acre-foot-per-year production capacity.

Mr. Bunosky recommended including some background language with regard to Table 3 on page 34 of today's agenda packet.

There were several other questions and answers to and from Mr. Williams with regard to Technical Memorandum No. 2.

Discussion then moved to the "Model Scenarios" document which had been separately e-mailed to TAC members for their review prior to today's meeting.

To save time at today's meeting it was agreed to e-mail to Ms. King any "editorial" comments or edits, and focus today's discussions only substantive comments. The outcome of these discussions is summarized below:

Scenario 1:

1. Mr. Jaques requested clarifying the basis of the 1,494 AFY figure in the last paragraph on page one of this document.
2. Mr. Oliver offered to help by providing projected future CAW deficit amounts up to year 2015 when the 3,600 AFY delivery is expected to be available.

3. Mr. Jaques requested including language saying that at year 2021 all Standard Producers will have to reduce their pumping so as not to exceed their share of the Natural Safe Yield. They may be able to purchase any additional water they need from the same supplemental water source that CAW will be using.

Scenario 2:

1. Assume that the additional 2,000 AFY is available in year 2015, just as the 3,600 AFY amount is expected to be.
2. Mr. Fischer offered the general comment that economic impacts are not considered in preparing any of the scenarios. This should be noted in the Technical Memorandum.
3. Mr. Riedl requested that the TAC be allowed to examine the results of Scenario 1 before doing the possible second model simulation referred to on page 3 of the document.
4. Consensus for the injection wells to be located along General Jim Moore Boulevard. Mr. Feeney to provide specific location information to Mr. Williams for this scenario.

Scenario 3:

1. Let the model determine whether the Groundwater Replenishment Project will increase the Natural Safe Yield of the basin.
2. Assume that water from the Groundwater Replenishment Project becomes available in year 2015.
3. Recent information provided by Todd Engineers will be incorporated into the Technical Memorandum.

Scenario 4:

1. Assume that the water is available in year 2015.
2. The addition of 2,600 AFY will be initially assumed to increase the Natural Safe Yield from 3,000 AFY to 5,600 AFY, but additional runs may be made to refine this assumption. Thus, initially, the original year 2006 pumping levels will be able to be maintained.

Scenario 5:

1. Mr. Bunosky reported that CAW cannot provide the "Data Needed" as described under this scenario. Mr. Williams will talk with Mr. Feeney and develop this data for purposes of analyzing this scenario.
2. Can this scenario be implemented sooner than year 2015? Following discussion there was consensus to use year 2015 for this scenario, due to the time that will likely be required to address the permitting, jurisdictional, regulatory, cost, and other issues associated with implementing this scenario.
3. Costs to implement this scenario are not part of the modeling scope of work. Such work would be additional work to pursue, if the approach appears to be hydrogeologically attractive.

Mr. Williams will provide a revised Draft Technical Memorandum No. 2 via e-mail to the TAC for its review by Friday May 22nd. Additional final edits should then be provided via e-mail to Mr. Williams not later than May 26, so he can get a final version via e-mail to Mr. Jaques by May 28, so it can be included in the June Board meeting agenda packet

4. Presentation of Basis of Design Report for New Monitoring Well

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

The Coastal Sentinel Wells are a single deep completion, since a down-hole device can be used to detect water quality changes at various depths. However, the new inland monitoring well needs to be able to obtain aquifer-specific water level data, which can only be obtained with separate completions into each aquifer.

Mr. Feeney recommended that the monitoring well be designed using the well cluster, rather than the nested-well, approach.

Mr. Feeney and Mr. Oliver said they preferred the BLM site over the MPC site, if it can be obtained, because some previous hydrogeologic work has been done based on data from the former Camp Huffman well at the BLM site. Getting current data from this location would therefore be desirable. However, the MPC site would also be able to provide useful information from the inland area. Mr. Williams commented that the BLM site, being a little further inland than the MPC site, would be slightly more valuable to the modeling work, as it would provide data in an area where there is currently no data available.

Mr. Riedl asked if the "direct-push" method could be used to install the monitoring well, and Mr. Feeney and Mr. Lear said that these wells are too deep for that technique to be used.

Mr. Riedl expressed concern about the monitoring well vault becoming full of water at the wellhead. Mr. Feeney responded that the gasket on the vault cover should avoid this problem.

Mr. Jaques asked Mr. Feeney to include cost estimates for both types of well-designs in the Basis of Design Report.

5. Update on Board's Action Regarding Reducing the Operating Yield

Mr. Jaques reported that the Board acted to impose the 10 percent cut-back at their May Board meeting. Mr. Oliver expanded by saying that the Board also asked the TAC to continue to monitor, and keep the Board apprised of, the Seaside proposal to obtain golf course irrigation water from MCWD. Mr. Jaques asked Mr. Riedl if he would be kind enough to provide a monthly progress report on this as a standing agenda item for future TAC meetings, and Mr. Riedl agreed to do so. The Board's motion on this matter included having certain actions taken by the TAC. Mr. Jaques will obtain the language of the actual motion from Ms. Dadiw from that Board meeting, so it can be used to guide the TAC's actions on this matter.

Mr. Oliver asked if the pipeline work to implement this project, initially reported as having an estimated cost on the order of \$150,000, could be completed within the current Water Year. Mr. Riedl responded that the MCWD staff now felt the work could be done for a much lower amount, perhaps as low as \$40,000, and that Seaside could proceed with this work on MCWD's system in advance of getting the MOU between Seaside and MCWD completed.

6. Schedule

There were no questions with regard to the Schedule. Mr. Riedl asked if it would be possible for HydroMetrics to present Baseline and Scenario 1 modeling results first, before doing the subsequent scenarios. Mr. Williams responded that he will do that.

7. Other business

Mr. Riedl said he felt it would be desirable to look into getting money from grant or loan programs for Watermaster projects and other Watermaster work. There was consensus for Mr. Riedl, with assistance from Mr. Oliver, to look into this and report back at the next TAC meeting.

8. Set next meeting dates:

A. Special Meeting (Workshop on Protective Water Levels) for Thursday May 28, 2009 at 1:30 p.m. at the MRWPCA Board Room

This meeting was set for this date, time, and location.

B. Regular Meeting for Wednesday June 10, 2009 at 1:30 p.m. at the Seaside City Hall Portable Office Buildings Conference Room

This meeting was set for this date, time, and location.

The meeting adjourned at 4:47 PM

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 10, 2009
AGENDA ITEM:	1.B
AGENDA TITLE:	Approve Minutes from May 28, 2009 Special Meeting
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: Draft Minutes from this meeting were emailed to all TAC members. Proposed changes 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
Special Meeting
May 28, 2009**

Attendees: TAC Members
City of Seaside – Rick Riedl
California American Water – No Representative
City of Monterey – No Representative
Laguna Seca Property Owners – Bob Costa
MPWMD – Joe Oliver
Public Member – John Fischer
MCWRA – Rob Johnson
City of Del Rey Oaks – No Representative
City of Sand City – No Representative
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager - Robert Jaques

Consultants
HydroMetrics LLC - Derrick Williams (in person) and Georgina King (by telephone)

Others:
MPWMD – Jonathan Lear

The meeting was called to order at 1:39 p.m.

Note This Special TAC meeting was held in a workshop format for focused discussion on issues pertaining to the development of protective water levels for the Seaside Groundwater Basin. The workshop was led by Derrick Williams of HydroMetrics, LLC, the consultant that is performing this work for the Watermaster.

1. Administrative Matters

Due to the absence of both the Chair and the Vice Chair, Mr. Johnson called the meeting to order and explained its purpose was to discuss the development of protective water levels for the Basin, and to provide input and direction to Mr. Williams in this regard. Introductions were made by those present, and Mr. Oliver asked to be able to briefly discuss a matter regarding HydroMetrics' Technical Memorandum No. 2, pertaining to the development of the Groundwater Model. It was agreed this would best be done at the end of today's meeting. Mr. Johnson then asked Mr. Williams to lead the discussion.

2. Presentation on Modeling to Develop Protective Groundwater Levels

a. Overview – Reason to develop protective groundwater elevations

With the aid of the attached PowerPoint presentation materials, Mr. Williams described why protective levels are developed. He explained that saltwater is denser than freshwater and intrudes as a wedge at the bottom of the aquifer. The location of the freshwater-seawater intrusion interface depends on fresh water and seawater levels, depth of aquifers, and other factors.

Mr. Fischer and others commented that the diagrams used in the PowerPoint presentation were confusing and recommended that they be revised to show more land and other features that the public and Board members can recognize and relate to. Mr. Williams acknowledged that he will revise them to be more understandable, and to be consistent between the various figures with regard to symbology, colors, etc.

Mr. Williams explained that the mixing zone between the two types of water (fresh and sea water) at the interface is small relative to the size of the Basin.

b. Approach

i. Develop a series of cross sectional models

ii. Use steady state assumptions

iii. Produce protective water levels (not pumping plans)

Mr. Williams described the approach to be used, which will involve developing a series of cross-sectional models and using steady-state assumptions (this means that the interface stays at a steady location). These will be used to generate protective water levels. The model results will not tell when the interface will get to a specific location, but it will provide assurance that the seawater intrusion interface will not move further inland than the indicated location. With the protective water levels known, this information can be fed into the Groundwater Model for use in determining how long it will take to reach the protective levels under the various Scenarios.

c. Decide on what depths we are trying to protect

i. The entire aquifer depth

ii. The depth of pumping wells

iii. The depth of monitoring wells

With regard to the depth of protection, Mr. Williams explained that the deeper you protect, the higher the protective levels will need to be. Higher levels will require the use of more imported water. Protecting too shallow could lead to operational (water quality) problems with the production wells.

Mr. Williams said that many production wells are screened in the Santa Margarita aquifer, so he recommended providing protection to the bottom of the Santa Margarita formation. Inland near the northern boundary of the Basin, it is probably not practical to protect to the bottom of the Purissima formation, which appears to underlie the Santa Margarita formation in this vicinity.

Mr. Jaques commented that he felt all well owners would want their wells to be protected from seawater intrusion under all conditions. Mr. Fischer noted that the cost of providing differing levels of protection will need to be considered in the ultimate decision-making process by the Board.

Mr. Johnson suggested protecting to the bottom of the measured, or extrapolated, Santa Margarita formation up to the northern Basin boundary, or to the bottom of the deepest production well.

Following considerable discussion the following consensus was reached:

With regard to the Southern Coastal Subarea: There was consensus to provide protection to the top of the Monterey formation.

With regard to the Northern Coastal Subarea: There was consensus to protect to the top of the Monterey formation where the Santa Margarita formation exists, and in the northern part of the Basin to protect to the bottom of the extrapolated Santa Margarita formation where the Purissima formation is encountered.

Mr. Williams explained that this will also protect the Northern Inland and Laguna Seca subareas.

There was much discussion with regard to Technical Issues vs. Policy Issues and the cost consequences of differing depths and locations of protection. There was also discussion with regard to whether it was the Watermaster's responsibility just to protect the existing production wells from "material injury" or to protect the entire Basin (including possible future wells in areas where production wells do not currently exist).

It was pointed out that the Seawater Intrusion Response Plan requires steps to be taken if seawater intrusion is detected in any coastal monitoring well, including such things as redistributing pumping to mitigate the seawater intrusion.

d. Decide on the location we want to protect

- i. Coastline**
- ii. Production wells**
- iii. Monitoring wells**

Mr. Williams recommended protecting either to the coastline, or to the coastal monitoring wells, in order to provide a margin of safety for the production wells which are located further inland.

Mr. Jaques proposed having the model develop protective water levels for two locations:

Location (1): Close enough to the coastline so that all existing production wells are protected, and

Location (2): To a location further inland so that all but the three small production wells very close to the coast (SNG, DBO, and Sand City Corporation Yard) are protected (including the CAW and Seaside municipal wells) as well as all other inland wells. As part of this, seek a water source to provide water supply to these three affected well owners, so they can continue to meet their water demands. It was thought that Location (2) may be less costly, including the cost of providing a new water supply to these three wells, than protecting to Location (1).

Mr. Williams explained that all protective modeling scenarios need to be "anchored" to a monitoring well on the seaward end of the cross-sections.

Following much discussion there was consensus to provide protection to the location of coastal monitoring wells.

e. Decide on locations to establish protective water levels

- i. Existing monitoring wells**
- ii. Potential monitoring well locations**

There was discussion which led to consensus to use existing monitoring wells rather relying on future monitoring wells that may be constructed.

Mr. Oliver recommended using the following existing monitoring wells to establish the location to which protection will be provided: CDM-MW4, MSC, PCA-W, and SBWM-3. There was consensus to use this set of wells for this purpose. Mr. Williams will show these wells on one of the figures in the Final version of Technical Memorandum No. 3.

f. Define saltwater intrusion

- i. The secondary MCL for chloride (250 mg/l)**
- ii. Background concentrations**
- iii. Site specific levels from SIRP**

Mr. Williams explained that the model will use 19,000 milligrams per liter chloride to represent seawater, and zero milligrams per liter chloride to represent freshwater. Mr. Williams recommended using the 250 milligrams per liter chloride level, which is the Drinking Water Standards Secondary Maximum Contaminant Level, as the basis for identifying the location of the seawater intrusion front. There was consensus to accept Mr. William's recommendations on these matters.

g. Discuss the option of storing water offshore for short-term use

Following discussion led by Mr. Williams there was consensus not to pursue the option of storing water offshore for short-term use.

h. Monte Carlo Analysis for Uncertainty?

There was consensus that an uncertainty analysis (sensitivity analysis) should be included as part of modeling work.

i. Optional model?

Mr. Williams explained he had initially thought that a seawater intrusion model of the Basin already existed, prepared by another party, but upon evaluation of that model he concluded that it would probably not be an appropriate model for the Watermaster's use.

3. Other Business

Mr. Oliver explained that his calculation of water volumes in conjunction with HydroMetrics' Technical Memorandum No. 2 led him to conclude that the 1,494 acre feet per year figure in the Coastal Water Project-Draft Environmental Impact Report should in fact be 1,474 acre feet per year, as Mr. Jaques had proposed in the Watermaster's comments to the Public Utilities Commission on the Draft Environmental Impact Report. Mr. Oliver handed out a copy of his analysis, and a copy of this is attached. There was consensus to have the modeling work be based on the 1,474 acre foot per year figure.

The meeting adjourned 4:55 p.m.

**MR. WILLIAMS POWERPOINT PRESENTATION FROM THE
MAY 28, 2009 SPECIAL TAC MEETING**

Seaside Groundwater Basin

Protective Groundwater Elevations Goals and Objectives

Presented by HydroMetrics LLC

May 28, 2009

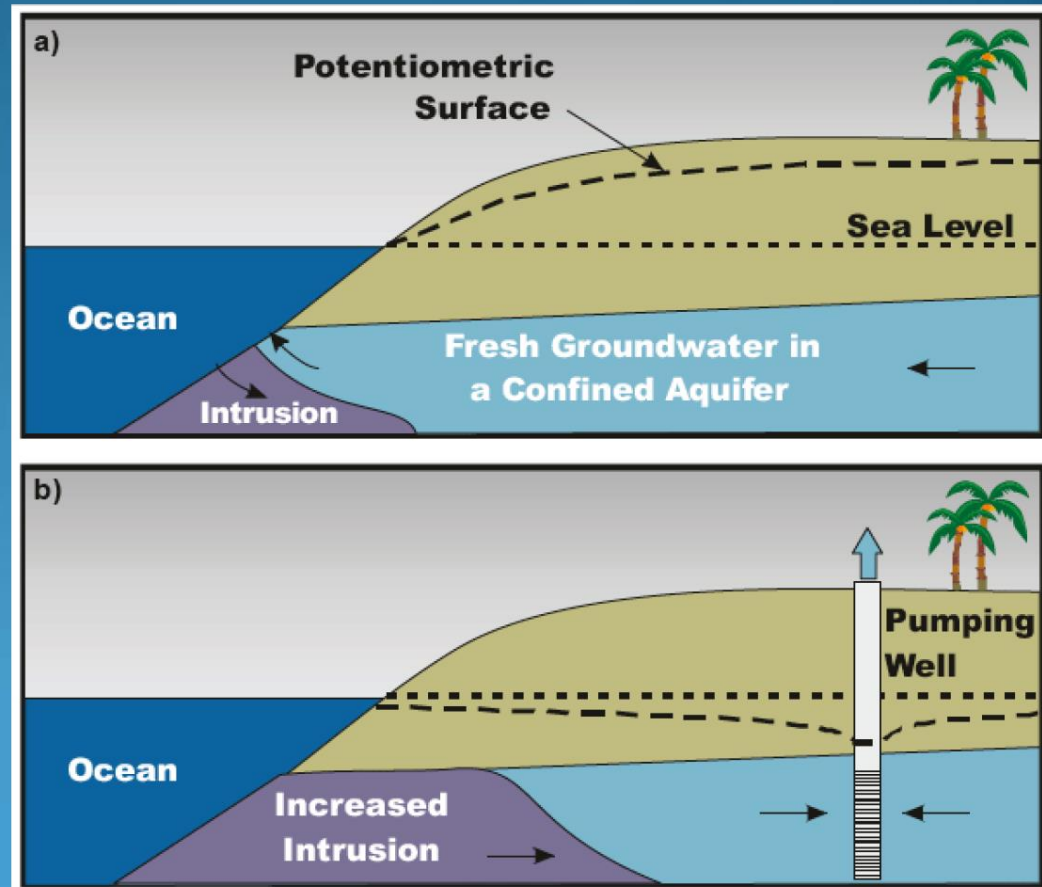


Presentation Outline

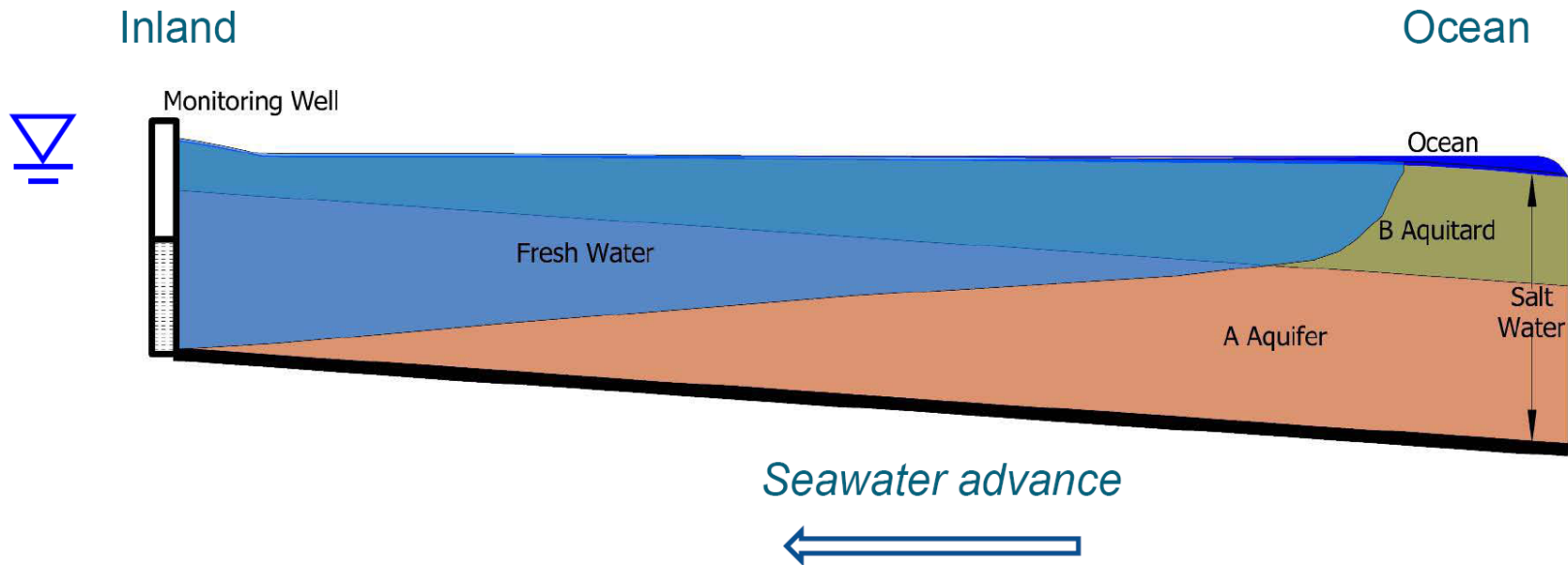
- Overview and Reason to develop protective groundwater elevations
- Approach to Modeling
- Decide on what depths we are trying to protect
- Decide on the location we want to protect
- Decide on locations to establish protective water levels
- Define saltwater intrusion
- Discuss the option of storing water offshore for short-term use
- Monte Carlo Analysis for Uncertainty?

Reason to Develop Protective Elevations

- Saltwater is denser than freshwater, so it intrudes with a wedge at the bottom of an aquifer

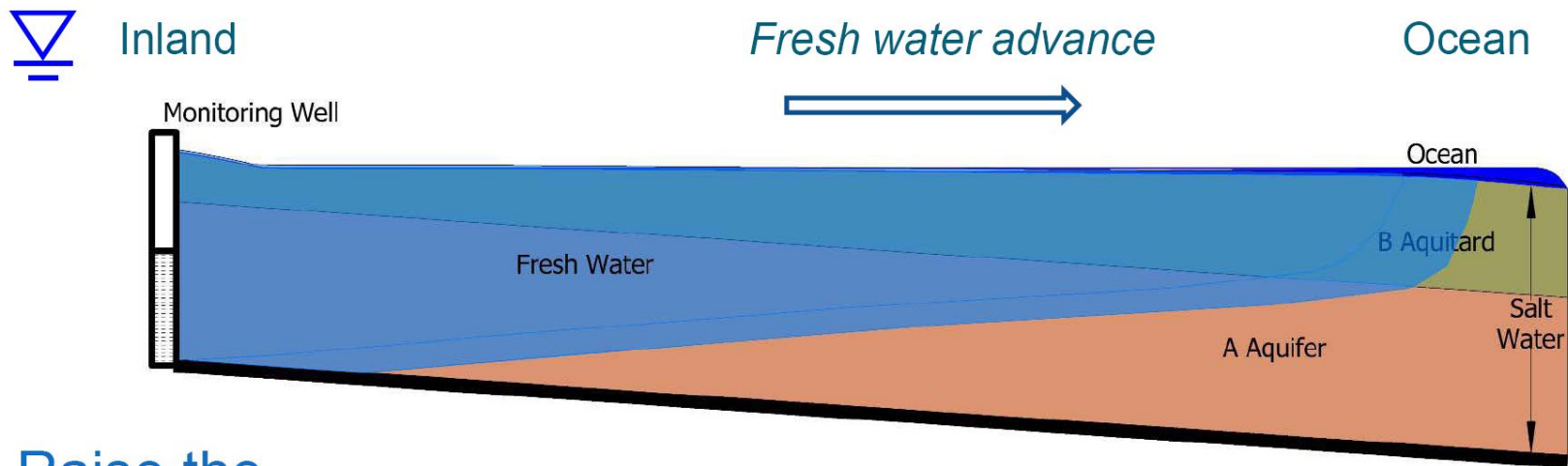


Low groundwater elevation



More seawater intrusion

Higher groundwater elevation

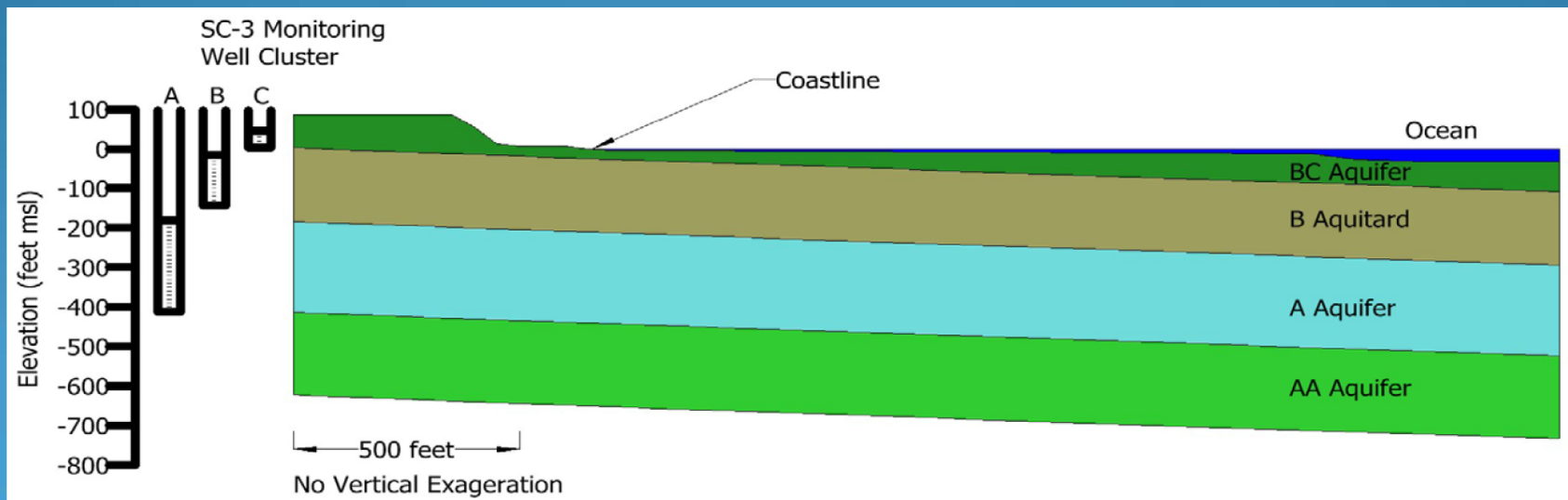


Raise the freshwater elevation to push the wedge or interface away from the land

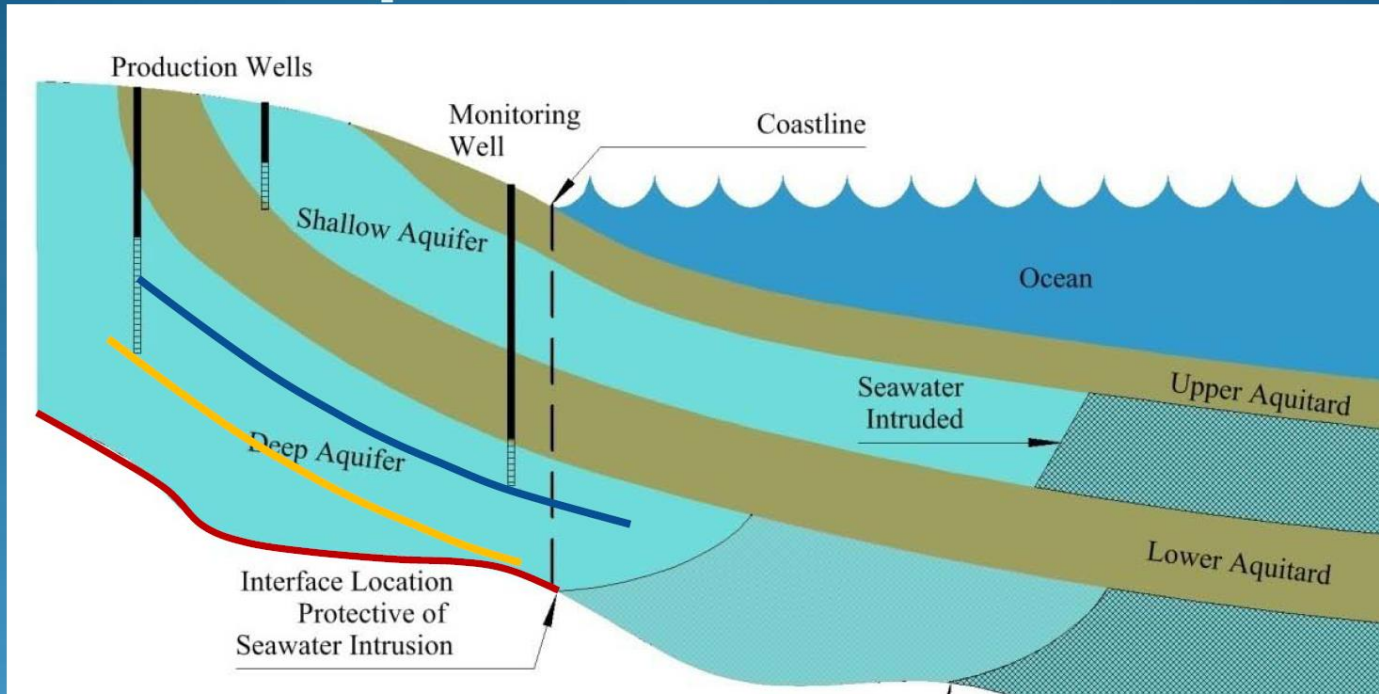
Less seawater intrusion

Approach

- Develop a series of cross sectional models
- Use steady-state assumptions
- Produce protective groundwater elevations (not pumping plans)



What Depth to Protect?



- The entire aquifer depth
- The depth of monitoring wells
- The depth of pumping wells

What Location to Protect?



- Coastline
- Monitoring wells
- Production wells

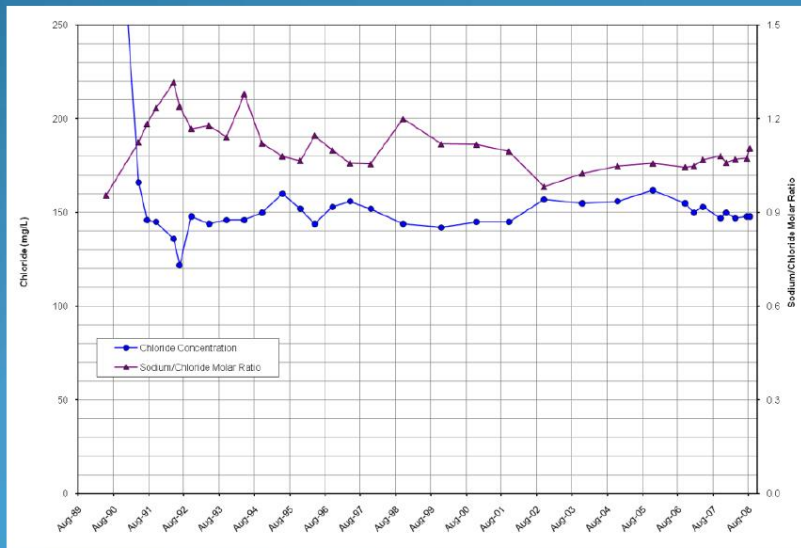
Decide on Locations to Establish Protective Groundwater Levels?

- Existing monitoring wells
- Potential monitoring well locations



Define Saltwater Intrusion

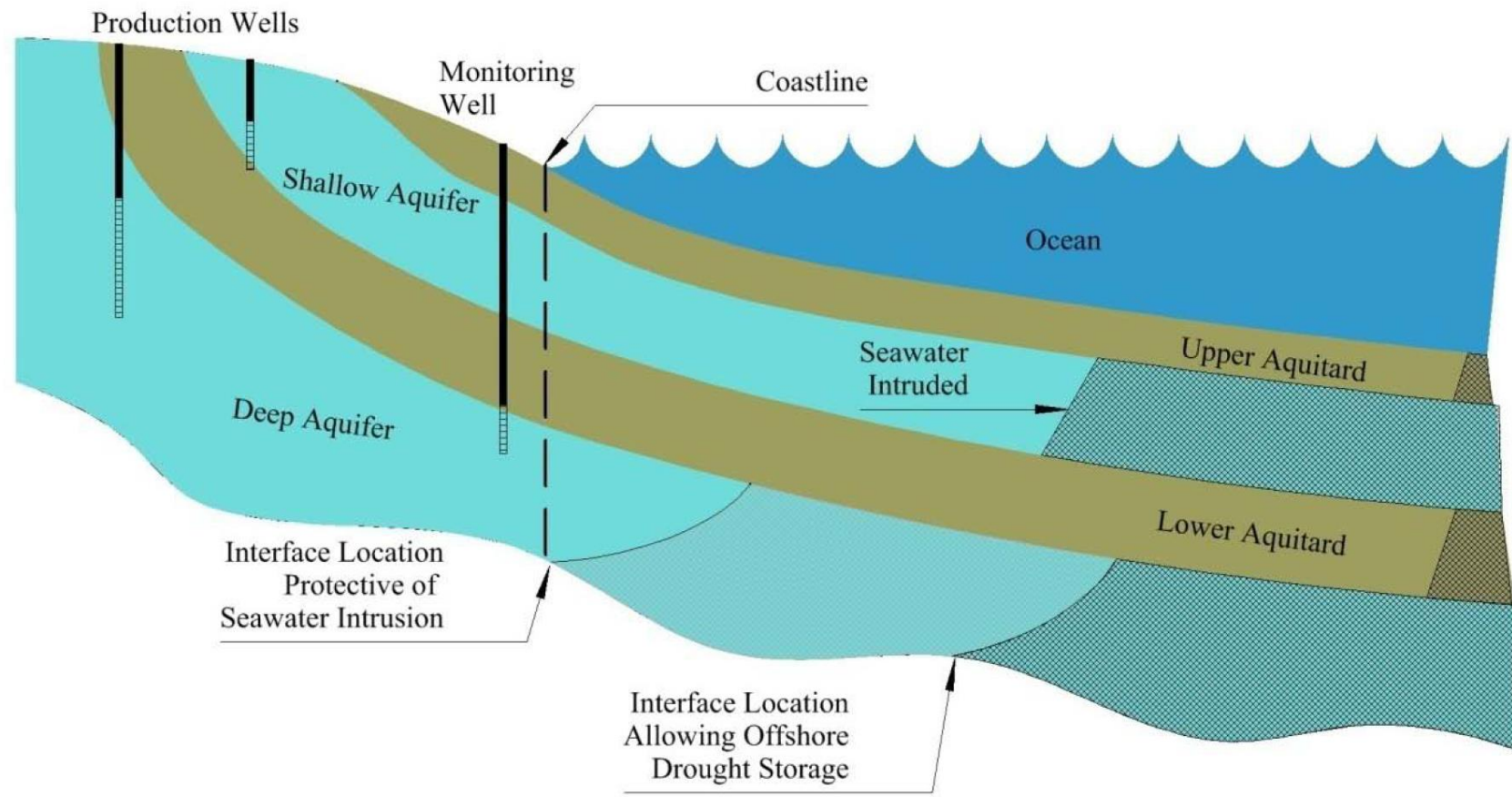
- The secondary MCL for chloride (250 mg/l)
- Background concentrations
- Site specific levels from SIRP



Cross-Sectional Model Locations



Offshore Storage



Other Issues

- Monte Carlo Analysis for Uncertainty?
- Optional model?

MR. OLIVER'S WATER VOLUME CALCULATION SPREADSHEET

Calculation of Actual and Projected Natural Safe Yield (NSY) Overproduction
for California American Water (Cal-Am) Pumping from the
Seaside Groundwater Basin:
Water Year 2006 to 2015

(values in acre-feet)

Water Year	Cal-Am Production (acre-feet)			Alternative Producers	NSY Available to Standard Producers	Cal-Am Share of NSY	Cal-Am NSY Overproduction
	Coastal	Laguna Seca	Combined				
<i>Actual</i>							
2006	3,264	446	3,710	978	2,022	1,848	1,861
2007	3,625	435	4,060	1,037	1,963	1,768	2,292
2008	3,330	533	3,863	1,115	1,938	1,709	2,154
<i>Projected</i>							
2009	3,191	271	3,462	1,387	1,613	1,474	1,988
2010	3,087	246	3,333	1,387	1,613	1,474	1,859
2011	3,087	246	3,333	1,387	1,613	1,474	1,859
2012	2,669	147	2,816	1,387	1,613	1,474	1,342
2013	2,669	147	2,816	1,387	1,613	1,474	1,342
2014	2,669	147	2,816	1,387	1,613	1,474	1,342
2015	2,251	48	2,299	1,387	1,613	1,474	826
TOTAL						16,865	

Sources for Actual Cal-Am NSY Overproduction Calculation:

1. WY 2006: Attachment 3 of Watermaster 2006 Annual Report, 2/14/2007.
2. WY 2007: Attachment 4, Page 3 of Watermaster 2007 Annual Report, 11/15/2007.
3. WY 2008: Attachment 4, Page 3 of Watermaster 2008 Annual Report, 11/5/2008.

Assumptions for Cal-Am NSY Overproduction Calculation:

1. Basin Natural Safe Yield (NSY) = 3,000 acre-feet per year (AFY).
2. NSY for Alternative Producers:

Coastal Subareas	743 AFY
Laguna Seca Subarea	<u>644 AFY</u>
Total	<u>1,387 AFY</u>
3. The first triennial Operating Yield reduction is in effect for Water Year 2009; the subsequent triennial reductions become effective in Water Years 2012 and 2015.
4. Projected *Cal-Am Share of NSY* is 91.37% of *NSY Available to Standard Producers*, based on the initial "normalized" Standard Producers Base Rights as follows:

Cal-Am (Coastal + Laguna Seca)	3,849.2	0.9137
Seaside Municipal	287.4	0.0682
Graniterock	27.1	0.0064
DBO Development No. 27	<u>49.3</u>	<u>0.0117</u>
	4,213.0	1.0000

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 10, 2009
AGENDA ITEM:	2
AGENDA TITLE:	Progress Reports
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	
<p>As a regular part of most monthly TAC meetings, progress reports will be provided by the consultants and entities that are performing work on the Seaside Basin Monitoring and Management Program. From time to time there will also be a progress report from the Technical Program manager on related work. Attached are the progress reports for today's TAC meeting.</p> <p>The attached Progress Reports cover the time period since the last Regular TAC meeting held May 13, 2009 to June 3, 2009 when this Agenda packet was prepared.</p> <p>Under this agenda topic TAC members are encouraged to raise any questions or issues of concern regarding these items.</p>	
ATTACHMENTS:	Progress Reports
RECOMMENDED ACTION:	None required – information only

Progress Report from the MPWMD

Work Performed

- Prepared responses for data requests for (HydroMetrics) groundwater model development.
- Investigated alternate approaches for collecting water quality samples from coastal monitor wells, in particular from newly-added Army monitor well at Fort Ord State Park property west of Highway 1.
- Provided TAC's requested revisions for Watermaster database to Zone 24x7 (database programmers) to determine level of effort required to make requested revisions prior to posting database on Watermaster website.
- Prepared analysis of Cal-Am overproduction for groundwater model scenario assessment.
- Continued water level and water quality data entry into Watermaster database at new host location.
- Continued water level data collection under enhanced monitoring program.

Upcoming Work

- Process data requests from HydroMetrics for groundwater model development.
- Continue data collection efforts under RFS 2009-01 and 2009-02.
- Continue support for Watermaster database deployment under RFS 2009-03.
- Continue support for Watermaster production accounting.
- Continue work on conversion of existing coastal monitor well at State Parks for Watermaster use.
- Assist with process of securing a site for new inland monitor well.
- Continue Watermaster database data compilation efforts.
- Maintain listing of recommended enhancements for future upgrade of database.
- Support Watermaster technical consultant team on document preparation efforts.

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Progress Report from HydroMetrics

Work Performed

Since the last TAC meeting, most of the work has focused on developing model layers, and fine tuning the water budget.

A workshop to discuss and decide on protective groundwater level issues was held on May 28 at MRWPCA. Bob Jaques recorded minutes which will be used to prepare a draft Technical Memorandum that will be distributed in mid-June.

HydroMetrics originally understood that the Salinas Valley groundwater data needed for use in the Watermaster's updated Seaside Basin Groundwater Model would be available from MCWRA at no cost.

It was subsequently learned that the MCWRA's groundwater modeling data was not available in a format that could be used by HydroMetrics. Consequently, a scope and cost estimate for WRIME (the consultant to MCWRA who operates the Model) to generate groundwater levels from the Salinas Valley Integrated Groundwater Surface water model (IGSM) model was obtained. These data would be used to represent the northern boundary condition for the Seaside model. The cost was \$7,500 lump sum (see attached). This will be a cost outside of the scope of HydroMetrics original contract with the Watermaster, since HydroMetrics did not budget to pay for this data.

Upcoming Work

- Complete recharge calculations,
- Complete constructing model grid and model layers,
- Complete compilation of pumping and injection data,
- Start working on model boundary conditions,
- Initial model runs and calibration, and
- Start basic set up of SEAWAT model for protective level modeling.

--- 0 ---

Progress Report from the Technical Program Manager

A. Database Issues

Continuing to work with MPWMD and their consultant on implementing the database changes and access level set up per TAC direction at the last TAC Regular Meeting. Attached is the proposed scope of work and cost estimate from Zone 24x7 to complete the access-level revisions to the Watermaster Database as we have been discussing at the TAC. Inder Osahan, MPWMD's IT consultant, feels that their cost estimate of ~\$4,300 is quite reasonable given the labor involved in having to review and modify each of the source code modules to be consistent with the variable user access features requested. Mr. Osahan also spoke with his contact at Zone 24x7 to see if it would be possible to accelerate the estimated 5-week schedule, and they think it could be brought down to 3 - 4 weeks.

If the TAC approves the proposed scope of work and cost, I will prepare and RFS to MPWMD to have this work performed.

B. Selection of Site for New Monitoring Well

The draft MOU between MPC and the Watermaster which I prepared one for them is being reviewed by their attorney, per direction by their Board at their May 26th meeting. Board's concerns dealt with the indemnification language, which Brian Finnegan will edit for them and return to me for review. They are required to provide public posting of their Notice of Intent to enter into a land lease agreement, which will push the approval process back until at least late June, if not into July. I asked to have the opportunity to edit the Schedule language in the MOU to provide flexibility as to when we might want to install the well, since it may not fit into our 2009 construction plans.

The BLM application was reviewed by their NEPA Coordinator, who apparently is ready to issue the permit. However, BLM is still trying to determine whether the Watermaster would be exempt from BLM's permitting processing fees and annual lease fees for the well site. A series of questions was posed to me in a letter from BLM dated May 28, 2009, and I will respond to them in hopes that they will be able to conclude this part of the process so we can proceed.

Once the best site has been selected, we plan to focus all of our efforts on that one site.

C. Calibration of Production Well Meters

The updated table below summarizes the responses received to the well calibration data request that I sent out in early April, 2009.

With regard to water meter calibration, here is some information and recommendations gathered from various water utility websites:

Meter accuracy. Water meters can be damaged and deteriorate with age, thus producing inaccurate readings. Inaccurate readings will give misleading information regarding water usage, make leak detection difficult, and result in lost revenue for the system. All meters, especially older meters, should be tested for accuracy on a regular basis. The system also should determine that meters are appropriately sized. Meters that are too large for a customer's level of use will tend to under-register water use. Meters should be able to accurately record the full range of expected flow rates.

Meter testing, calibration, repair, and replacement. After determining the accuracy of the metering system, the utility should provide a schedule of activities necessary to correct meter deficiencies. Meters should be recalibrated on a regular basis to ensure accurate water accounting and billing. Calibration provides a utility with valuable information on the accuracy of the quantity of water being supplied, leading to appropriate decisions on maintenance or replacement frequency.

Types of water meters. A water utility needs to know the operating limits of each type of meter being used within the system so that the correct meter can be installed for each application. Most commercially available water meters use one of three methods for measuring flow rates:

1. Displacement. Displacement metering is typically used for small to medium flow applications, such as measuring water use in residential or small businesses applications. In these meters, flowing water physically moves either an oscillating piston or a nutating (wobbling) disk. They also have built-in strainers that catch debris in the water stream that could damage the meter. Most displacement meters are less than 2 inches in diameter.

2. Velocity. Velocity-type water meters use jets of water impacting on impellers that turn on their axle while moving a register. Like displacement meters, velocity meters are best suited for relatively small flow measurements associated with residential and small-business water use. Since they are not as accurate at large flow rates, they are usually restricted to water lines 2 inches in diameter or smaller. Velocity meters also have internal strainers to remove debris.

In high-flow situations where standard displacement and velocity meters cannot be used, turbine meters are appropriate. Similar to velocity meters, turbine meters measure flow by the rate of spin induced in an in-line turbine. Most often they are used in large industrial processes, firefighting, and entire community water distribution systems. Turbine meters can be installed in water lines as large as 12 inches in diameter. When water flow rates are highly variable, compound meters, which have two measuring components for high flows and low flows can be used. To prevent backflow between the two, the meter is equipped with a check valve. As water flow rates drop, the pressure inside the meter falls and the check valve closes. This diverts the flow to the low-flow rate-measuring component (typically a velocity meter).

3. Electromagnetic. Electromagnetic flow meters use the electromagnetic properties of water instead of turning mechanisms to measure flow rates. The flow generates voltage as it crosses the force lines of a magnetic field. The strength of this voltage translates electronically into water flow rates. They have no moving parts, which make them ideal for measuring wastewater flows, slurries, and other liquids with debris or contaminants that could damage a mechanical meter.

Meter calibration and replacement programs. Water meters tend to deteriorate with age, resulting in inaccurate readings. Meters are often damaged or do not record water use at all. It should be verified that meters are appropriately sized, as oversized meters tend to under-record actual water use. Guidelines for water meter testing are contained in the American Water Works Association (AWWA) standards (C700 Series) as summarized in "Water Meters - Selection, Installation, Testing, and Maintenance" (AWWA M6). In accordance with Manual M6, 95% of the meters scheduled for tests on a periodic basis should actually be tested, and at least 95% of the meters actually tested should register results within the accuracy limits specified for both normal and minimum test-flow rates. In addition to a meter-testing program, a water supplier should develop a meter replacement program to replace or repair defective meters. Customer meters may need to be replaced at least once every 15 years, if not sooner. Larger meters in the system and wholesale customer meters should be calibrated on a regular basis, as well as tested for accuracy at scheduled intervals. Ranges of meter accuracy should be in general conformance with the latest revisions of the AWWA and/or specific State Plumbing Code requirements. When an AWWA standard for a meter is not available, it should be demonstrated that the meter used is capable of measuring not less than 95% and not more than 105% of the water that passes through the meter.

The AWWA recommends that meters in service be tested, on average, as follows:

Meter sizes 5/8 in. to 1 in = Every 10 years

Meter sizes 1 in. to 4 in. = Every 5 years

Meter sizes 4 in. and larger = Every year

From the responses received, it appears that most if not all of the meters may need to be calibrated. This will entail quite a bit of work, including coordination with each of the well owners to determine the type and model of their meters, selection of firm to perform the work, and performing the work itself. Several of the producers are reporting relatively small annual production amounts. For example in Water Year 2008 four of the producers listed in the attached table reported producing less than 35 AF. The others reported productions of well over 100 AF.

Input from TAC members is invited to help decide what action the Watermaster should pursue in order to fulfill its obligations under Section L.3.j.vii (page 35) of the Amended Decision, which reads:

“The Watermaster will make inspections of Water Production facilities and measuring devices at such times and as often as may be reasonable under the circumstances, and to calibrate or test such devices.”

WELLOWNER/ OPERATOR	RESPONSE RECEIVED?	WAS/WERE METER(S) RECENTLY CALIBRATED?	IF YES, WAS/WERE CALI- BRATION REPORT(S) PROVIDED?	IF YES, WHAT, IF ANY, FOLLOWUP ACTION IS NEEDED?
Laguna Seca Resorts	Yes	No. Neither of the 2 meters has been calibrated.	No	TBD
California American Water	Yes	No. CAW reports that "Cal-Am does not calibrate well water meters, which are the source of supply for the Central Division. Cal-Am performs pump efficiency tests on its facilities to determine motor, pump, and water meter efficiency and/or accuracy. If a well water meter is found to be outside of the manufacturer's accuracy specification, it is removed and sent to the manufacturer for calibration, repair, and/or replacement."	Yes	The reports are pump test reports, not meter calibration reports. Followup action TBD.
City of Sand City	No	Unknown at this time.		Followup call & email sent 6/1/09 – awaiting reply
City of Seaside	Yes	Yes. All 4 meters (2 municipal, 2 golf courses) were calibrated on 10-13-2008.	Yes, for all 4 meters.	Under study at this time.
Mission Memorial Park	Yes	Meter apparently has not been calibrated since installation.	No	Further information is being provided. Followup action TBD.
Security National Guaranty Inc	Yes	Yes – 2006	No	Obtain calibration reports if possible
Pasadera Country Club, LLC	Yes	No. Neither of the 2 meters has been calibrated.	No	Followup action TBD.
York School	Yes	No. Meter was installed over 5 years ago and not calibrated since it was installed.	No	Followup action TBD.
Monterey County Parks Department	Yes	No. One Meter is new, but not calibrated subsequent to installation; the other meter has not been calibrated	No	Followup action TBD.

HYDROMETRICS
GROUNDWATER MODEL BOUNDARY CONDITIONS
DRAFT SCOPE OF WORK

MAY 26, 2009

PREPARED BY: WRIME, INC.

1. SCOPE OF SERVICES

Groundwater level output from the Salinas Valley Integrated Groundwater and Surface Water Model (SVIGSM) will be prepared and delivered to HydroMetrics for use as boundary conditions for their model of the Seaside Basin. The scope of services is as follows:

Monthly groundwater level data, by model layer, will be provided for the SVIGSM groundwater nodes (to be identified by HydroMetrics) for the following model scenarios and time periods:

- o Historical calibration model run (1987-1994)
- o Future Conditions Baseline (1987-2004), which includes the Salinas Valley Water Project

Data will be provided to HydroMetrics in a Microsoft Excel file.

The major assumptions included in the Historical calibration model run and in the Future Conditions Baseline will be summarized in a brief 1-page memorandum.

Coordination will be provided with HydroMetrics project manager via email and telephone. No meetings are included in this Scope of Work.

2. BUDGET

Total cost to perform the work outlined under this scope of work is \$7,500 billed on a lump sum basis.

3. DELIVERABLES

Deliverables include the Excel spreadsheet of monthly groundwater level, by layer, and the brief 1 page memorandum documenting major assumptions in the model runs. Both are described in the Scope of Services.

4. SCHEDULE

The work described in this SOW shall be completed within 3 weeks from Notice-To-Proceed.



MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

**Well Database System - Revising User Access
Levels**
Statement of Work (SOW)



Version 1.0

Zone24x7 Inc., 1310 Rimrock Drive, San Jose, CA95120, USA



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Executive Summary

This work statement is raised by Zone24x7 Inc. in relation with applying the revised user access levels to Monterey Peninsula Water Management District (MPWMD) – Well Database System and would address the high-level project scope, financial aspects and other related features of the potential project.

Zone24x7 Inc. is a leading global provider of technology innovation services headquartered in San Jose, California with offices in the USA, Sri Lanka and Malaysia. Zone24x7 was recognized as a **Microsoft Certified Gold Partner** in Mobility Solutions, Custom Development Solutions and Data Management Solutions competencies due to our excellent technological solution delivery, commitment, expertise and superiority. Zone24x7 is also a **Windows Embedded Partner** with market awareness and technology advantage for Windows CE .NET and Windows XP Embedded solutions. Zone24x7 provides innovative technology solutions essential for business success with next generation technology. Zone24x7 Inc. had been providing scalable backend solutions using J2EE technologies to leading clients in the US since its inception.

Zone24x7 has been certified as a **CMMI Level 3** company by the US based Software Engineering Institute, part of Carnegie Mellon University, for its process maturity, successful project execution and delivery excellence.

Zone24x7 thrives to provide the utmost value to its clients by combining talented associates, proven world class methodologies and efficient use of technologies. To ensure seamless communication with its clients we use leading edge collaboration technologies across all our projects



1 Overview

THIS STATEMENT OF WORK (“SOW”) dated 1st June 2009, sets forth a scope and definition of the consulting services, work and/or project (collectively, the “Services”) to be provided by Zone24x7, Inc. (“Zone24x7”) to Monterey Peninsula Water Management District (“Client”).

The provisions which are addressed by this SOW would discuss the financial aspects, high-level requirements, tentative effort estimations, and essential pre requisites of the project.

1.1 Exposure to the Client

Zone24x7 will allocate required resources to work on this project under the purview of a Project Manager who would be responsible for directing the project under the consent of the client. Zone24x7 would invoice the client for the total estimated sum of USD **\$4,299.57** according to the payment schedule specified in section 1.2 ([table 1.2.2](#))

1.2 Cost Summary and Payment Schedule

Project Phase	Estimated Hours	Total SOW Cost (USD)
Existing Code Study	40.0	\$1,160.00
Implementation	98.8	\$2,273.32
QA Testing	57.8	\$866.25
Total Development Cost		\$4,299.57

Table 1.2.1 – Cost Summary

Payment #	Amount [USD]	Payment Term
Initial Payment	\$1,299.57	Upon acceptance of the SOW
Second Payment	\$1,500.00	Upon completion of the Phase 2
Final Payment	\$1,500.00	Upon system acceptance

Table 1.2.2 – Payment Schedule and Terms



2 Project Scope

This project covers changing the existing access levels for Seaside WaterMaster Database System and following access levels will be implemented, tested and deployed;

User Access Level	Password Required?	Persons Assigned to this User Access Level	General Description of User Capabilities
4	Yes	Database Administrators: Joe Oliver & Bob Jaques	<ul style="list-style-type: none"> ▪ View and edit all data and documents in the Database ▪ Assign and change passwords and User Levels ▪ Prepare and download reports
3	Yes	Regular Users and Data Entry Personnel: Laura Dadiw and certain MPWMD personnel	<ul style="list-style-type: none"> ▪ Enter and edit data to all of the data entry screens ▪ View and be able to add, but not to delete or edit, things in the Documents screen ▪ Prepare and download reports
2	Yes	TAC Members and Consultants Working for the Watermaster: All members of the TAC, and consultants such as HydroMetrics and Martin Feeney	<ul style="list-style-type: none"> ▪ View only, but not be able to edit, all screens and documents contained in the Database ▪ Prepare and download reports
1	No	General Public: Anyone who wishes to get information on issues pertaining to the Database	<ul style="list-style-type: none"> ▪ View only, but not be able to edit, selected screens contained in the Database ▪ Prepare and download reports

Table 2.1 – Revised User Access Levels



MPWMD / WaterMaster -Well Database System – Revising Access Levels

User Access Level	Tab & Screen List Showing Proposed Capabilities at Each Access Levels										
	Contacts	Well Database							Reports		
		Well List	Gen'l Info.	Second'y Info.	Water Quality	Depth	Production	Docs	Water Quality	Depth	Production
4	E	E	E	E	E	E	E	E	Report	Report	Report
3	E	E	E	E	E	E	E	View and Add	Report	Report	Report
2	View	View	View	View	View	View	View	View	Report	Report	Report
1	View	View	None	None	None	None	None	None	Report	Report	Report

Table 2.2 – Revised User Capabilities

Descriptions of abbreviations used in the Table 2.2	
Edit [E]	Can view, add, change, or delete data in this screen
View	Can view all data in this screen, but cannot add, change, or edit the data
View and Edit	Can view all documents in this screen, and can add documents to this screen, but cannot delete or edit the documents already in this screen
None	Access is not authorized to this screen
Report	Can prepare customized reports and download them

This implementation will be carried out based on the existing codebase, however this could be remodeled with configurable role based security model at a future phase if required.

2.1 Work Breakdown Structure

Phase	Task	Deliverables	Timeline
Phase 1	Study existing code base and identify areas of change	<ul style="list-style-type: none"> Change Log 	1 Week
Phase 2	Implementation of revised user access levels	<ul style="list-style-type: none"> Updated Code 	3 Weeks
Phase 3	QA / Testing	<ul style="list-style-type: none"> Refined Code 	1 Weeks
Phase 4	Deployment of the updated web application to client server		2 Days

Table 2.2.1 – WBS MPWMD / WaterMaster -Well Database System – Revising Access Levels



2.1 Prerequisites

Zone24x7 team will require the following key dependencies from the client to kick off the project

- Availability of all the relevant documents and source code modules related to the application to be changed
- Setting up all the required servers and software (SQL and IIS server)
- Availability of a project responsible from the client for weekly project calls and meetings to clarify the requirements and to ensure the project direction

2.2 Assumptions

- Any deviation from the above specification would be upon mutual agreement between MPWMD and Zone24x7



3 Benefiting from Zone24x7

- More than a decade of industry experience in dealing with tier 1 retailers as well as tier 1 device manufacturers.
- Expertise in implementing system integration solutions to fortune 1000 companies in the USA.
- Zone24x7 has its offices in the USA, Malaysia and in Sri Lanka which allows us to operate 24 hours a day and 7 days a week.
- Proficiency in designing mobile device hardware, porting firmware and drivers on Windows CE / Linux platforms.
- Research collaboration with University of Moratuwa which is ranked as 10th best university in the Indian sub continent for applied research in Surface Computing, Computer Vision, Biofeedback and Wireless Communication.
- When required, program management is handled through the US office. This model helps in providing effective communication between the teams and reduces the number of on-site engineers.
- Zone24x7 strongly focus on technical systems and procedures and are following global best practices in software development, quality assurance and release procedure through a meticulous and structured methodology.



4 Signatories

MPWMD

[Monterey Peninsula Water Management District]

By:

Name

Its:

Date:

Zone24x7, Inc.

By:

Name

Its:

Date:



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**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 10, 2009
AGENDA ITEM:	3
AGENDA TITLE:	Followup Discussion Regarding Development of Protective Water Levels
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	<p>HydroMetrics conducted the Workshop at the May 28, 2009 Special TAC Meeting. Draft minutes from that Special TAC meeting are included under Agenda Item No. 1.B of today's Agenda.</p> <p>The TAC is asked to discuss any further issues regarding the development of protective water levels, so that HydroMetrics can prepare a Final version of Technical Memorandum No. 3 for use in performing the protective water levels analysis. Technical Memorandum No. 3 is not planned to be presented to the Board for their approval. Rather, the results of the protective water level modeling will be integrated with the Groundwater Model Scenario analyses, and the combined results is what will be presented to the Board later this fall.</p>
ATTACHMENTS:	None
RECOMMENDED ACTION:	Discuss any remaining issues related to this work

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 10, 2009
AGENDA ITEM:	4
AGENDA TITLE:	Status Report on City of Seaside Negotiations with MCWD to Obtain Golf Course Water
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

The Board asked the TAC to continue to confer on the issue of how and when the MCWD replacement water for Seaside's golf courses could begin, and how a partial offset of the required reduction could be structured. The following are excerpts from the Draft Minutes of the May 6, 2009 Board meeting containing the Board's specific requests of the TAC:

1. Chair Rubio directed that the issue of Seaside obtaining water from MCWD to irrigate its golf courses be sent back to the TAC for further consideration of the likelihood of in-lieu replenishment achieving any degree of prorated credit against overproduction for this water year.
2. Chair Rubio directed the TAC to consider whether any amount of the 167AF of water estimated to be produced from the Sand City desalination plant in the 2009 calendar year could be credited to replenishment of the Basin for the current water year ending September 30, 2009 by amendment or future findings.
3. Director Costa requested that staff confirm allowance in the Decision of a rollback of the 10% reduction of 420 acre-feet if replenishment water becomes available later this water year or in future water years.
4. Don Freeman, Seaside City Attorney, recommended that staff and the TAC be authorized to notify the court immediately upon any replenishment water becoming available in an attempt to obtain a ruling allowing a rollback.
5. The Board passed a motion to declare no artificial replenishment water available for Water Year 2009, and to authorize staff and the TAC, when any replenishment water becomes available, to notify the court immediately in an attempt to obtain a ruling allowing a rollback.

Mr. Riedl will provide an oral update on the status Seaside's negotiations with MCWD to obtain this new source of water for irrigation of the Seaside golf courses.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

AGENDA ITEM:

4 (Cont'd)

Attached is a discussion paper on each of the numbered Board request items above, for purposes of initiating discussion on these topics at today's TAC meeting.

ATTACHMENTS:

Discussion paper on each of the numbered Board requests

**RECOMMENDED
ACTION:**

1. Continue to monitor and assist, if possible, with Seaside's pursuit of a new water supply for irrigation of its golf courses
2. Prepare responses to each of the Board's requests of the TAC

Discussion Paper on Each of the Numbered Board Requests

Request No. 1. TAC to consider the likelihood of in-lieu replenishment, through Seaside's obtaining water from MCWD to irrigate its golf courses, achieving any degree of prorated credit against overproduction for this water year.

Discussion: From discussions at our prior TAC meetings on this subject, there was consensus that it will be problematic for any in-lieu replenishment to be achieved in the current Water Year, because of the need to complete negotiations between Seaside and MCWD, and to fund and construct the intertie piping needed to accomplish this. Mr. Riedl's update at today's meeting will hopefully shed further light on this topic. If a firm date for the intertie to become operational can be provided, then historic golf course irrigation quantities from that date up until September 30, 2009 could be used to forecast the probable amount of in-lieu recharge that could be accomplished. However, that will only be an estimate, since actual irrigation demand varies somewhat from year to year. However, the estimate could be used in communication with the Court, if that is the Board's desire.

Request No. 2. TAC to consider whether any amount of the 167AF of water estimated to be produced from the Sand City desalination plant in the 2009 calendar year could be credited to replenishment of the Basin for the current water year ending September 30, 2009 by amendment or future findings.

Discussion: From discussions at our prior TAC meetings on this subject, there was consensus that since CAW will not commit to using any specific amount, or even any, of the Sand City desalination plant's production to reduce its pumping from the Seaside Basin, it is not possible to predict whether any of the 167 AFY will be able to credited toward replenishment of the Basin. That would only be known at the end of the Water Year, through a review of CAW's production figures, and discussions with them as to whether any reductions seen in their pumping from the Basin were a result of the operation of the Sand City desalination plant.

Request No. 3. TAC to confirm allowance in the Decision of a rollback of the 10% reduction of 420 acre-feet if replenishment water becomes available later this water year or in future water years.

Discussion: The language in the Decision pertaining to the 10% cutback reads, in part:

“Commencing with the fourth Water Year [starting January 1, 2009] and triennially thereafter the Operating Yield for both subareas [Coastal Subarea and Laguna Seca Subarea] will be decreased by ten percent (10%) until the Operating Yield is the equivalent of the Natural Safe Yield unless:

- a. The Watermaster has secured and is adding an equivalent amount of Non-Native water to the Basin on an annual basis; or*
- b. The Watermaster has secured reclaimed water in an equivalent amount and has contracted with one or more of the Producers to utilize said water in lieu of their Production Allocation, with the Producer agreeing to forego their right to claim a Stored Water Credit for such forbearance; or*
- c. Any combination of a and b which results in the decrease in Production of Native Water required by this decision; or*
- d. The Watermaster has determined that Groundwater levels within the Santa Margarita and Paso Robles aquifers are at sufficient levels to ensure a positive offshore gradient to prevent seawater intrusion.”* (language in brackets added for clarity).

Since this language uses the word “...unless...” it appears clear that if any one of the four sets of conditions has been met, then the 10% cutback does not have to be imposed. The language does not speak to the issue of when during a Water Year any of these sets of conditions must be met to forego the

10% cutback, rather, it just says that one or more of the sets of conditions must be met during the Water Year in order to avoid the 10% cutback. Thus, it appears that as long as any one of these sets of conditions is met at any point prior to the end of the Water Year, then the 10% cutback for that year can be avoided.

Request No. 4. Watermaster Staff be authorized to notify the Court immediately upon any replenishment water becoming available in an attempt to obtain a ruling allowing a rollback. [TAC presumably would be the group to arrive at this conclusion and make its recommendation to the Watermaster Chief Executive Officer who would, with assistance from legal counsel, make this notification to the Court].

Discussion: It does not appear that the TAC can make a recommendation to petition the Court to even a partial “rollback” of the 10% pumping reduction for the current Water Year, unless and until the Seaside-MCWD golf course irrigation water project has actually been put into operation delivering water, and the City’s golf course irrigation wells have stopped pumping by an amount of water equivalent to that being provided by MCWD. Only at that time could an estimate of the amount of in-lieu replenishment being achieved, to serve as a basis for petitioning the Court on this matter.

Request No. 5. Covered under Request No. 4 above.

Discussion: No action required under this Request, as it is addressed under Request No. 4.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	June 10, 2009
AGENDA ITEM:	5
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	<p>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.</p> <p>Attached is the Updated Consultants Work Schedule.</p>
ATTACHMENTS:	Updated Schedule of Consultants Work Activities
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to This Schedule

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009																	
		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	2009 Administration, Operations and Replenishment Budgets Due				Completed														
3	2010 Administration, Operations and Replenishment Budgets																		
4	Prepare M&MP Draft Budgets																		
5	TAC Approves M&MP Budgets																		
6	Board Approves M&MP Budgets																		
7	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports		Completed			Completed		Completed											
32	Replenishment Assessment Unit Costs for Water Year 2010																		
33	Develop Replenishment Assessment Unit Cost for 2010 Water Year																		
34	TAC Approves 2010 Water Year Replenishment Assessment Unit Cost																		
35	Board Adopts and Declares 2010 Water Year Replenishment Assessment Unit Cost																		
36	Replenishment Assessments for Water Year 2010																		
37	Watermaster Prepares Replenishment Assessments for Water Year 2010																		
38	Watermaster Board Approves Replenishment Assessments for Water Year 2009																		
39	Watermaster Levies Replenishment Assessment for 2009																		

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F							
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec			
70	Determine Which Meters Require Calibration																					
71	Select Contractor to Perform Meter Calibrations																					
72	Perform Meter Calibration and Report Results																					
73	Determine and Take Followup Actions Based on Calibration Results																					
74	I.2.b DATA COLLECTION PROGRAM																					
75	I.2.b.1 Site Selection for New Monitoring Well																					
76	I.2.b.5 Monitor Well Construction																					
77	Design, Permits, CEQA. And Approvals																					
78	Construction																					
79	Pursue Conversion of Existing Abandoned U.S. Army Well for Use as an Additional Monitoring Well																					
80	I.3.a ENHANCED SEASIDE BASIN GROUNDWATER MODEL																					
81	I.3.a.1 Update the Existing Model																					
82	Prepare and Execute Contract with HydroMetrics to Update the Existing Model																					
83	TAC Identifies Questions to be Answered by Updated Model																					
84	Board Concurs with Questions to be Answered by Updated Model, or Adds Additional Questions																					

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F					
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec	
114	I.4.e Refine and/or Update the SIRP						Only if Refinement or Updating is Necessary													