M E E T I N G N O T I C E AND A G E N D A

TECHNICAL ADVISORY COMMITTEE
OF THE
SEASIDE BASIN WATER MASTER

DATE: Wednesday, May 13, 2015
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 (712) 432-1212. Use the Meeting ID 355890617. 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: Roger Hulbert, California American Water Company
Vice-Chairperson: Joe Oliver, MPWMD

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

The next regular meeting will be held on Wednesday June 10, 2015 at 1:30 p.m. at the MRWPCA Board Room.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

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

MEETING DATE:	May 13, 2015
AGENDA ITEM:	2.A
AGENDA TITLE:	Approve Minutes from the April 15, 2015 Meeting
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Draft Minutes from this meeting was 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
April 15, 2015

Attendees: TAC Members

City of Seaside – Rick Riedl
California American Water – Roger Hulbert
City of Monterey – Norm Green
Laguna Seca Property Owners – Bob Costa
MPWMD – Joe Oliver
MCWRA – Howard Franklin
City of Del Rey Oaks – No Representative
City of Sand City – Leon Gomez (via telephone)
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager - Robert Jaques

Consultants
HydroMetrics - Derrik Williams (via telephone)
Todd Groundwater – Gus Yates (via telephone)

Others
Bishop, McIntosh & McIntosh – Leonard McIntosh in person and Eric Robinson (via telephone)
MPWMD – Jon Lear
California American Water – Eric Sabolsice

The meeting was convened at 1:38 p.m. after a quorum had arrived.

1. Public Comments

There were no public comments. Introductions were made of all TAC members present and of those attending via telephone.

2. Administrative Matters:

A. Approve Minutes from the March 11, 2015 Meeting

Mr. Costa requested that under Item 3.B of the Draft Minutes from this meeting, the wording of the second paragraph be revised to read as follows: "Mr. Robinson commented that the letters that he had submitted on behalf of his client were a reaction of concern that certain modeling by HydroMetrics might be relied upon as a basis to reduce the natural safe yield of the Laguna Seca Subarea, and that the peer review of that modeling by Todd Engineers shows there is no consensus on changing the natural safe yield from the amount determined by the adjudication Judgment. More work is needed before reaching any conclusions on changing the natural safe yield. Basin management actions need to be based on the best data and modeling information available. He said he looks forward to continued participation in TAC discussions on these issues."

Mr. Franklin asked Mr. Jaques if he found this revision to be an accurate reflection of the discussion at the March 11 TAC meeting, and Mr. Jaques said that he did. With this revision made, on a motion by Mr. Costa, seconded by Mr. Franklin, the Minutes were unanimously approved.

B. March 10, 2015 Letter from Bishop, McIntosh & McIntosh

Mr. Jaques briefly summarized the materials for this agenda item, and there was no further discussion on it.

3. Peer Review of HydroMetrics Laguna Seca Subarea Modeling Work

A. Continued Discussion of Draft Peer Review Technical Memorandum

Mr. Jaques introduced this agenda item and Mr. Yates proceeded to summarize the types of changes he had made from the previous Draft version of the Peer Review.

Mr. Yates also referred to a recent telephone conversation he had held with Mr. Williams regarding the Northern Coastal Subarea pumping trough issue. The water levels Mr. Yates had used were from December 2008 data. He was subsequently provided July data which did show the pumping trough on a seasonal basis, but still did not show the trend toward a long-term pumping trough. Mr. Riedl asked where the pumping trough was located, and he was referred to Figure 4 which shows it to be located in the east-central part of the Northern Coastal Subarea.

Mr. Yates also referred to a recent telephone conversation he had with Mr. Oliver about the geologic structural issues which Mr. Oliver had raised in connection with the groundwater model's failure to simulate the long-term pumping trough that actually exists in the east-central part of the Northern Coastal Subarea. Mr. Yates said this information may provide improved understanding of some of these issues.

Mr. Costa asked for clarification of the terms "natural safe yield" and "operational safe yield". Mr. Yates explained that the natural safe yield is part of the water budget, but as discussed in more detail in Appendix B. of the Peer Review, natural safe yield does not properly account for a number of factors that influence the yield of a basin. The operational safe yield does account for all of these factors and is a better concept to use.

Mr. Costa asked whether the HydroMetrics estimate of a natural safe yield of 240 acre feet per year for the Laguna Seca subarea was an accurate one. Mr. Yates responded that HydroMetrics did calculations to arrive at this value, but that the Decision-mandated boundaries of the basin make it difficult to determine the natural safe yield in part because those boundaries are not all structural boundaries but in some cases are flow divides.

Mr. Robinson noted that the boundary is a pumping divide, not a structural boundary. If the boundary was expanded toward the east, he asked whether the natural safe yield developed by using the model would be different. Mr. Yates responded that for a different sized subarea there would likely be a different natural safe yield. Mr. Robinson asked whether expanding the Laguna Seca Subarea to include the El Toro Subarea would result in a different natural safe yield. Mr. Yates said that he would expect the natural safe yield to change due to the larger area having more recharge and also more wells pumping. He noted that it would not be good to move the boundary to the location of another flow divide, because the flow divide itself might change locations as pumping and other conditions change. Rather, it would be preferable to go to a structural divide such as the boundary of the Monterey shale formation.

Mr. Costa commented that there appears to be so much variability in the modeling processes that it is difficult to accurately predict the natural safe yield. Mr. Yates responded that HydroMetrics did the straightforward calculations, but that the model parameters (inflow, outflow, etc.) affect the yield calculations. He went on to state that the uncertainty is in the ways in which the HydroMetrics model moves water (water balances) differently than the prior (Yates model) did. He said there are no obvious flaws in the HydroMetrics model, so it would be satisfactory to go ahead and use it, but to also use the

prior (Yates model) parameters and compare the results to give greater certainty to the findings. Mr. Jaques asked Mr. Yates if the Yates model was available for HydroMetrics to use. Mr. Yates explained that his model had only been developed for the Laguna Seca Subarea, not for the full Basin, but that the assumptions used in it were available, so HydroMetrics could run their existing model with the Yates model parameters for comparison. Mr. Williams said he concurred with doing this for comparison purposes.

Mr. Robinson commented that the last bullet on page 11 of the Draft Peer Review before the heading "General Conclusions" mentions that there is not enough data to determine whether one model is more accurate than the other, and that on page 12 there is mention in the top bullet on that page that the model is "non-unique" and that there is some uncertainty in the model results. He also suggested that clarity should be improved in the discussion of the issue contained in bullet No. 2 of the "Recommendations" on page 12 by making the following revisions:

> *The concept of "operational safe yield" applied by the model (and described in HMWRI reports) is useful for basin management because "natural safe yield" is based on a partial water balance that ignores interactions among water balance components and the effects of human activities on recharge.*

Mr. Yates responded that he did not feel that Mr. Robinson's suggested changes to the wording of this bullet item significantly altered the substance of the recommendation.

Mr. Robinson went on to point out that the concepts used to evaluate water levels are discussed, but that they do not clearly indicate whether the natural safe yield should be changed. He felt that this could lead to misunderstanding by the reader and possible misuse of this information. He noted that the natural safe yield value for the CH2MHill report was for the Basin as a whole and was not broken down by subarea.

Mr. Yates commented that one could use the operational safe field, not the natural safe yield, for Basin management purposes without challenging the natural safe yield values in the Decision. The Model output becomes more and more accurate over time as field-measured data is incorporated

Mr. Riedl asked what was meant in the last bullet under the heading "Recommendations" with regard to a low-conductivity model. Mr. Yates explained that this means to use lower permeability values to develop different water level responses to compare to the higher permeabilities that were used by HydroMetrics when it did its modeling. Mr. Riedl, requesting clarification, asked if Mr. Yates was referring to the auto-calibration process that may have changed the conductivities. Mr. Yates responded yes, that the auto-calibration method achieves calibration using a least-squares optimization technique, but that in order to accomplish this it may alter some parameters such that they become unrealistically extreme values. He noted that there are advantages and disadvantages to using the auto-calibration method. A disadvantage is that it can create "hot spots," i.e. localized wide variations in conductivity, in order to achieve calibration.

Mr. Williams said if lower permeability values were used the model might show a slightly different result for the operational safe yield. He said, however, that in earlier work with the model it was found that using lower conductivities did not appreciably change the operational safe yield. He went on to comment that some adjustments to certain of the geologic assumptions could be made in the areas of greatest uncertainty in order to try to improve the model's accuracy.

Mr. Williams said that the auto-calibration method may create some "bull's-eyes" (hot spots) but it does achieve the conductivity values needed to get field-measured results to match the values predicted by the model. Mr. Williams also explained that all of the modeling parameters would have to be looked at, not

just one parameter such as hydraulic conductivity, because changing only one parameter would have an effect on modeling results that would not necessarily improve the model.

Mr. Riedl asked if the conductivities within the basin used in the modeling could be plotted, and he was referred to Figure 8 in the Peer Review which provides that information.

Mr. Robinson commented that on page 5 of the Peer Review there is discussion about the HydroMetrics model over-simulating certain water level declines, and that he felt this should be noted in the Recommendations. Mr. Yates said the impact was not large, but that it would be worth evaluating this in future modeling.

Mr. Robinson noted that in the model as it is currently configured, the Laguna Seca Subarea yield is affected by pumping outside of the boundary of the Laguna Seca Subarea. He asked Mr. Yates if the outside pumping were changed would it change the yield of the Laguna Seca Subarea. Mr. Yates responded yes it would. Mr. Robinson asked Mr. Yates if reducing pumping in the El Toro area east and southeast of the Laguna Seca Subarea would cause the model to increase the operational safe yield of the Laguna Seca Subarea. Mr. Yates responded that it would.

Mr. Williams said this is a major type of problem in working with a model, when a subarea is affected by pumping and other factors outside the boundary of the subarea. He felt it would be better to try to manage the full basin, and not just the subareas within it.

Mr. Robinson pointed out that using the model results as a basis for reducing Laguna Seca Subarea Alternative Producer pumping would not account for water rights priorities of overlying landowners, who have alternative production allocations under the adjudication Judgment, that would be senior to the appropriative rights of public water service providers pumping just outside the Laguna Seca Subarea's eastern and southeastern boundary.

Mr. Riedl asked Mr. Yates several questions with regard to boundary issues.

Mr. Franklin commented that he was not in favor of having multiple models, and that lowering the conductivity in the sensitivity analyses did not seem to produce significant differences. He went on to say that he felt the inability of the model to show the development of a long-term pumping trough in the Northern Coastal Subarea was more of a concern. Mr. Yates noted that the sensitivity analysis only changed the conductivities outside of the Northern Coastal Subarea, whereas lowering the conductivity within the Northern Coastal Subarea would likely show the development of a long-term trough. He went on to say that his recommendation would be to use lower conductivity values in more of the basin.

Mr. Williams commented that the model does show the development of a seasonal trough, but not the long-term trend. He felt changes in recharge values, rather than conductivity values, might have a greater impact on the results. But he went on to say that he did not feel that any of these changes would have appreciable impacts on the Laguna Seca Subarea itself.

Mr. Yates said he understood Mr. Franklin's concerns about having two separate models. Rather, he felt that doing some sensitivity analyses using the existing model would be helpful, and that he would be glad to revise some of the language in the last bullet under the "Recommendations" to reflect this.

Mr. Robinson noted the various model parameter issues the Peer Review links to under-estimation of operating safe yield for the Laguna Seca Subarea and asked if there was a chance of getting different results for operational safe yield if one ran a model simulation that simultaneously changed all those parameters in response to the Peer Review. Mr. Yates responded yes, but it would then be necessary to do more work to achieve calibration.

Mr. Williams asked if any consensus had been reached on what to say to the Board with regard to the modeling results. In response Mr. Jaques summarized his thoughts with regard to presenting the Peer Review to the Board.

Mr. Lear suggested prioritizing the changes to be made in the model assumptions to more accurately calibrate the model in the Laguna Seca Subarea, and Mr. Williams said he would look into doing this.

Mr. Franklin said that he would like to see Mr. Yates make limited edits to the recommendations based on the discussion today, but not to have the TAC direct changes to the consultant's recommendations.

Mr. Sabolsice said he felt the Peer Review had been completed, and that the TAC should only seek to clarify technical issues, not seek to alter the conclusions or recommendations of the Peer Review. He felt the Board would like to hear the TAC's comments, but that the TAC did not need to continue discussing the Peer Review further.

Mr. Franklin said he felt the Peer Review had been adequately performed, and hoped that the recommendations would be revised slightly to reflect today's discussion so that it could then be moved forward to the Board.

Mr. Hulbert noted that the Recommendations were not large in scope, so he felt it would be satisfactory to only make small revisions to them based on today's discussions.

Mr. Oliver said he felt the Peer Review is what we asked for, and that the real job for the TAC will be to decide what we do with the Peer Review in terms of future TAC recommendations to the Board.

Mr. Costa said he concurred that the Peer Review had been completed, but wanted to ensure the Board understood the uncertainties with regard to the natural safe yield of the Laguna Seca Subarea.

Mr. Riedl and Mr. Green reported that they had no comments to add.

Mr. Hulbert said he felt consensus had been achieved to make the minor wording changes per today's discussion and that the Peer Review report had been adequately completed. Mr. Riedl asked that the issue of hydraulic conductivity be better explained under the General Conclusions and Recommendations.

A motion was made by Mr. Costa, seconded by Mr. Franklin, to approve the revised draft Peer Review after Mr. Yates agreed to make the revisions discussed at today's meeting and to have Mr. Jaques e-mail these revisions to the TAC for their final review, after which the Peer Review could be moved forward to the Board for its consideration. The motion was unanimously approved.

B. Develop TAC Recommendations to be Made to the Board

Mr. Jaques summarized the agenda packet materials for this item. There was consensus for the TAC to discuss these issues at future meetings, but not to make any recommendations on them to the Board at this time.

4. Preliminary Discussion of Work Plan to Address Findings of Laguna Seca Modeling Work

Mr. Jaques briefly discussed this item. There was consensus to defer discussion of it to a future TAC meeting.

Mr. Robinson asked Mr. Sabolsice what the technical rationale was for making the request to forego the 10 percent pumping cut-back, and whether this was linked to the Monterey Peninsula Water Supply Project. Mr. Sabolsice described the in-lieu water replenishment work being performed by the City of

Seaside at its golf courses as the basis for seeking avoidance of the most recent 10 percent pumping cut-back. He also stated that there is no link between this and the Monterey Peninsula Water Supply Project.

Mr. Robinson asked if Cal Am was committed to delivering water from the Monterey Peninsula Water Supply Project to its Laguna Seca Subarea users. At this point in the meeting Mr. Sabolsice had departed, but Mr. Hulbert confirmed that Cal Am will continue to supply its Laguna Seca Subarea customers from its main system.

5. Continued Discussion of Application from Cal Am to Increase Storage Quantity and Number of Storage/Recovery Sites

Mr. Jaques and Mr. Hulbert briefly discussed this item. There was consensus to defer discussion of it to a future TAC meeting.

6. Schedule

Mr. Jaques reported that there were no significant changes to the Schedule.

7. Other Business

Mr. Franklin reported that the Monterey County Resource Management Agency plans to develop a new Salinas River Basin model, and asked for the Watermaster to join their TAC for this work. He noted that MPWMD and MCWRA have already been invited to be members of the TAC. The first meeting is scheduled for early May. There was discussion on who to send to that first meeting to represent the Watermaster, and how to have the Watermaster TAC designate its representative for future TAC meetings.

Mr. Franklin reported that Monterey County had hired Brown and Caldwell to develop the new model which will cover at larger geographic area than the current model that is being used for the Salinas Valley Basin.

Following some discussion there was agreement that Mr. Jaques would attend the first TAC meeting, and that the Watermaster TAC will discuss selection of the Watermaster's representative for future meetings when Watermaster TAC holds its next meeting.

8. Set Next Meeting Date

The next regular meeting was set for Wednesday May 13, 2015 at 1:30 p.m. at the MRWPCA Board Room.

The meeting adjourned at 3:34 p.m.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	May 13, 2015
AGENDA ITEM:	2.B
AGENDA TITLE:	Designate Watermaster Representatives to Salinas River Basin Updated Model Development TAC
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY: At the April 15, 2015 TAC meeting Mr. Franklin reported that the Monterey County Resource Management Agency plans to develop a new Salinas River Basin model, and asked for the Watermaster to join their TAC for this work. He noted that MPWMD and MCWRA have already been invited to be members of this new TAC. The first meeting was held on May 12, and it was agreed that I would attend that first TAC meeting, but that the Watermaster TAC would discuss selection of the Watermaster's representative for future meetings when the Watermaster TAC holds its next meeting.

Attached is the County's letter inviting the Watermaster to provide a representative to sit on the Salinas River Basin Model Development TAC.

I will be happy to serve as the Watermaster's Primary Member on the Salinas River Basin Model Development TAC, if so desired.

They have also suggested that there be an Alternate Member for each participating entity, in case the Primary Member himself cannot attend. Since MPWMD is already on the TAC and is also on the Watermaster's TAC, I suggest that we ask the MPWMD to act as the Watermaster's Alternate Member.

ATTACHMENTS:	April 2, 2015 letter from Monterey County Resource Management Agency
RECOMMENDED ACTION:	Designate Primary and Alternate Members for the Salinas River Basin Updated Model Development TAC

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY

Carl P. Holm, AICP, Acting Director

Michael Novo, AICP, Director of Planning
Robert K. Murdoch, P.E., Director of Public Works

168 W. Alisal Street, 2nd Floor
Salinas, CA 93901
www.co.monterey.ca.us/rma

April 2, 2015

Robert Jaques
Seaside Watermaster
2600 Garden Road, Suite 228
Monterey, CA 93940

Re: Letter of invitation to join the Technical Advisory Committee - the Salinas River Groundwater Basin Investigation.

Dear Mr. Jaques:

I am writing to invite your organization to participate on the Technical Advisory Committee (TAC) for the development of a new groundwater model of the Salinas Basin - a subtask of the larger Salinas River Groundwater Basin (SRGB) Investigation – a five-year water resources investigation. Members of the TAC will have a shared responsibility for the Committee's role in advising various consulting and County entities on the model development and calibration efforts. The TAC facilitator will be Mr. Martin B. Feeney (PG, CEG, CHg), Consulting Hydrogeologist.

Project Summary

The proposed project is a five-year study of the water supply and groundwater quality in Zone 2C of the SRGB (Study Area). As part of this larger investigation, a new groundwater model of the basin will be developed which includes a simulation of baseline (2014) hydrologic conditions and predictive analyses (to the year 2030) of groundwater and surface water conditions, including changes in groundwater head elevations and seawater intrusion.

Overall Project Objectives

In this project, Brown and Caldwell (BC) will assist the County of Monterey (County) in the preparation of a five-year study of Zone 2C with the following general objectives:

1) Evaluate existing seawater intrusion and groundwater level data collected by Monterey County Water Resources Agency (MCWRA) as of the date the study is commenced;

2) Evaluate on an annual basis during the study period groundwater head elevations and the extent of seawater intrusion;

3) Assess and provide conclusions regarding the degree to which the total water demand for uses for the year 2030, as designated in the General Plan, is likely to be reached or exceeded;

4) Evaluate and provide conclusions regarding future trends and expected changes in groundwater head elevations and the extent of seawater intrusion based on historical data and adaptive climate change models; and

5) Make recommendations on measures the County could take should the study conclude that: i) total water demand for uses designated in the General Plan for the year 2030 is likely to be exceeded; ii) groundwater head elevations are likely to decline by the year 2030; or, iii) the seawater intrusion boundary is likely to advance inland by the year 2030.

Meeting Times and Place

The TAC will meet every second Tuesday of the month from 10AM to 2PM for a planned 12-month advisory period (see Tentative Agenda below). Lunch will be provided. All meetings are in-person and the uses of teleconference and web conference are not currently planned. The TAC will meet in the MCWRA board room, located at 893 Blanco Circle, Salinas. It is expected that TAC members will spend up to four hours of preparation time reviewing material provided prior to each TAC meeting.

TAC Qualifications

TAC members should have experience in management of groundwater in large basins and beneficial uses; working knowledge of numerical methods in quantitative hydrology (surface water, groundwater, and water quality), and expertise in their own fields.

TAC members are engaged for a period of 12 months. Your organization may designate both a primary and alternate member to serve on the TAC. Both the primary and alternate members are encouraged to attend all meetings.

The Role of the TAC

The TAC's overall function is to provide independent review and comments on the technical approach prior to commencing and during the technical work in this project. The TAC will comment and recommend changes to technical workflows in;

i) model code assessment and selection;

ii) modeling procedures – e.g. model construction, time-steps, and calibration;

iii) priority model focus areas and calibration requirements;

iv) uncertainty analysis and calibration results;

v) basin wide hydrostratigraphic review and potential revisions

vi) data inputs, including hydrologic futures under a changing climate; and

vii) model result documentation and reporting.

In order to provide an environment conducive to open deliberation among professionals, TAC meetings will not be open to the public. Meeting minutes will be taken and prepared in a summary format in order to capture the progress of the TAC. A "Draft" meeting summary will be reviewed and finalized by the TAC prior to public distribution.

We would be sincerely grateful if you could please indicate your interest in joining the SRGB Investigation TAC by 20 April 2015. Please respond by email to Mr. Howard Franklin at franklinh@co.monterey.ca.us. Please include a one-paragraph biographical qualification or resume of your proposed TAC member.

Tentative Agenda 2015

Date	Agenda
May 12	TAC Organization; Rules of Engagement; Model Selection
June 9	Model Selection; numerical framework discussion; input data
July 14	Numerical framework; input data, model calibration standards; time-steps; uncertainty analysis
August 11	TBD
September 8	TBD
October 13	TBD
November 10	TBD
December 8	TBD

If you have any queries regarding this matter, please contact Mr. Howard Franklin by e-mail (see above) or call (831) 755-4860.

Yours sincerely,

Carl Holm

Acting Director

Monterey County Resource Management Agency

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	May 13, 2015
AGENDA ITEM:	2.C
AGENDA TITLE:	Notices of Availability of Draft EIRs for the Groundwater Replenishment Project and the Monterey Peninsula Water Supply Project and Draft Watermaster Comment Letter
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:
The attached Notices of Availability are provided for TAC members' information. Multiple public meetings are scheduled where the documents will be discussed and questions can be asked.

Comments on the GWRP DEIR are due by June 5, 2015 and comments on the MPWSP DEIR are due by July 1, 2015.

GWR Project DEIR

Due to the short deadline for comments to be submitted on the GWR Project's DEIR, today's TAC meeting will be the only one before the deadline occurs. I have reviewed those portions of the GWR Project DEIR which appeared to pertain directly to the Seaside Basin and have attached (in the form of a draft comment letter) my recommendations regarding the questions or comments I feel the Watermaster should make on this document. At today's meeting we can discuss my recommendations and edit them as the TAC sees fit and also add to them any other comments or questions the TAC would like to have included in the Watermaster's comment letter. The comment letter will need to be submitted prior to the June 5 deadline.

There are complex requirements contained in the State's "Recycled Water Policy", "Groundwater Replenishment Regulations" and other regulatory documents pertaining to the quality of water that will be introduced into an aquifer. These are all discussed and referred to in numerous places in the DEIR. For this reason I believe the Watermaster will need to rely heavily on the reviews performed by the regulatory agencies responsible for enforcing compliance with those regulations in order to ensure that the injection water from this Project fully complies with those requirements. In conjunction with the Watermaster's granting of a Storage Agreement for the injection water, it would be good to require that (1) copies of letters-of-approval from all of those agencies be submitted to the Watermaster and (2) copies of annual compliance reporting documents that the Project proponent will have to submit to the regulatory agencies also be submitted to the Watermaster.

One of the requirements for the Project will for the proponents to submit, and receive approval from the SWRCB's Division of Drinking Water (DDW), a Response Retention Time Plan. The purpose of this Plan is to provide measures to ensure that no water from the Project is allowed to reach any drinking water supply well if the recharged water quality does not comply with the required standards. Due to the critical nature of water quality and the likelihood of public concern about possible contamination of drinking water supplies due to recharging the Basin with treated wastewater, it would be good for the Watermaster to have the opportunity to review and comment on MRWPCA's Response Retention Time Plan when it is submitted to the DDW for its review.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

AGENDA ITEM:	2.C (Continued)

MPWSP DEIR

Since comments on the MPWSP DEIR are not due until July, I will be reviewing the MPWSP DEIR and providing my recommendations regarding the questions or comments the Watermaster should make on the document at the June 10, 2015 TAC meeting.

ATTACHMENTS:	Notices of Availability of Draft EIRs
RECOMMENDED ACTION:	Provide input to enable the Technical Program Manager to finalize the comment letter to be submitted by the Watermaster regarding the GWR Project DEIR

NOTICE OF AVAILABILITY OF DRAFT EIR FOR PUBLIC REVIEW and NOTICE OF PUBLIC MEETINGS

The Monterey Regional Water Pollution Control Agency (MRWPCA) has released a Draft Environmental Impact Report (Draft EIR) for the **Pure Water Monterey Groundwater Replenishment Project**. MRWPCA is the Lead Agency under the California Environmental Quality Act (CEQA). The State Clearinghouse number for the project is SCH#2013051094.

PROJECT DESCRIPTION: The Pure Water Monterey Groundwater Replenishment Project (GWR Project) would divert new source waters to the MRWPCA Regional Treatment Plant for two purposes: 1) to create purified recycled water for recharge of the Seaside Groundwater Basin to replace 3,500 acre-feet per year of CalAm's current water supplies, enabling CalAm to reduce its diversions from the Carmel River by the same amount, and 2) to provide additional recycled water to growers within the existing Castroville Seawater Intrusion Project service area for crop irrigation. Water sources proposed to be recycled, treated and reused by the GWR Project include municipal wastewater, City of Salinas industrial wastewater, City of Salinas and City of Monterey urban stormwater runoff, and surface water diversions from the Blanco Drain, Reclamation Ditch and Tembladero Slough. Purified water from a new Advanced Water Treatment Facility at the Regional Treatment Plant would be conveyed through a new Product Water Conveyance pipeline and booster pump station to new Injection Well Facilities in the City of Seaside for recharge to the Seaside Basin. CalAm would extract water from its existing wells, and would deliver the water to its customers via two new pipelines and its existing distribution system. Recycled water produced for crop irrigation would be distributed through the existing Castroville Seawater Intrusion Project system. The GWR Project is being proposed by the MRWPCA in partnership with the Monterey Peninsula Water Management District (MPWMD).

PROJECT LOCATION: The GWR Project would be located within northern Monterey County and would include new facilities located within unincorporated areas of the Salinas Valley and within the cities of Salinas, Marina, Seaside, Monterey, and Pacific Grove, and within former Fort Ord areas in Seaside and Marina. See attached figure.

ANTICIPATED IMPACTS: Significant environmental effects of the Proposed Project are anticipated in the following areas: aesthetics; air quality; biological resources (fisheries); biological resources (terrestrial); cultural and paleontological resources; energy; geology/soils/seismicity; hazards and hazardous materials; hydrology and water quality (surface water); land use and agricultural resources; noise; public services (solid waste); and traffic and transportation. Significant cumulative effects are anticipated in the following areas: air quality, biological resources (marine) and surface water quality (marine).

HAZARDOUS WASTE SITES: Some components of the Proposed Project would be located on a hazardous waste site enumerated under Section 65962.5 of the California Government Code: the entire former Fort Ord Military Base, including the Seaside Munitions Response Area (Site #39), is designated by the U.S. EPA as a Superfund National Priority List (NPL) site.

PUBLIC REVIEW AND COMMENT PERIOD: The public review and comment period for the Draft EIR runs for 45 days, beginning April 22, 2015 and ending June 5, 2015. A copy of the Draft EIR is available for review during normal business hours at the MRWPCA Administrative Office, 5 Harris Court, Bldg. D, Monterey, CA 93940. The Draft EIR is also available online at the GWR Project website at: http://purewatermonterey.org/reports-docs/deir/
The Draft EIR may also be viewed at the following locations:

Seaside Public Library
Marina Public Library
Salinas Public Libraries
Castroville Public Library
Monterey Public Library
Carmel Valley Public Library
Harrison Memorial Library (Carmel)

PUBLIC MEETINGS: Two public meetings have been scheduled during the Draft EIR public review period to share information on the GWR Project and the Draft EIR. Spanish translation will be available, and both venues are accessible under the Americans with Disabilities (ADA). The date and location of the meetings are listed below:

- Seaside: May 20, 2015 at 6:00 p.m. to 8:00 p.m. – Oldemeyer Center, 986 Hilby Avenue, Seaside, CA 93955
- Salinas: May 21, 2015 at 4:00 p.m. to 6:00 p.m. – Hartnell College, Room B-208 (Student Services Building), 411 Central Avenue, Salinas, CA 93901

Comments on the Draft EIR must be submitted in writing no later than 5:00 p.m. on June 5, 2015 to the mailing address, fax number, or email address listed below:

By Mail: **By Email:** gwr@mrwpca.com
Monterey Regional Water Pollution Control Agency
Administration Office
ATTN: Bob Holden, Principal Engineer **By Fax:** 831-372-6178 (please also send a physical copy
5 Harris Ct., Bldg D of the correspondence to ensure receipt)
Monterey, CA 93940

Draft Environmental Impact Report Now Available

Comment Period Ends July 1, 2015

After more than three years of extensive analysis, the California Public Utilities Commission (CPUC) released its draft Environmental Impact Report (DEIR) on California American Water's Monterey Peninsula Water Supply Project.

The CPUC's report examines California American Water's proposed project, which includes a seawater desalination facility located in north Marina. The report also looks at alternatives to the proposed project and identifies the potential environmental impacts associated with each. In its analysis, the DEIR selects the company's proposed project as the environmentally preferred method of addressing the area's water supply challenges.

Public Comments & Open Houses

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

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

All formal comments regarding the draft report should be submitted by July 1, 2015, to the CPUC at the following address:

Andrew Barnsdale
California Public Utilities Commission
c/o Environmental Science Associates

550 Kearny Street, Suite 800
San Francisco, CA 94108

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

More Information

A copy of the Draft Environmental Impact Report, can be obtained at the CPUC website. Click here to read California American Water's full press release about the DEIR.

Seaside Basin Watermaster
2600 Garden Road, Suite 228
Monterey, CA 93940

May XX, 2015

Monterey Regional Water Pollution Control Agency
Administration Office
ATTN: Bob Holden, Principal Engineer
5 Harris Ct., Bldg D
Monterey, CA 93940

Subject: Comments from the Seaside Basin Watermaster on the Draft Environmental Impact Report for the Pure Water Monterey Groundwater Replenishment Project, dated April 2015

Dear Mr. Holden:

The Seaside Basin Watermaster submits the following comments and questions regarding the Subject document.

IN THE SUMMARY OF THE DEIR:

Page S-33, #4.10: The Project would significantly impact recharge to the Seaside Groundwater Basin, contrary to the statement in the DEIR, so this wording should be revised accordingly. However, based on the description of the water quality of the Project's recharge water and the manner in which it would be injected into the Basin, it does not appear that these impacts would be harmful to the Basin.

IN THE BODY OF THE DEIR:

General Comment: In numerous places the acronym "MPWSP" is incorrectly spelled "MPSWP." Suggest a "Find and Replace" be done to the document to correct these typos.

Page 2-74: The statement is made on this page that "Based on the experience of the Water Management District in the operation of its nearby Aquifer Storage and Recovery wells, back-flushing of each deep injection well would occur about weekly and would require discharge of the back-flush water to a percolation basin (basin), with a storage capacity of about 240,000 gallons. Water percolated through the basin would recharge the Paso Robles aquifer." On an annual basis the volume of water that will be extracted from the Santa Margarita aquifer by back flushing will be substantial. If that water is percolated into the Paso Robles aquifer it would likely not reach the Santa Margarita aquifer for a long time, if ever, depending on the properties of the geologic layer that separates these two aquifers. It would therefore seem that the volume extracted from the Santa Margarita aquifer for back-flushing should be subtracted from the volume that is recharged via the deep injection wells when determining the volume of water that Cal Am would be entitled to pump from that aquifer. Another approach to address this concern would be to send the back-flush water back to the MRWPCA's Regional Plant by disposing of it into the sanitary sewer. That volume could then be sent through the AWT and come back to the Seaside Basin as an additional offsetting flow that could be injected back into the Santa Margarita aquifer to ensure that this aquifer does not experience any net depletion due to development activities.

These issues should be addressed in the design of the Project and should also be addressed in the Watermaster's Storage Agreement with Cal Am for the recharged water from the Project.

Page 2-77: In the last paragraph on this page the word "of" should be replaced with the word "or."

Page 2-95, Figure 2-3: The Legend of this Figure is titled "Adjudicated Seaside Groundwater Basin Boundary." The boundary that is shown does not accurately match the Adjudication Decision boundary, as noted in the comment above on Figure 4.10-5. The Legend title should be revised or the boundary shown should match the Adjudication Decision boundary.

Page 2-96, Figure 2-4: In the Legends for the two maps on this page please add a footnote clarifying what is meant by "Deep Zone."

Page 4.1-1: In the Table of Contents at the top of this page the Section number for "Hydrogeology/Water Quality-Groundwater" should be 4.10, not 4.1.

Section 4.10.2.4, page 4.10-16 (top paragraph): Please add that the southeasterly boundary of the Seaside Basin is also a groundwater divide that is subject to movement.

Figure 4.10-5, page 4.10-86: The boundary for the Seaside Basin in this Figure appears to be approximately the same as the Court Adjudication boundary, except in the eastern portion of the Basin. Since the Adjudication Decision imposes management and other requirements on the area within the Adjudication boundary it would be good to also show the exact Adjudication boundary on this Figure.

Page 4.10-40 (next to last paragraph): Please add that since the activities described in the M&MP completed in September 2006 have been accomplished, the Watermaster has prepared an updated M&MP each year to address changing conditions and issues of concern. These are submitted to the Court each year as part of the Watermaster's Annual Report.

Pages 4.10-54 and 55: These pages include the statements that:

(1) "The volume of water pumped for development of each well would be about 3,600,000 gallons, based on four 10-hour days of development pumping at 1,500 gpm as estimated by Todd Groundwater. If the water used for development were drawn from groundwater and not returned as recharge, aquifer volumes or groundwater levels could be decreased; however, well development water at the Injection Well Facilities would be allowed to percolate back to the groundwater basin through on-site disposal resulting in a less-than-significant impact to aquifer volumes and groundwater levels."

(2) "The Injection Well Facilities construction would not use substantial amounts of groundwater that would not be returned to the groundwater system and would not impact groundwater volume or levels due to loss of recharge."

(3) "Impacts associated with groundwater depletion, levels and recharge during the construction of the Proposed Project would be less than significant."

(4) "Therefore, for the project as a whole, the potential construction impacts would be less than significant relative to groundwater recharge, volume, or levels, and no mitigation measures would be required."

The Project proposes to develop four wells using this volume of water so collectively the amount that would be pumped from the Seaside Basin for well development would total approximately 45 acre-feet. The Adjudication Decision does not appear to make any provision for this pumping, and makes no allocation of groundwater pumping for this purpose.

In addition surface recharge at the proposed development water percolation sites will take a long period of time before the recharged water reaches the Santa Margarita (and even the Paso Robles) aquifers.

Also, some of it may remain in the overlying Aromas Sands and not reach either of the two other aquifers. Therefore, it is not reasonable to assume that allowing the development water to percolate through on-site disposal will have a less than significant impact on groundwater levels or aquifer volumes. This is particularly true since the wells will be in close proximity to each other and the development water pumping might produce a localized groundwater depression.

One approach that would address this concern would be to return the development water to MRWPCA's Regional Plant by disposing of it into the sanitary sewer. That volume could then be sent through the AWT and come back to the Seaside Basin as an additional offsetting flow that could be injected back into the Santa Margarita aquifer to ensure that this aquifer does not experience any net depletion due to development activities.

These issues should be addressed in the design of the Project and will need to be resolved to the satisfaction of the Watermaster before well development can occur.

Page 4.10-76: The statement is made on this page that "…all other cumulative projects are approved or mandated by the Seaside Basin Watermaster." One of the listed projects is the MPWSP. While the Watermaster supports the MPWSP, it did not approve or mandate this project.

Appendix D: At several places in this Appendix it is stated that one of the requirements for the Project will for the proponents to submit, and receive approval from the SWRCB's Division of Drinking Water (DDW), a Response Retention Time (RRT) Plan. The purpose of this Plan is to provide measures to ensure that no water from the Project is allowed to reach any drinking water supply well if the recharged water quality does not comply with the required standards. Due to the critical nature of water quality and the likelihood of public concern about possible contamination of drinking water supplies due to recharging the Basin with treated wastewater, the Watermaster would like to have the opportunity to review and comment on the Project's Response Retention Time Plan when it is submitted to the DDW for its review.

Also in Appendix D, Attachment A (letter from California Department of Public Health dated June5, 2014 mention is made of the requirement for MRWPCA to submit both a "Contingency Plan" (along with the Engineering Report) and a "Response Plan." These appear to be separate from the RRT Plan. The Contingency Plan, according to that letter is to "…ensure that no untreated or inadequately treated wastewater will be delivered to the use area." The on-line sensors included in the design will presumably identify some types of chemical-physical water quality deviations from the State's requirements, but the water will have already left the AWT and gone into the delivery pipeline once it passes through those sensors. An even more difficult issue is that the wet-lab analytical work that will be necessary to confirm that the water produced by the AWT meets State quality requirements (e.g. pathogens, primary and secondary MCLs, lead, copper, total nitrogen, and TOC) will take some time to process and the water that is tested will long since have left the AWT and be in the pipeline leading to the use area. As there appears to be no storage facility included in the AWT design to contain the treated water until its quality has been confirmed as meeting the State's requirements, what is the plan for complying with the requirement that no inadequately treated water is delivered to the use area?

With regard to the State's requirement that MRWPCA have an approved Response Plan, the table in Appendix D on page 66 includes a statement that "Prior to start-up of the GWR Project, MRWPCA will develop and submit a plan to DDW to provide an alternative source of water or a DDW-approved treatment system should the GWR Project impact a drinking water well so that it cannot be used was a water supply or the GWR Project fails to meet the pathogen control requirements." For the same reasons stated above, the Watermaster would like to have the opportunity to review and comment on the Project's Contingency and Response Plans when they are submitted to the DDW for its approval.

If you have any questions regarding these comments, please contact Mr. Robert Jaques, Technical Program Manager, at (831) 375-0517 or by email at bobj83@comcast.net.

Sincerely,

Dewey D. Evans
Chief Executive Officer
Seaside Basin Watermaster

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	May 13, 2015
AGENDA ITEM:	3
AGENDA TITLE:	Preliminary Discussion of Work Plan to Address Findings of Laguna Seca Modeling Work
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Mr. Yates presented the Peer Review Technical Memorandum to the Board at its May 6, 2015 meeting and the Board accepted the report as having been very well prepared and satisfying their expectations for the peer review. They did not request any changes to the document, so the Draft that was presented to them will become the Final version of that document. Therefore, the TAC can now proceed with discussions on what recommendations it may wish to make to the Board in terms of Basin management actions the Board could take with regard to the findings of the Laguna Seca Subarea modeling work performed by HydroMetrics.

The Board has retained an attorney to prepare documents to file with the Court regarding several issues: (1) requesting a stay of the 2015 through 2018 Operating Yield reduction, (2) updating the Court concerning recent regional water supply developments pertinent to the Seaside Basin, and (3) updating the Court concerning the recent modeling results and findings concerning the Laguna Seca Subarea (LSSA) and the Watermaster's intended work plan to address long-term water reliability for the subbasin.

With regard to the 3rd of the 3 items listed above, if the Board moves forward with this work I anticipate that they will seek input from the TAC on development of the work plan. I also think it is likely that the work plan would at some point include reaching out to the pumpers in the Toro area to seek a joint means of resolving the problems associated with falling water levels in the LSSA. The recently created TAC to help the County with its Salinas River Groundwater Basin (SRGB) Investigation will hopefully provide a starting point for such discussions.

Mr. Yates prepared the attached *Groundwater Management Options and Recommendations for the Laguna Seca-El Toro Region* which lists a number of possible solutions to groundwater overdraft in the Laguna Seca Subarea. These solutions are broad and general in nature and certainly warrant thorough investigation and discussion by the TAC. However, to begin the discussion I think it will be helpful to see if we can reach consensus on the more specific technical issues that are listed below, and then work our way into Mr. Yates possible solutions. These discussions can also serve as a starting point for soliciting other ideas and issues from TAC members, so they can be further discussed at future TAC meetings.

I suggest that at today's meeting we discuss the issues listed below, as well as any others the TAC wishes to bring up, and then once we have had those discussions to proceed into discussing each of the possible solutions listed in Mr. Yates Memo. These discussions will presumably span two or more TAC meetings before the TAC will feel comfortable sending its recommendations to the Board.

Issue 1: The LSSA Natural Safe Yield (NSY) values that are reported in the Yates 2002 and CH2M 2004 reports (referred to on page 18 of the LSSA Modeling Tech Memo of July 28, 2014) were as

AGENDA ITEM:	3 (Continued)

follows:

Yates 2002 Report: This Report estimated the LSSA NSY to be 400 AFY. However, that estimate included an assumed pumping rate of 1,000 AFY from the LSSA. The WY 2007 Production Report showed that only 961 AF was pumped from the LSSA in that year. The WY 2013 and 2014 Production Reports show that only 912 and 920 AF, respectively, was pumped from the LSSA in those years. The continuing decline in water levels with even these lower pumping levels than were assumed in the Yates 2002 Report suggest that the NSY may be less than was estimated when that Report was prepared.

CH2M 2004 Report: This Report did not break out the individual subarea NSYs, and only provided a total-Basin estimated NSY of 3,400 to 3,500 AFY. No estimate of the LSSA NSY was provided in that Report. However, if the area of the LSSA as a fraction of the area of the total-Basin was used to approximate the portion of the total-Basin NSY attributable to the LSSA, the estimated LSSA NSY would be approximately 600 AFY. Again, that Report did not contain that calculation and did not provide an estimate of the LSSA NSY.

Question: With differing NSY estimates contained in prior reports, the Decision itself (which states that the NSY for the LSSA is 608 AFY), and the more recent work by HydroMetrics, what approach should be taken to reach consensus with all affected parties on what NSY should be used for the LSSA?

Issue 2: While stopping all pumping from the LSSA is unrealistic, if all LSSA pumping were stopped by 2018 (one of the Scenarios evaluated in the HydroMetrics Tech Memo) only the eastern LSSA wells FO-6 Shallow and Deep would continue to experience falling water levels. Both of these wells are monitoring wells not production wells.

Question: Should the work plan address issues pertaining to monitoring wells as well as production wells, or should it only address issues pertaining to production wells?

Issue 3: With no planned CAW pumping from the LSSA once the regional desalination project goes online, the rate of decline in LSSA groundwater levels will decrease considerably, as described in the HydroMetrics Tech Memo.

Question: Would it be useful to run the Model further out into the future (beyond 2014 where it currently ends) for the Baseline scenario with no CAW LSSA pumping to see if all the other LSSA production wells will finally achieve stabilized groundwater levels at their projected pumping rates?

Issue 4: If the modeling described under Issue 3 is found that groundwater levels stabilized, the stabilized groundwater levels might or might not be within the water-bearing thickness of the aquifer from which these wells are pumping.

Question: Would it be useful to determine the depth of the bottom of the aquifer at the location of each LSSA production well in order to determine if it would be feasible to lower the pump and/or casing perforations, if necessary, in order to enable the wells to continue to serve as operational production wells to meet the water demands of these producers?

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

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

AGENDA ITEM:	3 (Continued)

Issue 5: The Board at some point may conclude that the southeastern boundary of the Seaside Groundwater Basin is incorrectly shown in the Decision, and that the boundary in fact is either further to the east or further to the west.

Question: What would be the best way of determining more accurately the location of the southeastern boundary of the Seaside Groundwater Basin? What additional information would be needed to be able to do this?

ATTACHMENTS:	Gus Yates Memo titled *Possible Solutions to Groundwater Overdraft in the Laguna Seca Subarea*
RECOMMENDED ACTION:	Provide direction to the Technical Program Manager regarding further topics for TAC discussion on this issue

TODD GROUNDWATER

6 April 2015

MEMORANDUM

To: Bob Jaques, Seaside Basin Watermaster Technical Program Manager

From: Gus Yates, Senior Hydrologist, Todd Groundwater

Re: Groundwater Management Options and Recommendations for the Laguna Seca-El Toro Region

I recently completed a peer review of groundwater modeling studies of the Seaside Basin. During that process I became aware that the Watermaster Board would welcome input on groundwater management options for the Laguna Seca Subarea in light of the effect that nearby pumping outside the basin appears to have on groundwater levels and yield within the basin. The basin boundary assumed for the purpose of adjudication is not actually a physical boundary within the groundwater flow system. The Paso Robles and Santa Margarita Aquifers continue uninterrupted from the Laguna Seca Subarea into the El Toro Subarea. This memorandum describes my thoughts and recommendations regarding management of groundwater in the Laguna Seca and El Toro areas.

Unlike the Coastal Subareas, the Laguna Seca Subarea will not benefit from proposed projects that would import water to the Seaside Basin. The Seaside Basin Groundwater Replenishment Project (GWR Project) will import highly-treated recycled water from the MRWPCA and inject the water into the Seaside Basin near the eastern border of the Northern Coastal Subarea. The Monterey Peninsula Water Supply Project (MPWSP) would import water from a seawater desalination facility to be constructed near Marina. The water would be introduced directly into water distribution systems operated by California American Water Company (Cal-Am). Both projects are in active stages of design, permitting and environmental compliance. Together, the projects are expected to balance groundwater supply and demand in the coastal subbasins, but neither project would supply additional water to the eastern half of the Laguna Seca Subarea, where chronically declining water levels are a problem. Although Cal-Am plans to discontinue producing groundwater from the Laguna Seca Subarea, simulations by HMWRI (2014b) indicate that pumping by the remaining users (“alternative producers”) would still exceed the operational yield.

Possible solutions to groundwater overdraft in the Laguna Seca Subarea are described below at a conceptual level, along with potential obstacles to their implementation.

Management Option: Redistribute Pumping

Because of head-dependent boundary responses, decreased groundwater pumping by Cal-Am and/or other users will increase the rates of groundwater outflow to the Southern Coastal, Northern Inland and El Toro Subareas. Given that the adjudication and now the Watermaster are managing the Seaside Basin on a subarea basis, the Laguna Seca Subarea could retain some of its local yield by installing recovery wells near the three outflow boundaries to intercept any increases in outflow. Pipelines would need to be installed to convey that water back to the locations where pumping was decreased.

This concept would involve installing new municipal wells in up to three locations and constructing pipelines several miles in length from each location back to the east-central part of the subarea. It might be possible to use the Ryan Ranch water system to convey water from the Southern Coastal outflow boundary part of the way toward the eastern half of the Laguna Seca Subarea.

This approach would not eliminate the problem of water-level declines at the eastern end of the Laguna Seca Subarea caused by pumping in the El Toro Subarea. Without recovery wells, outflow to El Toro would increase. Outflow would remain the same if the water-level gradient across the boundary remained the same. If El Toro water levels decline in the future, then Laguna Seca water levels near the boundary would have to decline at the same rate to maintain a constant gradient. However, this would require pumping at a recovery well on the Laguna Seca side of the boundary, which would increase the total rate of water-level decline in the eastern part of the Laguna Seca Subarea.

Management Option: Continue Pumping from Ryan Ranch Wells

Cal-Am reportedly plans to discontinue pumping from its wells in the Ryan Ranch development in the western half of the Laguna Seca Subarea. Groundwater levels are stable in that area, and groundwater flow is toward the Southern Coastal Subarea. Eliminating production from the Ryan Ranch wells would simply increase the rate of outflow while doing little to alleviate overdraft in the eastern half of the Laguna Seca Subarea. Therefore, it would be desirable to continue using the Ryan Ranch wells and to convey the produced water to the eastern part of the subarea. Depending on how Cal-Am plans to deliver water from other sources to Ryan Ranch customers, this management option might require additional pipelines from the Ryan Ranch wells to the eastern part of Laguna Seca.

Management Option: Reduce Water Demand

Given the high cost of conveying water within Laguna Seca—much less obtaining it from external sources—reducing water demand in the eastern part of the subarea is worth a hard look. Much of the consumptive use is for golf course irrigation. A treatment plant reportedly converts nearly all locally-produced wastewater into recycled water that is used on the golf courses. However, the recycled water supply is less than the golf course irrigation demand.

Therefore, the principal variable that can easily be managed is the irrigation requirement of the golf courses. This might be accomplished by decreasing the total irrigated area or the type of irrigated ground cover.

Management Measures Beyond the Basin

Management Option: Change the Laguna Seca-El Toro Boundary Location

The problem of trans-boundary pumping effects could be solved by shifting the boundary location inward or outward to fully exclude or include the effects of the external pumpers, which in this case are primarily the Toro and Corral de Tierra municipal wells. If the boundary were moved outward to include those wells, they would fall under the jurisdiction of the adjudication and Watermaster and would be subject to the same phased pumping reductions as other Seaside Basin users. This would theoretically halt long-term water-level declines near the current boundary location.

From a practical standpoint, there appear to be at least two major issues associated with this approach:

- It would require reopening the adjudication and having El Toro pumpers join the Seaside Basin and its management program. This could prove to be a difficult and lengthy process.

- It would not permanently eliminate the fundamental problem of basin boundaries defined by flow divides, rather than physical geological boundaries. Future changes in pumping near the new basin boundaries could lead to similar problems of trans-boundary flow.

Management Option: Import Water to the Laguna Seca Subarea

Cal-Am reportedly intends to size the combined capacities of the GWR Project and the MPWSP such that they provide sufficient additional supply to enable Cal-Am to reduce its Seaside Basin pumping to comply with the Seaside Basin Adjudication Decision. The capacity of either project could conceivably be increased to obtain a new increment of supply for Laguna Seca. Additional pipelines would also be needed to convey the water from the Cal-Am system to the eastern part of Laguna Seca.

The GWR Project and the MPWSP are both already at advanced stages of environmental analysis. Changing the size of the project could delay the schedule for completion.

Management Option: Use SGMA as a Means of Managing Areas outside the Basin

The Sustainable Groundwater Management Act (SGMA) was adopted by the California Legislature and Governor in late 2014 and became effective on January 1, 2015. It profoundly changes statewide groundwater management and requires that all medium- and high-priority groundwater basins be sustainably managed, which means that overdraft is

eliminated. SGMA represents a new vehicle for managing groundwater in adjacent parts of the Salinas Valley Groundwater Basin (including the El Toro Subarea), or more specifically, to prevent external pumpers from adversely affecting groundwater levels within the Seaside Basin. Application of the SGMA to the Laguna Seca Subarea groundwater depletion problem is complicated by two factors: the existing Seaside Basin Adjudication Decision and basin boundaries.

Adjudication. Seaside Basin is adjudicated, and SGMA defers to existing management programs in basins or parts of basins that have already been adjudicated, including the Seaside Basin (Water Code Section 10720.8(a)). The Watermaster is thus equivalent to the Sustainable Groundwater Agency that in other basins must be selected from among local agencies or created by a group of agencies acting under a memorandum of agreement or as a joint powers authority. Collaboration with external agencies to manage groundwater close to its borders is obviously desirable for the Watermaster, but it might not be legally feasible for the Watermaster to join a regional joint powers authority. That would bring the Seaside Basin under the authority of the Sustainable Groundwater Agency, which could conflict with current legal authority of the court.

SGMA does allow parts of basins to be managed by separate Groundwater Sustainability Agencies under separate Groundwater Sustainability Plans, but it requires the agencies to develop "coordination agreements" that ensure consistency among the plans (Water Code Sections 10727(b)(3), 10727.6 and 10723.4). Coordination agreements must demonstrate that all of the Groundwater Sustainability Plans within a basin together achieve the objective of sustainability throughout the basin. The coordination agreement is a means by which the Watermaster could engage in managing adjacent parts of the basin without subverting or reopening the adjudication. The adjudication implementation issues are legal in nature and would require legal counsel analysis before conclusions on this could be reached.

Basin Boundaries. SGMA requires that basin and subbasin boundaries be consistent with the boundaries in California Department of Water Resources (DWR) Bulletin 118 unless revised through a formal process that includes DWR approval. The boundaries of the Seaside Basin used by the court for the purpose of adjudication do not conform at all to the Bulletin 118 boundaries, as shown in **Figure 17**. The adjudicated area straddles two Bulletin 118 subbasins of the Salinas Valley Groundwater Basin: the Seaside Area Subbasin and the Corral de Tierra Area Subbasin. The boundary between these Bulletin 118 subbasins is the inland extent of windblown dune deposits, which are unsaturated and have no bearing on the underlying groundwater flow system. However, the adjudication boundaries are equally problematic because the northern and eastern boundaries are the approximate locations of groundwater flow divides that could easily shift in response to future changes in pumping.

SGMA includes a provision for requesting changes in basin or subbasin boundaries. By January 1, 2016, DWR must adopt regulations stating the procedures for requesting boundary revisions. Several general criteria are listed in SGMA (Water Code Section 10722). The triennial update of Bulletin 118 is due to be completed by January 1, 2017, and that version is to be the basis for creating Groundwater Sustainability Agencies and Plans (Water

Code Section 10720.7). This would appear to create a one-year window—calendar year 2017—to apply for basin boundary adjustments.

Option A: Do Nothing
If the Watermaster takes no proactive steps to accelerate management of groundwater in adjacent parts of the Salinas Valley Basin, management will still occur pursuant to SGMA. Whichever entity becomes the Sustainable Groundwater Agency will need to submit a Groundwater Sustainability Plan by January 31, 2022 and to achieve sustainability by January 31, 2042.

The drawbacks to this sub-option are that the Watermaster would have no input into strategies and programs developed for managing groundwater in adjoining areas, and Seaside Basin interests might not be fully taken into account. Also, it might take 27 years to achieve sustainability.

Option B: Actively Participate in External Groundwater Management
Monterey County Water Resources Agency (MCWRA) appears to be the logical candidate to become the Groundwater Sustainability Agency for areas adjoining the Seaside Basin. At a minimum, it could certainly be a member and key player in a multi-party Groundwater Sustainability Agency. The Watermaster could approach MCWRA in the near future to initiate a collaborative effort to manage the Seaside part of the Salinas Valley Basin under SGMA. The problems with conflicts between the Bulletin 118 boundaries and adjudication boundaries would impact the external Groundwater Sustainability Agency as much as they would impact the Watermaster. A joint petition to DWR for subbasin boundary adjustments could be a useful near-term objective.

RECOMMENDATIONS

Several of the possible management options listed above seem promising in terms of feasibility and cost-effectiveness. Recommended next steps to further explore those options are as follows:

- **Quantify the costs and benefits of continued operation of Ryan Ranch wells.** The groundwater model should be used to simulate Laguna Seca water balances with and without Ryan Ranch pumping by Cal-Am, with particular attention paid to changes in outflow to the Southern Coastal Subarea. Continued operation of the Ryan Ranch wells would presumably require an agreement with Cal-Am and probably also construction of pipelines to convey the water toward the eastern part of the Laguna Seca Subarea to offset pumping reductions in that area. The feasibility and approximate cost of these measures should be estimated. The impacts of any changes in outflow from the Laguna Seca subarea to the Southern Coastal Subarea should also be evaluated for potential negative impacts.

- **Quantify the costs and benefits of recovery wells to intercept increased subsurface outflow from the Laguna Seca Subarea resulting from decreased Laguna Seca**

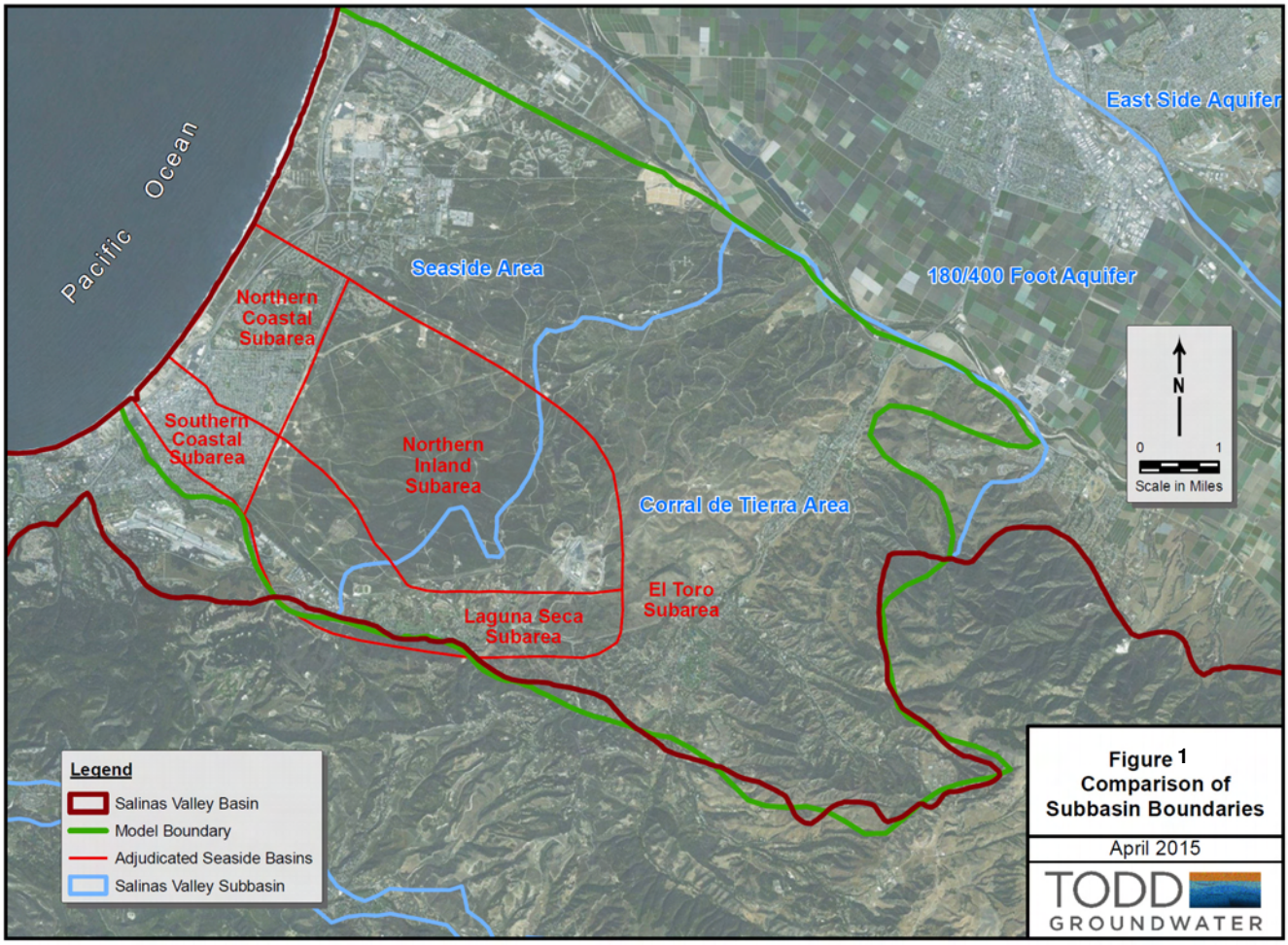
Subarea pumping. The groundwater model should be used to simulate the increases in outflow at the Southern Coastal, Northern Inland and El Toro boundaries and the ability of hypothetical recovery wells to capture any increases in outflow resulting from decreased pumping in the eastern part of the Laguna Seca Subarea. The cost of the wells and of pipelines needed to return the captured outflow to the central part of the Subarea could be estimated and integrated into a feasibility and cost-benefit analysis of outflow recovery wells.

- **Initiate sustainable groundwater management in areas adjacent to the Seaside Basin.** The Watermaster should meet soon with MCWRA to discuss implementation of SGMA in areas adjacent to the Seaside Basin. Issues to be discussed include:

    - whether to petition DWR for subbasin boundary revisions, and if so, what the alternative boundaries should be for the purposes of implementing SGMA (DWR will publish revision procedures by January 1, 2016);

    - which agency or agencies should become the Sustainable Groundwater Agency for the adjacent areas;

    - the elements of a coordination agreement linking water management in the Seaside Basin with the Sustainable Groundwater Plan for adjacent areas.


Pacific Ocean
East Side Aquifer
Seaside Area
180/400 Foot Aquifer
Northern Coastal Subarea
Southern Coastal Subarea
Northern Inland Subarea
Corral de Tierra Area
El Toro Subarea
Laguna Seca Subarea
N
0
1
Scale in Miles
Legend
Salinas Valley Basin
Model Boundary
Adjudicated Seaside Basins
Salinas Valley Subbasin
Figure 1
Comparison of Subbasin Boundaries
April 2015
TODD GROUNDWATER

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	May 13, 2015
AGENDA ITEM:	4
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

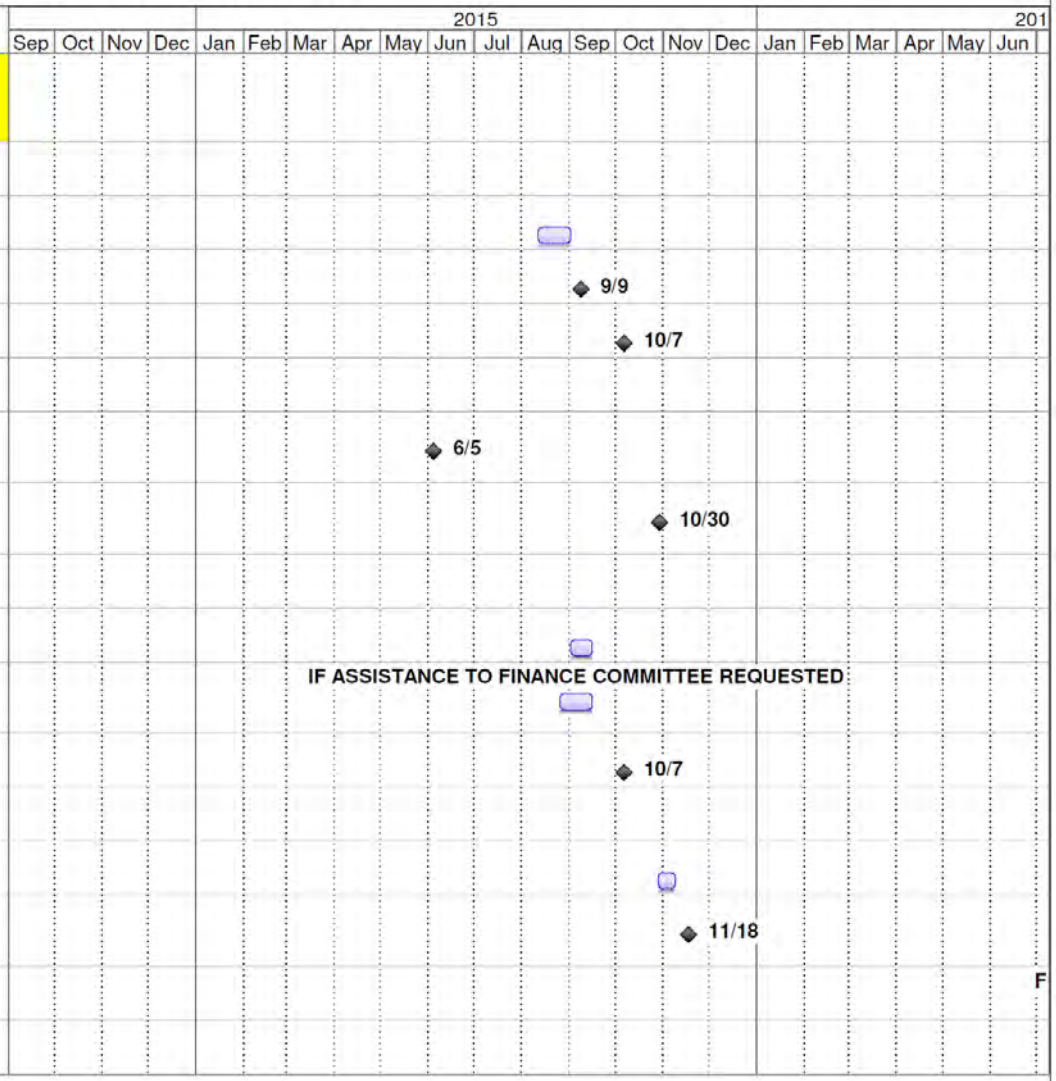
As a regular part of each monthly TAC meeting, I will provide the TAC with an updated Schedule of the activities being performed by the Watermaster, its consultants, and the public entity, MPWMD, which is performing certain portions of the work.

Attached is the most recent update of the Work Schedule for FY 2015.

ATTACHMENTS:	Schedule of Work Activities for FY 2015
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedule

Seaside Basin Watermaster
Monitoring and Management Program
2015 Work Schedule

ID	Task Name
1	***CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK***
2	**2016 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 Annual Water Production, Water Level, and Water Quality Report for 2015 (Same as Task 42)
9	**Replenishment Assessment Unit Costs for Water Year 2016**
10	B&F Committee Develops Replenishment Assessment Unit Cost for 2016 Water Year
11	If Requested, TAC Provides Assistance to B&F Committee in Development of 2016 Water Year Replenishment Assessment Unit Cost
12	Board Adopts and Declares 2016 Water Year Replenishment Assessment Unit Cost
13	**Replenishment Assessments for Water Year 2015**
14	Watermaster Prepares Replenishment Assessments for Water Year 2015
15	Watermaster Board Approves Replenishment Assessments for Water Year 2015 (At November Meeting)
16	Watermaster Levies Replenishment Assessment for 2014
17	**Monitoring & Management Program (M&MP) Budgets for 2015 and 2016**



Seaside Basin Watermaster
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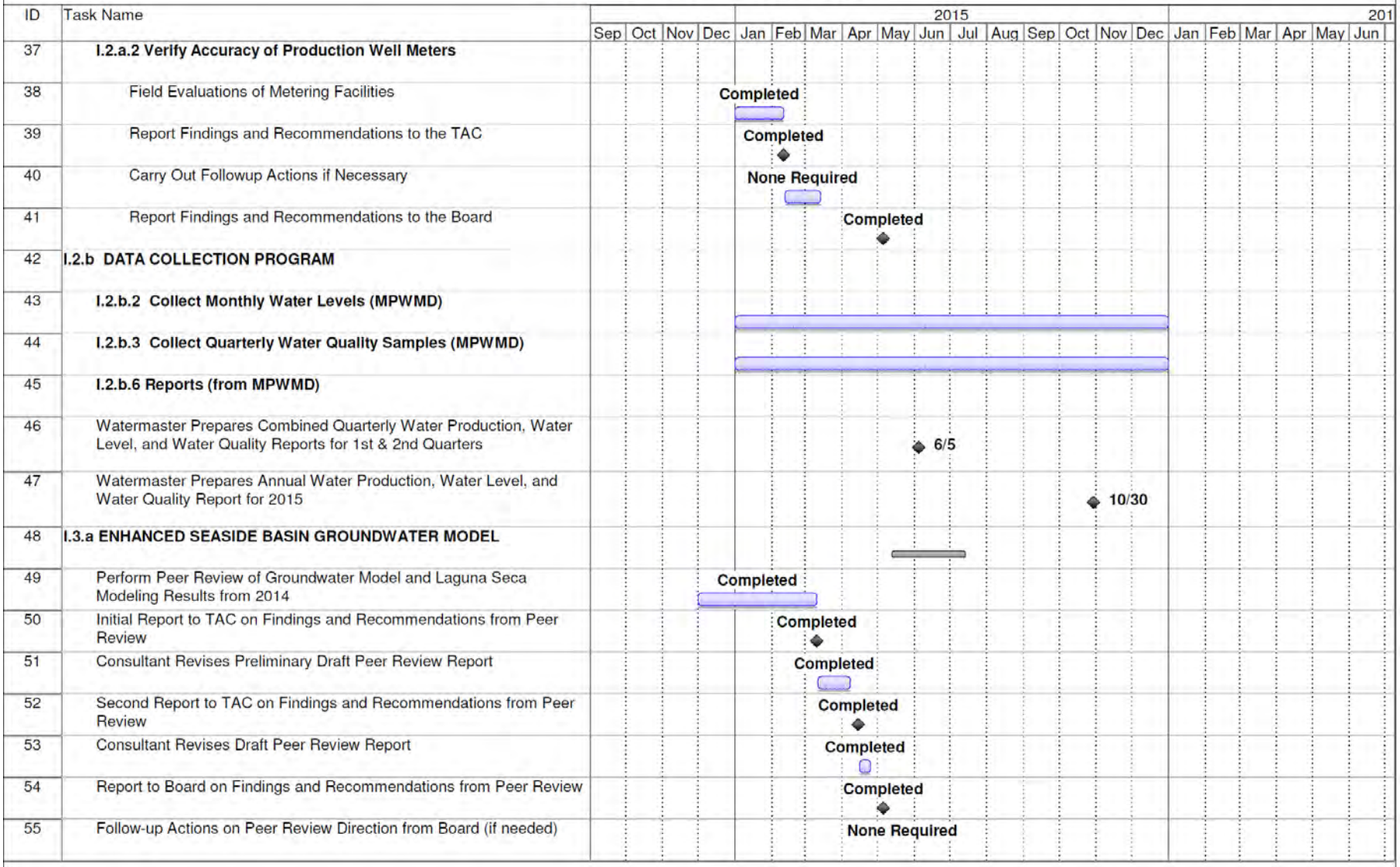

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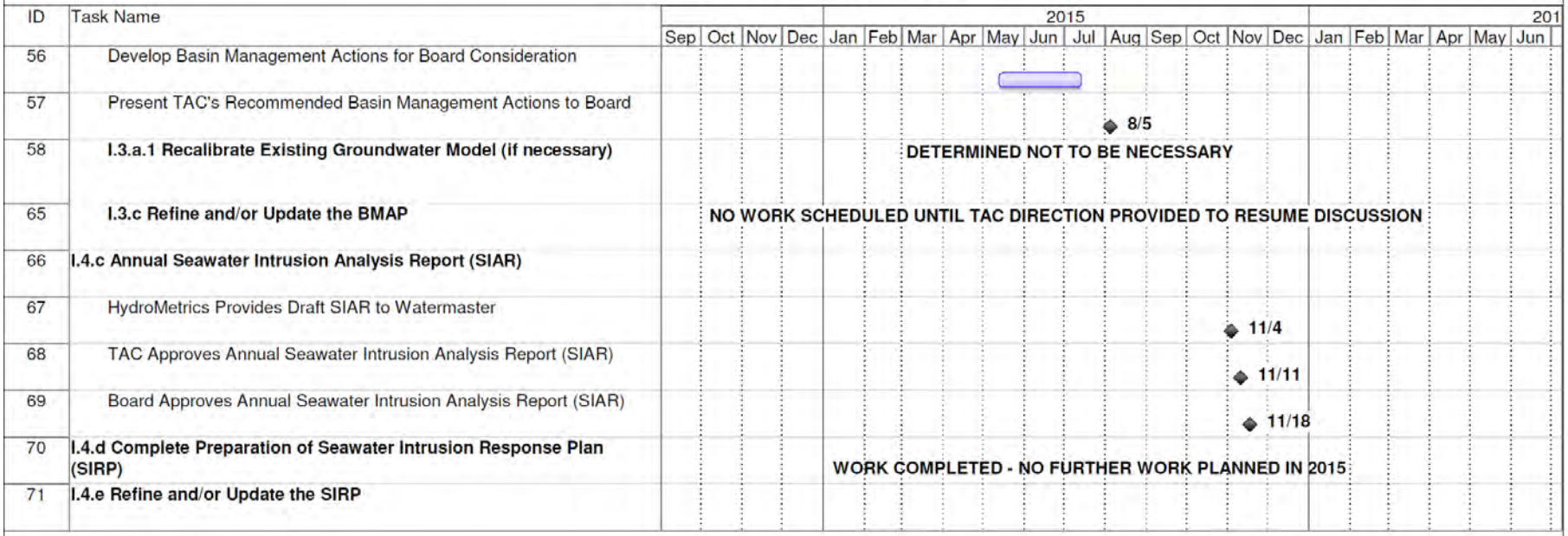

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	May 13, 2015
AGENDA ITEM:	5
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