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

DATE: Wednesday, July 12, 2023		
MEETING TIME: 1:30 p.m.		
Monterey One Water Offices		
5 Harris Court, Building D (Ryan Ranch)		
Monterey, CA 93940		
THIS MEETING WILL BE IN PERSON		
OFFICERS		
Chairperson: Jon Lear, MPWMD		
Vice-Chairperson: Tamara Voss, MCWRA		
MEMBERS	C C	
	ty of	
Monterey City of Sand City City of Seasi Coastal Subarea Landowners	ae	
Laguna Seca Property Owners Monterey County Water Res	ources	
<u>Agenda Item</u> 1. Public Comments	<u>Page</u> No.	
2. Administrative Matters:	<u>110.</u>	
	2	
A. Approve Minutes from the March 8, 2023 Meeting		
B. Sustainable Groundwater Management Act (SGMA) Update		
3. Progress Report on FO-9 Replacement Well 4. Report on Domage to Sontinel Well No. 4		
4. Report on Damage to Sentinel Well No. 4 5. Initial Discussion December 2 Manitoring and Management Program (M. 8 MD) for		
5. Initial Discussion Regarding Monitoring and Management Program (M&MP) for		
	37	
FY 2024	37 40	
	37 40	

MEETING DATE: July 12, 2023		
AGENDA ITEM: 2.A		
AGENDA TITLE:Approve Minutes from the March 8, 2023 Meeting		
PREPARED BY: Robert Jaques, Technical Program Manager		

SUMMARY:

Draft Minutes from this meeting were emailed to all TAC members. Any changes requested by TAC members have been included in the attached version.

ATTACHMENTS:	Minutes from this meeting
RECOMMENDED ACTION:	Approve the minutes

D-R-A-F-T MINUTES

Seaside Groundwater Basin Watermaster Technical Advisory Committee Meeting March 8, 2023

Attendees: TAC Members

City of Seaside – Nisha Patel California American Water – Tim O'Halloran City of Monterey – Cody Hennings Laguna Seca Property Owners – John Gaglioti MPWMD – Jon Lear MCWRA – Tamara Voss City of Del Rey Oaks – Kim Shirley City of Sand City –Leon Gomez Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques

Consultants

Montgomery & Associates – Pascual Benito and Bill DeBoer

Others

MCWD – Patrick Breen Schaaf & Wheeler – Andy Sterbenz (on behalf of City of Seaside)

The meeting was convened at 1:30 p.m.

1. Public Comments

Mr. Lear asked each person to briefly identify themselves, as there were some new attendees. There were no public comments.

2. Administrative Matters:

A. Update Regarding Holding Meetings Via Teleconference

Mr. Jaques summarized the agenda material for this item. There was no other discussion.

B. Approve Minutes from the November 16, 2022 Meeting

On a motion by Ms. Voss, seconded by Mr. O'Halloran, and with Mr. Gaglioti, Ms. Shirley, and Ms. Patel abstaining because they had not attended that meeting, the minutes were unanimously approved as presented.

C. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques introduced this agenda item. There was no other discussion.

3. Discuss and Provide Input on Proposal from Montgomery & Associates to Perform Additional Flow Direction/Flow Velocity Analyses

Mr. Jaques introduced this agenda item, and Mr. Benito discussed this item with the aid of the attached PowerPoint slides.

In his presentation Mr. Benito pointed out that the maximum the seawater intrusion rate is in the Paso Robles aquifer. He said he felt it was unlikely that further modeling would show appreciably more rapid movement results unless more severe (drought) assumptions were used. He went on to say that it may be more valuable to use climate change impacts rather than cycled hydrology, as well as Salinas Valley Basin GSP projects and DWR AEM info to perform additional seawater intrusion modeling if desired.

Mr. Jaques said it was his recommendation not to perform any further analyses of seawater intrusion flow direction/flow velocity at this time.

Mr. Gaglioti was interested in knowing what the most important factors that affect flow velocity of sea water intrusion are. He felt climate change is a key factor. He would like a simplified version of the earlier Technical Memorandum to include that information.

Mr. O'Halloran questioned what climate change assumptions would be used if more modeling was to be performed.

Mr. Gaglioti said the 100 year versus fifty-year data in Mr. Benito's presentation to the Board, showed an increasing frequency of drier weather.

Ms. Voss questioned what we would do with the new data that would come from carrying out the proposed Scope of Work. She said she did not see that this warrants having this work done. She went on to say that GSP projects will have some impact, but only if the adjacent basins implement major projects. She questioned whether the DWR AEM data would go deep enough to be of use. She recommended not spending more money on further studies at this time.

Mr. Lear said he concurred with not performing further work now.

Mr. Gaglioti would like to highlight Mr. Benito's conclusion that it is unlikely we would get significantly different rates of sea water intrusion by using Cal Am's Urban Water Management Plan assumptions. He also felt that a sensitivity analysis of which parameters have the most impact on flow direction and flow velocity would be helpful.

On a motion by Ms. Voss, seconded by Mr. Gaglioti, the TAC recommended to the Board to not perform further flow direction/flow velocity analyses at this time. The motion passed unanimously.

4. Review Construction Documents for FO-9 Replacement Well, Discuss/Provide Direction On Revisions to Montgomery and Associates' Costs to Have the Replacement Well Constructed, and Approve RFS No. 2023-03 to Proceed with Installation of the Replacement Well

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

Mr. Lear asked when the money from the cost-sharing Agreement would be expected to be provided. Mr. Jaques said that the Agreement was worded such that the Watermaster would complete installation of the FO-9 replacement well and then bill the other participating entities for their share of those costs.

Ms. Voss recommended using neat cement rather than cement grout, as this is the County Health Department's new well design standard. Mr. Lear recommended using 2 inch PVC pipe rather than 2 $\frac{1}{2}$ inch PVC pipe for the casing. He explained that the Well Wizard only works with a 2 inch diameter pipe, and that the 2 $\frac{1}{2}$ inch diameter pipe is too large to allow that unit to be used. Mr. DeBoer said that these changes were acceptable to him and that he would make these changes in the final design documents.

There was discussion with regard to using the low-flow sampling method versus the submersible pump sampling method. Following that discussion, it was concluded that continuing to use the low-flow sampling method would be satisfactory and would avoid the cost of the Watermaster having to buy additional equipment to perform submersible pump sampling method.

Ms. Voss and Mr. Lear felt that the old FO-9 Shallow well monitoring data should be flagged as potentially invalid based on the casing leakage that was identified. It was felt that getting some data from the new well and then deciding which of the old data is unimpaired would be helpful.

On a motion by Mr. Lear, seconded by Mr. Gaglioti, Montgomery and Associates RFS No. 2023 -03 was unanimously approved.

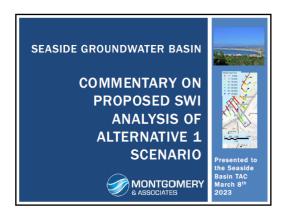
5. Schedule

Mr. Jaques summarized the agenda material for this item. He reported that there was no business for the TAC to conduct in April, so there would be no need for an April TAC meeting. He also mentioned that unless the Board, at its May 1, 2023 meeting, refers something to the TAC for action, there may no need for a May TAC meeting either. He will provide an email update following the May Board meeting.

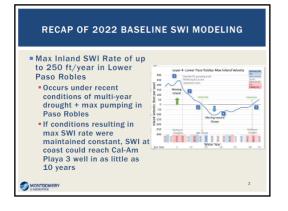
6. Other Business

There was no other business.

The meeting adjourned at 2:24 PM.



MOTIVATION FOR NEW SCOPE
 Purpose of 2022 modeling was to develop order-of-magnitude estimate of SWI rate under conservative assumptions Understand that TAC would like to re-run the SWI analysis using the Alternative 1 Scenario assumptions to provide a "more conservative" estimate of potential SWI rates than the 2022 Baseline Scenario
MONTGOMERY 2



RECAP OF 2022 BASELINE MODELING	
 Compare with 2013 Baseline modeling that used less conservative assumptions and did not consid multiyear droughts, and estimated max SWI rate 30 ft/year (e.g. at that rate Playa 3 would be reached in 83 years) 	der
250 ft/year already represents a conservative scenario and tells us that order of magnitude we could be looking at as little as 10-year period to reach production wells, rather than 100 years or year.	
 Unlikely to get significantly different rates by swapping in UWMP assumptions. 	
MONTROMERY	4

QUESTIONS

- What information is TAC looking to get out of the modeling that would change decision making on future management actions?
 E.g. would a slightly higher max rate of 300 ft/year resulting from new simulations lead to different management actions? If not, then other modeling may provide more value:
 E.g. climate change impacts on future hydrology instead of cycled hydrology record
 Impacts of Salinas Valley GSP implementation on estimates of replenishment water needed
 Results from DWr's SkyTEM Geophyscial Survey will be available Q3 2023 and may also provide additional insights to inform additional SWI modeling

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QUESTIONS & DISCUSSION

MEETING DATE: July 12, 2023	
AGENDA ITEM:	2.B
AGENDA TITLE:	Sustainable Groundwater Management Act (SGMA) Update
PREPARED BY:	Robert Jaques, Technical Program Manager

At the State level:

Since the last TAC meeting I have not received anything from the State that impacts the Watermaster.

At the Monterey County level:

Attached are summaries of meetings held in April, May, and June 2023.

ATTACHMENTS:	Meeting Summaries
RECOMMENDED ACTION:	None required – information only

SUMMARY OF PURE WATER MONTEREY, AND SALINAS VALLEY AND MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS IN APRIL 2023

Note: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

SVBGSA Groundwater TAC Meeting, April 18, 2023:

Although I am not a member of this Committee I monitor their meetings and participate when there are items of interest to the Watermaster. At this meeting one of the items on the agenda was an update on the development and initial findings of the Seawater Intrusion Model that Montgomery & Associates has been preparing for the SVBGSA. It is intended to provide more accurate and more detailed information on seawater intrusion, and the model area includes the Seaside Basin. Attached are two of the slides that were presented at this meeting (which I was unable to attend due to a scheduling conflict) showing how the model simulations compare to MCWRA's seawater intrusion mapping, and what the model predicts as the extent of seawater intrusion up to the year 2070.

I expressed my concerns to Derrik Williams of Montgomery & Associates about these slides showing seawater intrusion moving into the Seaside Basin in the future. Mr. Williams responded to clarify that the Seawater Intrusion (SWI) model was primarily developed to assess impacts from potential projects in the 180/400-Foot Aquifer and Monterey Subbasins, and the focus of the calibration was on these two subbasins. MCWRA requested that the model be expanded to include all of MCWRA Zone 2C, and subsequently the model was expanded to include the Seaside subbasin. However, there was no seawater intrusion data in the Seaside subbasin and therefore it was not the focus of the model calibration.

Because it was not the focus of the calibration, no effort was made to remove the simulated seawater intrusion from the Seaside basin. The simulated seawater intrusion will be removed from the Seaside basin in the next iteration of the model. He went on to say that models cannot estimate when seawater intrusion will be observed in the Seaside basin without knowing the current offshore extent of seawater intrusion. Because the offshore extent of seawater intrusion is unknown, no model can predict the potential timing of future seawater intrusion into the Seaside basin. A caveat will be included in future reports stating that this model should not be used to predict seawater intrusion in the Seaside basin.

He also noted that neither the 180-Foot nor 400-Foot aquifers exist in the Seaside subbasin. Since the model focuses on seawater intrusion in the 180/400-Foot Aquifer Subbasin, the

graphics presented at the GTAC meeting identified depth zones in the model according to the named aquifers in that subbasin. The model layers simulating the 180-Foot and 400-Foot aquifers extend into the Seaside subbasin, but the aquifers themselves do not extend into the Seaside subbasin. Montgomery & Associates will try to make someone available at the June 14th Watermaster TAC meeting to answer any questions about this.

SVBGSA Advisory Committee Meeting, April 20, 2023:

The items on the agenda for this meeting were all administrative in nature and did not impact the Seaside Basin, so I did not attend this meeting.

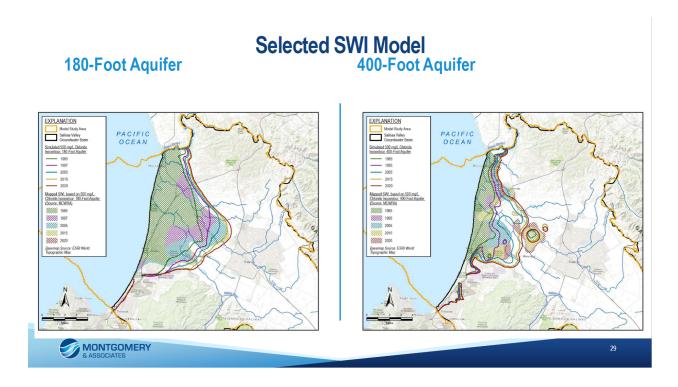
SVBGSA Monterey Subbasin Implementation Committee Meeting, April 26, 2023:

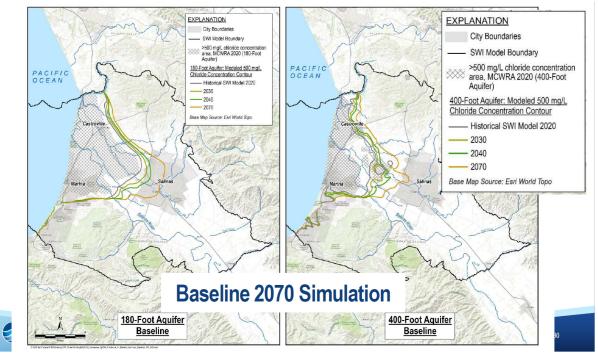
The agenda for this meeting mainly focused on the 2022 Annual Report on the Monterey Subbasin, and on the tier structure of fees to be collected from each of the subbasins (excluding the Seaside Subbasin).

The fees do not impact the Watermaster as they are only applied in the other subbasins of the Salinas Valley Basin.

The 2022 Annual Report showed a number of exceedances of Sustainable Management Criteria that were established in the Monterey Subbasin Groundwater Sustainability Plan. The attached PowerPoint slides that were presented at this meeting describe these.

The timeline for implementation of the various projects and management activities is also shown in the attached PowerPoint slides.









Prepared for: Monterey Subbasin Implementation Committee April 26,2023 Prepared by: Abby Ostovar, PhD

WY 2022 Annual Report Monterey Subbasin

Marina Coast Water District Groundwater Sustainability Agency Salinas Valley Basin Groundwater Sustainability Agency

April 1, 2023

GSP Annual Report Purpose

- Report monitoring data

- Summarize progress over the past year

- Help DWR understand implementation challenges and how they could help Annual Reports developed based on GSP Regulations

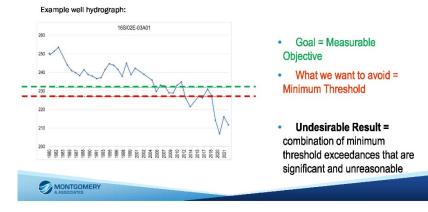
§ 356.2 Annual Reports

Groundwater elevation data Groundwater extraction Surface water supply Total water use Change in groundwater storage Progress towards implementing the GSP

§ 354.40. Reporting Monitoring Data to DWR Copy of monitoring data

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Sustainable Management Criteria: Groundwater Level Example

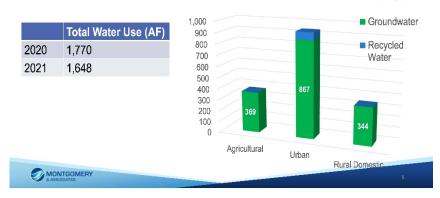


2 Undesirable Results in WY 2022

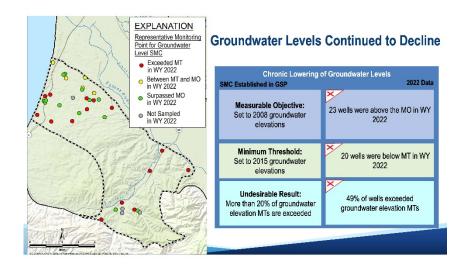
	Groundwater Levels	Seawater Intrusion	Groundwater Storage	Groundwater Quality	Land Subsidence	Depletion of ISW
Corral de Tierra	X	Not applicable	X	\checkmark	\checkmark	Lack of data
Marina/Ord	X	\checkmark	X	\checkmark	\checkmark	\checkmark
Monterey Subbasin	X	\checkmark	X	\checkmark	\checkmark	\checkmark

MONTGOMERY & ASSOCIATES	

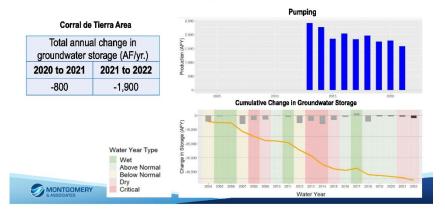
Corral Water Use Similar to Prior Year

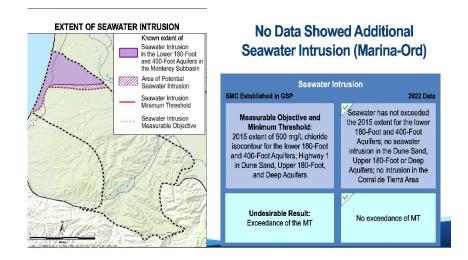


2021 Corral de Tierra Area Total Water Use (AF/yr.)



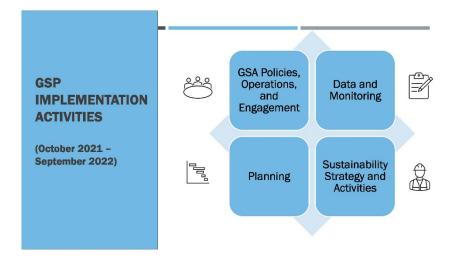
Groundwater Storage Decline Accelerated





Water Quality – Additional wells had higher concentrations of arsenic and iron

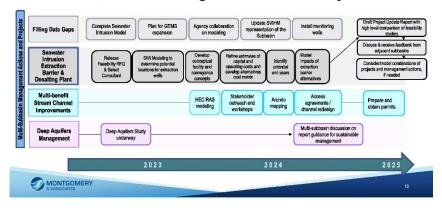


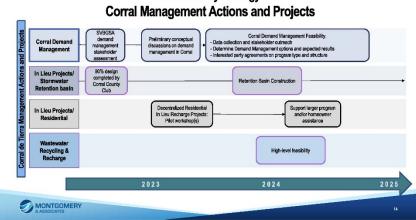


SVBGSA GSP IMPLEMENTATION ACTIVITIES

දුදුර	GSA Policies, Operations, and Engagement
\bigcirc	 Revised committee structure, developed policies and procedures, and strengthened coordination
	Data and Monitoring
=6/	Conducted data and model tasks to fill data gaps and prepare for project development
	Planning
	Submitted Monterey Subbasin GSP and 180/400 GSP Update
\ominus	Sustainability Strategy and Activities
Å	 Awarded SGMA Implementation Grant (\$7.6 mil) Completed preliminary investigation of the Deep Aquifers Study Corral de Tierra County Club proposed a retention basin to collect and reuse run-off Developed Sustainability Strategy for Subbasin

Sustainability Strategy: Multi-Subbasin Management Actions and Projects





Sustainability Strategy: Corral Management Actions and Project

Marina – Ord SMC Summary

	Groundwater Levels	Seawater Intrusion	Groundwater Storage	Groundwater Quality	Land Subsidence	Depletion of ISW
Corral de Tierra	X	Not applicable	X	\checkmark	\checkmark	Lack of data
Marina/Ord	X	\checkmark	X	\checkmark	\checkmark	\checkmark
Monterey Subbasin	X	\checkmark	X	\checkmark	\checkmark	\checkmark

MONTGOMERY & ASSOCIATES	

Sustainability Strategy: Marina/Ord Management Actions and Projects

d Projects	Indirect Potable Reuse	Continue preliminary investigations reconnected in the fassibility study including options to distributing backflush water dissign	
Marina/Ord Management Actions and Projects	Install Monitoring Wells	Planning and design Preparation of bid specification and selection of a diffing including including including including operation and selection of a diffing contrador operation and a contrador operati	
	MCWD Demand Management Measures	Orgoing Implementation	•
	Stormwater Recharge Management	Ongoing implementation	
-		2023 2024	2025
(RY	16

SUMMARY OF PURE WATER MONTEREY, AND SALINAS VALLEY AND MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS IN MAY 2023

<u>Note</u>: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

<u>SVBGSA Special Joint Meeting of the 180/400, Eastside, and Monterey Subbasin Implementation</u> <u>Committees, May 3, 2023:</u>

Although I am not a member of this Committee I monitor their meetings and participate when there are items of interest to the Watermaster. At this meeting the items on the agenda were related to the tiered rate structure that the SVBGSA plans to implement to fund its activities. The Watermaster is not subject to those fees, so I did not attend this meeting.

SUMMARY OF PURE WATER MONTEREY, AND SALINAS VALLEY AND MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS IN JUNE 2023

Note: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

SVBGSA Advisory Committee Meeting, June 15, 2023:

The principal item on this Advisory Committee meeting agenda was discussion of the Proposed Tiered Fee Schedule that the SVBGSA Board will be considering adopting at its June 29, 2023 meeting. Since this fee does not directly impact the Watermaster, I would not normally have attended this meeting. However, to count as attending one had to attend in person, not by Zoom. The Advisory Committee, some years ago, adopted a policy that if a member failed to attend meetings, they could be dropped from the Committee. Therefore, in order to ensure that the Watermaster would continue to be a member, I attended this meeting in person. For future meetings, if there are no items that directly impact the Watermaster, I will attempt to make arrangements to attend remotely, with certain conditions having to be fulfilled in order to comply with the Brown Act.

Issues of interest at this meeting included:

- The new Senior Consultant/General Manager of the SVBGSA is Piret Harmon, replacing Donna Meyers. Sarah Hardgrave came on as a second Senior Advisor/Deputy General Manager, serving in that position along with Emily Gardner.
- Election of new Chair and Vice-Chair. Curtis Weeks of the Arroyo Seco GSA, and Dennis Lebow, were elected as Chair and Vice-Chair respectively.
- Considerable grant money has thus far been obtained to help pay for GSA activities. Grant money will eventually no longer be available to use to help fund the GSA's budgets.
- The proposed Tiered Fee Schedule has two tiers:
 - <u>Tier 1</u>: Groundwater Sustainability Fee for regulatory activities that pertain to all subbasins (\$2.3 million)
 - <u>Tier 2</u>: Unique to each subbasin for activities that pertain to that subbasin, but do not pertain to other subbasins. (\$1.2 million)
- For the Corral de Tierra subarea of the Monterey Subbasin, the fees for Tier 2 will total an estimated \$76K. This fee is expected to be allocated based on pumping quantities of users within that subarea. This subarea has the highest fee amount of all of the subbasins within the SVBGSA.
- Under the Tiered Fee Schedule Agriculture will constitute approximately 90% of the users, and All Others will constitute approximately 10% of the users. Agricultural Users will be charged on a dollars-per-acre basis, and All Other Users will be charged on a dollars-per-connection basis.
- At its June 29th meeting the SVBGSA will do one of two things:
 - Adopt a tiered fee structure such as the one being proposed, or
 - Stay with the current non-tiered fee structure.
- At the Advisory Committee meeting there was divided support for, and opposition to, adopting the proposed Tiered Fee Structure. The opinions expressed were fairly strong on both sides, indicating that the issue is rather controversial.

• There was brief discussion of the Advisory Committee Work Plan which the Board has approved, and the Groundwater Dependent Ecosystem Work Group which is still in the process of being formed. Advisory Committee members who offered to serve on that work group were Chris Bunn, Robin Lee, and Brian Frus.

Monterey Peninsula Water Operations Stakeholders Group Meeting, June 28, 2023:

This stakeholders group replaced the Seaside Water Quality and Operations stakeholders group that had been hosted by Monterey One Water. Because all water operations affect each other, MPWMD began hosting this meeting to facilitate common understanding and operational planning efficiency for the Pure Water Monterey Project.

Information provided at this meeting included:

- PWM delivered 3,500 AF during the fiscal year ending in April 2023
- ASR banked 1,656 AF in WY 2022 and 2,963 AF in WY 2023
- Tracer study information:
 - October 2021 tracer study successfully measured travel time from DIW-1 to the Paralta well
 - October 2022 tracer study, as of mid-June 2023:
 - DIW-4 tracer detected at the Ord Grove well after 7.5 months
 - DIW-4 tracer not detected at the Seaside Muni 4 well
 - DIW-3 tracer not detected at the Paralta well
 - Travel times calculated during the time period September through November of 2022:
 - From DIW-1 to the Paralta well ranged between 4.9 and 5.2 months
 - From DIW-2 to the Paralta well ranged between 7.5 and 7.6 months
 - From DIW-3 to ASR-3 and ASR-4 ranged between 6.7 and 6.8 months
 - ASR-4 will be included in tracer sampling when the well is certified for municipal production
- ASR-4 has a mercury removal treatment device installed and Cal Am expects it to be given the OK to begin being used as a production well in mid-July.
- M1W is pursuing a Title 22 Engineering Report addendum to enable the PWM project to increase its yield. It will probably take several more months to complete getting State approval of this.
- Bidding is in progress for construction of the Pure Water Monterey Expansion project.
- The next meeting of this group will be in late September 2023.

Monterey Subbasin GSP Implementation Committee Meeting, June 28, 2023:

Items discussed at this meeting included:

- DWR approved the Monterey Subbasin GSP with a list of Recommended Corrective Actions (RCAs). These pertained to getting more or better data to support the GSP, minimum thresholds for chronic lowering of groundwater levels, and revising the definition of undesirable results for degraded water quality.
- Committee members expressed some concern that the RCAs did not pertain to "solving the problem" of chronic lowering of groundwater levels.
- There was an abbreviated presentation on the proposed tiered fee structure that was made at the June 15th Advisory Committee meeting. Committee members expressed some concern about the high costs to be charged to users in the Monterey Subbasin under the proposed fee structure.

• Concern was also expressed about the ability to achieve sustainability in the Monterey Subbasin within the time frame required by the SGMA.

July 12, 2023
4
Progress Report on FO-9 Replacement Well
Robert Jaques, Technical Program Manager

SUMMARY:

Bill DeBoer of Montgomery & Associates is managing the work to install a new monitoring well replace the former monitoring well FO-9 which had to be destroyed due to casing leakage. Here is progress report on this work:

- A site for the replacement well has been selected adjacent to the City of Seaside's golf course.
- The well has been designed and the bid documents have been prepared.
- Two well drilling contractors were contacted to solicit price quotes from them. One prospecti bidder declined to submit a price because of their work back log. A price was received from t other prospective bidder, Maggiora Brothers, and that firm was selected to install the well.
- An easement for the Watermaster to install the well there has been approved and recorded by City of Seaside.
- The well permit application has been signed by the Watermaster and the City of Seaside and k been submitted to Monterey County Health for its approval.
- Once the County well permit is issued, the work will be scheduled with Maggiora Brothers

If there is anything further to report on this, it will be done orally at today's meeting.

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

MEETINC DATE.	byby 12, 2022
MEETING DATE:	July 12, 2023
AGENDA ITEM:	5
AGENDA TITLE:	Report on Damage to Sentinel Well No. 4
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Sentinel Well No. 4 is located adjacent to the Ord Village Pump Station, which is owned and operated MCWD. A replacement for this pump station has now been constructed on the inland side of Highway and the older pump station has now been demolished. The pump station site has also been graded flat a is expected to be planted with native species in conformance with the Coastal Development Permit a State Parks requirements.

On October 26, 2022, prior to the start of demolition, a field meeting was held with MCWD staff, th design consultants (Schaaf & Wheeler) and the contractor (Monterey Peninsula Engineers). At the meeting we (Martin Feeney, Jon Lear, and myself) showed all parties present the location of the well, purpose, and stressed the need to protect it from damage throughout all of the demolition and restorati work. The contractor said they would put a heavy-duty trench plate over the well to protect it from damage.

Sometime during the demolition process the cover of the well box was sheared off, and the well secur plug and the datalogger attached to it dropped into the well. On June 8th the well was video-inspected Newman Well Surveys (from Salinas) and it was found that the bottom portion of the security plug, whi is made of durable plastic, was lodged inside the well casing about 18 feet below the ground surface. link to view the video inspection is in the Attachments section below. The contractor performing t demolition work was asked to have a well drilling company, such as Maggiora Brothers, fish out the pl so the well could continue to be used for monitoring purposes. From the video inspection it was r possible to determine if the datalogger that was attached to the security plug was still attached, or wheth it had fallen to the bottom of the well.

As of the date of preparation of this Agenda Transmittal, Monterey Peninsula Engineers was s coordinating with Maggiora Brothers to have the plug fished out, and that work had not yet be scheduled. If there is more information to report, I will provide an oral update on this at today's meeting

ATTACHMENTS:	Link to view the video inspection is OLS - Monitoring Well.mp4
RECOMMENDED ACTION:	None required – information only

MEETING DATE:	July 12, 2023
AGENDA ITEM:	6
AGENDA TITLE:	Initial Discussion Regarding Monitoring and Management Program (M&MP) for FY 2024
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

The Schedule calls for the TAC to approve the FY 2024 Management and Monitoring Program (M&MP) and Budget at its August 2023 meeting. This will then go on to the Board for approval at its September 2023 meeting.

In order to obtain TAC input and direction regarding these items, I have reviewed the FY 2023 M&MP and have edited it to reflect changes to work items that I anticipate for the FY 2024 M&MP. A copy of this Proposed 2024 M&MP is attached.

Items highlighted in yellow are costs or other items for the various tasks that I will evaluate and update as necessary, based on the TAC's input at today's meeting and discussions with our consultants.

Other than the obvious need to change the dates in the M&MP from 2023 to 2024 (which I have done), all other proposed changes from the 2023 M&MP are shown in Track-Change format (Additions in red underline and deletions in blue strikeout) for the TAC to consider in preparing the 2024 M&MP. To reduce the size of the document, I have deleted some wording that has been repeated in prior Annual Reports, and simply referred to those Annual Reports for information on those topics.

Most of the proposed revisions are relatively minor, but:

- Task I.2.b.5 mentions that a replacement for Monitoring Well FO-9 Shallow, which had to be destroyed because of casing leakage, is being installed in 2023. This is based on the assumption that a well drilling contractor will be able to complete installation of the replacement well sometime during 2023.
- Task I.3.a.3 provides updated information regarding replenishment water for the Basin, gained from analyses performed in 2023, and updated information about Groundwater Sustainability Plans that may affect the Laguna Seca Subarea. The proposed budget to provide funds for modeling or other work to assess Basin management issues, if so directed by the Board, has been reduced from \$60,000 to \$40,000 because no specific modeling or other work has been identified for 2024.

AGENDA ITEM:	6 (Continued)
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If there are other revisions the TAC would like to make to prepare the M&MP for 2024, they can be brought up at today's meeting. The final M&MP for 2024, which will reflect any revisions or additions/deletions that come up at today's meeting and input from our consultants, will be on the TAC's August 9, 2023 Agenda for approval.

ATTACHMENTS:	Draft FY 2024 Seaside Groundwater Basin M&MP in Track Changes Format
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Draft FY 2024 M&MP

Seaside Groundwater Basin 2024 Monitoring and Management Program

The tasks outlined below are those that are anticipated to be performed during 2024. Some Tasks listed below are specific to 2024, while other Tasks are recurring such as data collection, database entry, and Program Administration Tasks.

Within the context of this document the term "Consultant" refers either to a firm providing professional engineering or other types of technical services, or to the Monterey Peninsula Water Management District (MPWMD). The term "Contractor" refers to a firm providing construction or field services such as well drilling, induction logging, or meter calibration.

M.1 Program Administration

	M.1 Trogram Auministration
M. 1. a Project Budget and Controls (\$0) M. 1. b Assist with Board and TAC Agendas (\$0) M. 1. c. M. 1. d. & M. 1. e	Consultants will provide monthly or bimonthly invoices to the Watermaster for work performed under their contracts with the Watermaster. Consultants will perform maintenance of their internal budgets and schedules, and management of their subconsultants. The Watermaster will perform management of its Consultants. Watermaster staff will prepare Board and TAC meeting agenda materials. No assistance from Consultants is expected to be necessary to accomplish this Task. The Consultants' work will require internal meetings and possibly
M. 1. c., M. 1. d, & M.1.e Preparation for and Attendance at Meetings, and Peer Review of Documents and Reports (\$28,280)	 The Consultants' work will require internal meetings and possibly meetings with outside governmental agencies and the public. For meeting with outside agencies, other Consultants, or any other parties which are necessary for the conduct of the work of their contracts, the Consultants will set up the meetings and prepare agendas and meeting minutes to facilitate the meetings. These may include planning and review meetings with Watermaster staff. The costs for these meetings will be included in their contracts, under the specific Tasks and/or subtasks to which the meetings relate. The only meeting costs that will be incurred under Tasks M.1.c, M.1.d, and M.1.e will be: Those associated with attendance at TAC meetings (either in person or by videoconference connection), including providing periodic progress reports to the Watermaster for inclusion in the agenda packets for the TAC meetings, when requested by the Watermaster to do so. These progress reports will typically include project progress that has been made, problem identification and resolution, and planned upcoming work. From time-to-time when Watermaster staff asks Consultants to make special presentations to the Watermaster Board and/or the TAC, and which are not included in the Consultant's contracts for other tasks.
	Appropriate Consultant representatives will attend TAC meetings (either in person or by videoconference connection) when requested to do so by Watermaster Staff, but will not be asked to prepare agendas or meeting

When requested by the Watermaster staff, Consultants may be asked to

minutes. As necessary, Consultants may provide oral updates to their progress reports (prepared under Task M.1.d) at the TAC meetings.

	assist the TAC and the Watermaster staff with peer reviews of documents and reports prepared by various other Watermaster Consultants and/or entities.
M. 1. f	A Consultant (MPWMD) will provide general QA/QC support over the
QA/QC	Seaside Basin Monitoring and Management Program. These costs are
(\$0)	included in the other tasks.
M.1.g	Section 10720.8 of the Sustainable Groundwater Management Act
Prepare Documents for	(SGMA) requires adjudicated basins to submit annual reports. Most of the
SGMA Reporting	documentation that needs to be reported is already generated by the
<mark>(\$2,464)</mark>	Watermaster in conjunction with preparing its own Annual Reports.
	However, some information such as changes in basin storage is not
	currently generated and will require consultant assistance to do so. This
	task will be used to obtain this consultant assistance, as needed.

I. 2 Comprehensive Basin Production, Water Level and Water Quality Monitoring Program

I. 2. a. Database Management		
I. 2. a. 1 Conduct Ongoing Data Entry and Database Maintenance/ Enhancement (\$32,238)	The database will be maintained by a Consultant (MPWMD) performing this work for the Watermaster. MPWMD will enter new data into the consolidated database, including water production volumes, water quality and water level data, and such other data as may be appropriate. Other than an annual reporting of data to another Watermaster Consultant at the end of the Water Year, as mentioned in Task I.4.c below, no reporting of water level or water quality data during the Water Year is required. However, MPWMD will promptly notify the Watermaster of any missing data or data collection irregularities that were encountered.	
	Under this Task, when requested MPWMD will also respond to requests from consultants and others for data from the database.	
	At the end of the Water Year MPWMD will prepare an annual water production, water level, and water quality tabulation in Access format and will provide the tabulation to another Watermaster Consultant who will use that data in the preparation of the SIAR under Task No. I.4.c of the Monitoring and Management Program.	
	No enhancements to the database are anticipated during 2024.	
	A separate consultant will maintain the Watermaster's website.	
I. 2. a. 2 Verify Accuracy of Production Well Meters (\$0)	To ensure that water production data is accurate, the well meters of the major producers were verified for accuracy during 2009 and again during 2015. No additional work of this type is anticipated during 2024.	
I. 2. b. Data Collection Pro	ogram	
I. 2. b. 1 Site Representation and Selection (\$0)	The monitoring well network review that was started in 2008 has been completed, and sites have been identified where future monitoring well(s) could be installed, if it is deemed necessary to do so in order to fill in data gaps. No further work of this type is anticipated in 2024.	

I. 2 b. 2 Collect Water Levels (\$20,492)	Each of the monitoring wells will be visited on a regular basis. Water levels will be determined by either taking manual water levels using an electric sounder, or by dataloggers. The wells where the use of dataloggers is feasible or appropriate have been equipped with dataloggers. All of the other wells will be manually measured.This Task includes the purchase of one datalogger and parts for the datalogger to keep in inventory as a spare if needed.
I. 2. b. 3 Collect Water Quality Samples. (\$28,210)	As discussed in the 2018 Annual Report, Ww ater quality data will be collected quarterly from certain of the monitoring wells, but will is no longer being collected from the four coastal Sentinel Wells. Discontinuing water quality sampling in those wells is the result of the finding made in 2018 that the water quality samples being extracted from those wells are not representative of the aquifer. Those wells were designed for the purpose of electric induction logging, and have historically been logged twice a year. Because many years of logging data have shown essentially no change in aquifer water quality, beginning in WY2023 the frequency of induction logging of the Sentinel Wells will bewas reduced to once per year.
	In 2012 As discussed in the 2012 Annual Report, water quality analyses were expanded to include barium and iodide ions, to determine the potential benefit of performing these additional analyses. These two parameters have been useful in analyzing seawater intrusion potential in other vulnerable coastal groundwater basins, and are briefly mentioned in the Watermaster's annual Seawater Intrusion Analysis Reports. These parameters were added to the annual water quality sampling list for the 3 most coastal MPWMD monitoring wells (MSC, PCA, and FO 09). Since these analyses have now created more than 10 years of data, the analyses will were no longer being performed starting in WY 2023. They, and will only be resumed if the other water quality parameters are indicative of seawater intrusion.
	As discussed in prior Annual Reports the frequency of sampling of SBWM-5 (the Camp Huffman well) has been reduced over the years. It is being sampled once every five years beginning in WY 2022. As discussed in the 2013 Annual Report, the Watermaster reduced the frequency of water quality sampling at monitoring well SBWM 5 (the Camp Huffman well) to once every 3 years beginning in WY 2014. This was based on the January 2010 well construction report in which the well installation hydrogeologic consultant (Martin Feeney) recommended doing initial sampling annually for several years, then reducing the frequency of sampling once it was felt that the water chemistry had been established. Mr. Feeney suggested going to once every five years after initial water quality had been established. Starting with WY 2014 the Watermaster elected to go to once every three years as a more conservative approach. The results from water quality sampling that has performed to date on these wells shows there has been little change in water quality at these wells. Therefore, the sampling frequency was reduced to once every five years beginning in 2022.

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I. 2. b. 3 Collect Water Quality Samples. (Continued)	Water quality data may come from water quality samples that are taken from these wells and submitted to a State Certified analytic laboratory for general mineral and physical suite of analyses, or the data may come from induction logging of these wells and/or other data gathering techniques. The Consultant or Contractor selected to perform this work will make this judgment based on consideration of costs and other factors.
	Under this Task in 2013 retrofitting to use the low-flow purge approach for getting water quality samples was completed on all of the wells that are sampled. This s§ampling equipment sits in the water column and may periodically need to be replaced or repaired. Accordingly, an allowance to perform maintenance on previously installed equipment has been included in this Task. Also, in the event a sampling pump fails or is found to be no longer adequate due to declining groundwater levels, an allowance of \$900 to purchase a replacement sampling pump has been included in this Task.
	Improvements to the QA/QC program for the water quality sampling work were adopted in mid-2017 and will be included in this work in 2024.
I. 2. b. 4 Update Program Schedule and Standard Operating Procedures. (\$0)	All recommendations from prior reviews of the data collection program have been implemented. No additional work of this type is anticipated in 2024.
I. 2. b. 5 Monitor Well Construction (\$0)	A well to replace Monitoring Well FO-9 Shallow, which in 2021 was found to have a leaking casing, is expected to be was installed in 2023. No other monitoring wells are expected to be constructed in 2024. The costs for this work were included in the 2022 M&MP Capital Budget, and funds from that Budget will be used to perform the planning, design, and permitting for this work in 2022. The cost to install the well re-included in the 2023 M&MP Capital Budget. No costs for this work are included in the 2023 Operations Budget.
I. 2. b. 6 Reports <mark>(\$3,568)</mark>	This task was essentially eliminated starting in 2020 by having the data collected by MPWMD under tasks I.2.b.1, I.2.b.2, and I.2.b.3 reported in the SIAR under Task I.4.c. The work remaining under this task is for MPWMD to prepare and provide the data appendix to the Consultant that prepares the SIAR.
	No formalized reporting on a quarterly basis is required. However, MPWMD will promptly notify the Watermaster and the Consultant that prepares the SIAR of any missing data or data collection irregularities in the water quality and water level data collected under Tasks I.2.b.2 and I.2.b.3.
I.2.b.7 CASGEM Data Submittal <mark>(\$5,352)</mark>	On the Watermaster's behalf MPWMD will compile and submit data on the Watermaster's "Voluntary Wells" into the State's CASGEM groundwater management database. The term "Voluntary Well" refers to a well that is not currently having its data reported into the CASGEM system, but for which the Watermaster obtains data. This will be done in the format and on the schedule required by the Department of Water Resources under the Sustainable Groundwater Management Act.

I. 3 Basin Management	
I. 3. a. Enhanced Seaside Basin Groundwater Model (Costs listed in subtasks below)	The Watermaster and its consultants use a Groundwater Model for basin management purposes.
I.3.a.1 Update the Existing Model (\$0)	The Model, described in the report titled "Groundwater Flow and Transport Model" dated October 1, 2007, was updated in 2009 in order to develop protective water levels, and to evaluate replenishment scenarios and develop answers to Basin management questions. The Model was again updated in 2014.
	In 2018 the Model was recalibrated and updated. No further work of this type is anticipated in 2024.
I. 3. a. 2 Develop Protective Water Levels (\$0)	A series of cross-sectional models was created in 2009 in order to develop protective water levels for selected production wells, as well as for the Basin as a whole. This work is discussed in Hydrometrics' "Seaside Groundwater Basin Protective Water Elevations Technical Memorandum. In 2013 further work was started to refine these protective water levels, bu it was found that the previously developed protective water levels were reasonable. Protective water levels will be updated, if appropriate, as part of the work of Task I.3.c.
I. 3. a. 3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions (\$ 60,000<u>40,000</u>)	In 2009 the updated Model was used to evaluate different scenarios to determine such things as the most effective methods of using supplementa water sources to replenish the Basin and/or to assess the impacts of pumping redistribution. This work is described in HydroMetries' "Seaside Groundwater Basin Groundwater Model Report." In 2010, 2013, and again in 2022, the updated Model was used to develop answers to some questions associated with Basin management.
	Modeling performed to date indicates that the solution to the problem of water levels in the Seaside Basin being below Protective Water Levels wil be to inject replenishment water.
	Within the next few years there may be the ability of either or both of two projects to provide additional water for Basin replenishment. One of these is the Monterey Peninsula Water Supply Project's (MPWSP) desalination plant. The other is the Pure Water Monterey (PWM) Expansion Project. Growth is built into each of these projects' plant capacity, and the full capacity of these plants will likely not all be needed for some years into the future. During the time period that these projects would have excess capacity, they could potentially provide water for Basin replenishment.

I. 3. a. 3 Evaluate Replenishment	Montgomery & Associates agrees that injection is the quickest way to
Scenarios and Develop Answers to Basin Management Questions (Continued)	bring groundwater levels up in the Seaside Basin. The original 3,500 AFY PWM Project is already in operation, and construction of either the MPWSP desalination plant or the PWM Expansion Project is expected to begin within the next few years. <u>Modeling to determine the additional</u>
	amount of replenishment water needed to achieve protective groundwater level elevations throughout the Basin, after either or both of those projects are constructed, was performed in 2022 to aid the Watermaster in pursuing approaches to obtain that additional water for Basin replenishment. Modeling performed in 2022 and 2023 found that between 1,000 and 4,600
	AFY of replenishment water will need to be needed, depending on future water demands and rainfall.
	Modeling performed in 2014, 2015, and 2016 led to the conclusion that groundwater levels in parts of the Laguna Seca Subarea will continue to fall, even if all pumping within that subarea is discontinued, because of the influence of pumping from areas near to, but outside of, the Basin boundary. Additional modeling or other work may be performed in 2023 to update the previous work. The Groundwater Sustainability Plan for Corral de Tierra area of the Monterey Subbasin includes projects to help to alleviate this problem, but they are unlikely to completely alleviate it.
	This Task includes a \$640,000 allowance to perform further modeling or analyses pertaining to Basin management issues if so directed by the Watermaster Board.
I. 3. b. Complete Preparation of Basin Management Action Plan (\$0)	The Watermaster's Consultant completed preparation of the Basin Management Action Plan (BMAP) in February 2009. The BMAP serves as the Watermaster's long-term seawater intrusion prevention plan. The Sections that are included in the BMAP are: Executive Summary Section 1 – Background and Purpose Section 2 – State of the Seaside Groundwater Basin Section 3 – Supplemental Water Supplies Section 4 –Groundwater Management Actions Section 5 – Recommended Management Strategies Section 6 – References
I. 3. c. Refine and/or Update the Basin Management Action	In 2019 the BMAP was updated based on new data and knowledge that has been gained since it was prepared in 2009.
Plan (\$0)	No further work of this type is anticipated in 2024. However, although no funds are budgeted for this Task in 2024, since the Groundwater Sustainability Plan (GSP) for the adjacent Monterey Subbasin of the Salinas Valley Groundwater Basin was completed in early 2022, at some point it may be appropriate to further update the BMAP to reflect the impacts of implementing that GSP.

I. 3. d. Evaluate Coastal Wells for Cross-Aquifer Contamination Potential (\$0)	If seawater intrusion were to reach any of the coastal wells in any aquifer, and if a well was constructed without proper seals to prevent cross-aquifer communication, or if deterioration of the well led to casing leakage, it would be possible for the intrusion to flow from one aquifer to another.
(\$0)	An evaluation of this was performed in 2012 and is described in Attachment 10 of the 2012 Annual Report. <u>An evaluation of this was</u> completed in 2012 and is described in MPWMD's Memorandum titled "Summary of Seaside Groundwater Basin Cross Aquifer Contamination Wells Investigation Process and Conclusions" dated August 8, 2012. This Memorandum did not recommend performing any further work on this matter, other than to incorporate into the Watermaster's Database data from wells that were newly identified by the work performed in 2012. That data has now been incorporated into the Database. In 2021 the Watermaster TAC examined the feasibility of performing conductivity profiling of certain of the near- coastal wells that were evaluated in the 2012 Memorandum, as a method of determining if any of those wells was allowing downward migration of intruded water from the shallow dunes aquifer to enter the Paso Robles
	aquifer. However, it was concluded that conditions in those wells would make it infeasible to perform such work. In late 2017 a request was made to MPWMD to destroy one of its no- longer used monitoring wells that is perforated in multiple aquifers (Well PCA East Multiple). MPWMD performed this work in 2018.
I.3. e. Seaside Basin Geochemical Model (\$10,000)	No further work of this type is anticipated in 2024. When new sources of water are introduced into an aquifer, with each source having its own unique water quality, there can be chemical reactions that may have the potential to release minerals which have previously been attached to soil particles, such as arsenic or mercury, into solution and thus into the water itself. This has been experienced in some other locations where changes occurred in the quality of the water being injected into an aquifer. MPWMD's consultants have been using geochemical modeling to predict the effects of injecting Carmel River water into the Seaside Groundwater Basin under the ASR program. In order to predict whether there will be groundwater quality changes that will result from the introduction of desalinated water and additional ASR water (under the Monterey Peninsula Water Supply Project) and advance- treated water (under the Pure Water Monterey Project) geochemical evaluations, and potentially modeling, will be performed in the areas of the Basin where injection of these new water sources will occur. In 2019 a geochemical evaluation of introducing advance-treated water from the Pure Water Monterey Project. That avaluation
	from the Pure Water Monterey Project was performed. That evaluation concluded that there would be no adverse geochemical impacts as a result of introducing that water into the Basin. A similar evaluation of the impact

I.3. e. Seaside Basin Geochemical Model (Continued)	of introducing ASR water also concluded that there would be no adverse geochemical impacts. An evaluation of introducing desalinated water will be performed, if the Monterey Peninsula Water Supply Project's desalination plant proceeds into the construction phase.
	If the geochemical evaluation of injecting desalinated water indicates the potential for problems to occur, then Montgomery and Associates may use the Watermaster's updated groundwater model, and information about injection locations and quantities, injection scheduling, etc. provided by MPWMD for each of these projects, to develop model scenarios to see if the problem(s) can be averted by changing delivery schedules and delivery quantities. This Task includes an allowance of \$10,000 to have Montgomery and Associates perform such modeling, if necessary.
	If the modeling predicts that there may be adverse impacts from introducing these new sources of water, measures to mitigate those impacts will be developed under a separate task that will be created for that purpose when and if necessary.

I. 4 Seawater Intrusion Response Plan (formerly referred to as the Seawater Intrusion Contingency Plan)

	I. 4. a. Oversight of Seawater Intrusion Detection and Tracking (\$0)	Consultants will provide general oversight over the Seawater Intrusion detection program under the other Tasks in this Work Plan.
1	I. 4. c. Annual Report- Seawater Intrusion Analysis (\$27,176)	At the end of each water year, a Consultant will reanalyze all water quality data. Water level and water quality data will be provided to the Consultant by another Consultant (MPWMD) in MS Access format. The Consultant will put this data into a report format and will include it as an attachment to the Seawater Intrusion Analysis Report. If possible, semi-annual chloride concentration maps will be produced for each aquifer in the basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. The induction logs will be analyzed to identify changes in seawater wedge locations. All analyses will be incorporated into an annual report that follows the format of the initial, historical data report. Potential seawater intrusion will be highlighted in the report, and if necessary, recommendations will be included. The annual report will be submitted for review by the TAC and the Board. Modifications to the report will be incorporated based on input from these bodies, as well as Watermaster staff.
	I. 4. e. Refine and/or Update the Seawater Intrusion Response Plan (\$0)	At the beginning of 2009, and again in 2021, it was thought that it might be beneficial or necessary to perform work to refine the SIRP and/or to update it based on new data or knowledge that was gained subsequent to the preparation of the SIRP. However, this did not prove to be necessary, and no further work of this type is anticipated in 2024.

I. 4. f.The SIRP will be implemented if seawater intrusion, as defined in the Plan,If Seawater Intrusion isThe SIRP will be implemented if seawater intrusion, as defined in the Plan,Determined to be Occurring,Implement ContingencyResponse Plan(\$0)

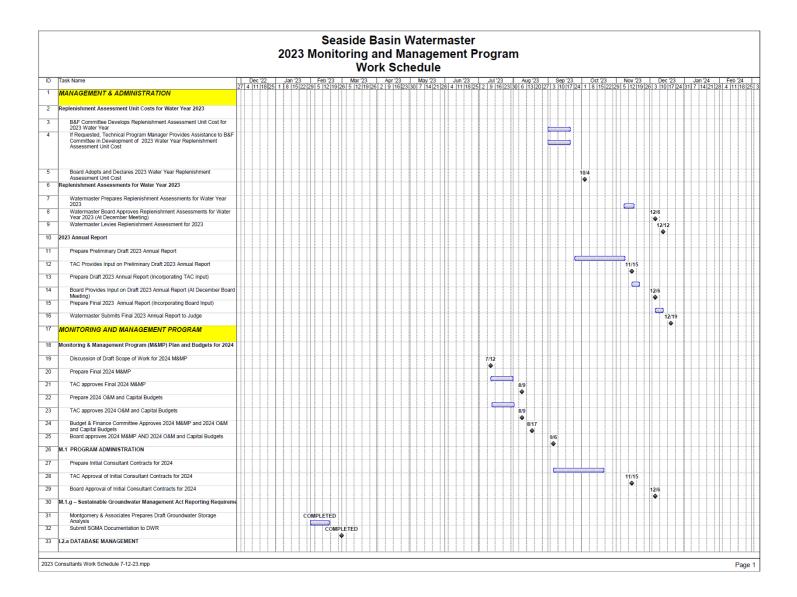
MEETING DATE:	July 12, 2023
AGENDA ITEM:	7
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager

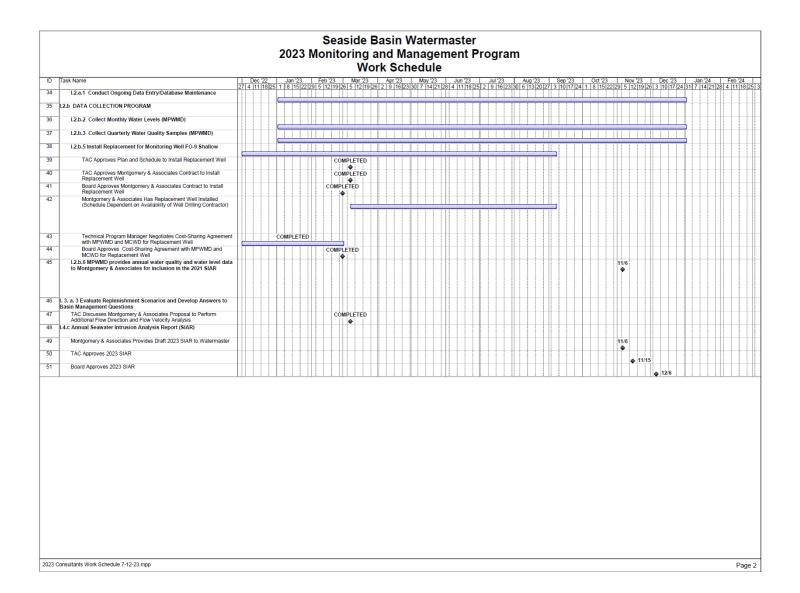
SUMMARY:

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 are performing certain portions of the work.

Attached is the updated schedule for 2023.

ATTACHMENTS:	Schedule of Work Activities for FY 2023
RECOMMENDED	Provide Input to Technical Program Manager Regarding Any
ACTION:	Corrections or Additions to the Schedules





MEETING DATE:	July 12, 2023
AGENDA ITEM:	8
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