MEETING NOTICE AND AGENDA

TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER

DATE: Wednesday, December 13, 2023

MEETING TIME: 1:30 p.m.

THE TECHNICAL ADVISORY COMMITTEE MEETING WILL BE CONDUCTED BY TELECONFERENCE AND WILL NOT BE HELD IN THE MONTEREY ONE WATER OFFICES. YOU MAY ATTEND AND PARTICIPATE IN THE MEETING AS FOLLOWS: JOIN FROM A PC, MAC, IPAD, IPHONE OR ANDROID DEVICE (NOTE: ZOOM APP MAY NEED TO BE DOWNLOADED FOR SAFARI OR OTHER BROWSERS PRIOR TO LINKING) BY GOING TO THIS WEB ADDRESS:

https://us02web.zoom.us/j/83506522962?pwd=eHVMTjA3VW5vb3AvbVNXSU93Rit1UT09

If joining the meeting by phone, dial this number:
+1 669 900 9128 US (San Jose)

If you encounter problems joining the meeting using the link above, you may join from your Zoom screen using the following information:
Meeting ID: 835 0652 2962
Passcode: 524825
TAC Member Teleconferencing Information is on the Next Page

OFFICERS
Chairperson: Jon Lear, MPWMD
Vice-Chairperson: Tamara Voss, MCWRA
MEMBERS

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

TAC MEMBER TELECONFERENCING INFORMATION

NAME	ENTITY	LOCATION
Tamara Voss	Monterey County Water Resources Agency	1441 Schilling Place, Salinas, CA
Kim Shirley	City of Del Rey Oaks	4 Baxter Place, Del Rey Oaks, CA
Nisha Patel	City of Seaside	Engineering Trailer, 440 Harcourt Avenue Seaside, CA
Tim O'Halloran	California American Water	511 Forest Lodge Rd. Suite 100 Pacific Grove, CA
Cody Hennings	City of Monterey	580 Pacific Street, Room 7, Monterey, CA
Jon Lear	Monterey Peninsula Water Management District	5 Harris Court, Bldg. G, Monterey, CA
Leon Gomez	City of Sand City	248 Main Street, Soledad, CA
Paul Bruno	Coastal Subarea Landowners	192 Healy Ave, Marina, CA

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 2023
AGENDA ITEM:	2.A
AGENDA TITLE:	Approve Minutes from the August 9, 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
August 9, 2023

Attendees: TAC Members

City of Seaside – Carolyn Burke
California American Water – Tim O'Halloran
City of Monterey – No Representative
Laguna Seca Property Owners – No Representative
MPWMD – Jon Lear
MCWRA – Guillermo Diaz Moreno
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 (via telephone)
Montgomery & Associates – Derrik Williams on behalf of the SVBGSA

Others
Sarah Hardgrave – SVBGSA
MCWD – Patrick Breen

The meeting was convened at 1:36 p.m.

1. Public Comments

Ms. Hardgrave provided a brief introduction of her new role with the Salinas Valley Basin Groundwater Sustainability Agency. She asked to be added to the listserv for future TAC meeting announcements. Mr. Jaques will do that.

2. Administrative Matters:

A. Approve Minutes from the July 12, 2023 Meeting

On a motion by Mr. O'Halloran, seconded by Mr. Gomez, the minutes were unanimously approved as presented.

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques summarized the agenda packet materials for this item and there was no other discussion.

3. Progress Report on FO-9 Replacement Well

Mr. Jaques summarized the agenda packet materials for this item and there was no other discussion.

4. Progress Report on Damage to Sentinel Well No. 4

Mr. Jaques summarized the agenda packet materials for this item. Mr. Lear reported that MPWMD was also on the waitlist for well drilling activities just as the Watermaster's request is.

5. Presentation on Development of the Seawater Intrusion Model for the Salinas Valley Basin Groundwater Sustainability Agency

Mr. Jaques introduced this item. Ms. Hardgrave said that the STB GSA will be using this model to evaluate various groundwater sustainability plan projects.

Mr. Williams provided a PowerPoint presentation, the slides of which are attached to these meeting minutes. Some of the points he made in his presentation included:

- A draft seawater intrusion model was released some time ago and the consultants are currently incorporating comments that were received.
- The model will be used by the SVBGSA as well as others.
- It will be used to address seawater intrusion issues related to projects in the northern part of the Salinas Valley.
- It is a density dependent model.
- There is only a small amount of offshore geologic data, therefore they had to extrapolate the aquifers offshore. Some of the aquifers daylight in the Monterey Canyon area of Monterey Bay.
- The model used several other models to inform it. These included the Salinas Valley Groundwater Basin Model, the EKI Monterey Subbasin Model prepared for Marina Coast Water District, Cal Am's North Marina Model, and the Salinas Valley Integrated Hydrologic Model. They did the best they could to match the various models together.
- The SWI model is focused on the 180/400-foot Aquifer and Monterey Subbasins because these are where most of the seawater intrusion is known to exist.
- Since no seawater intrusion has been detected in the Seaside Groundwater Basin, they were not able to use the model there because they do not know where the seawater/freshwater interface is located.
- Projects they will be looking at with the aid of the SWI model include:
    - An extraction barrier coupled with reuse of desalinated water. The extraction barrier would be a series of wells that would pull in seawater from the bay and also pull out inland intruded water.
    - Injection/temporary storage of Salinas River water in the 180/400-Foot Aquifer Subbasin. This would be similar to an ASR project with some of the injected water left in the basin to push out seawater intrusion.
    - Demand reduction.
- They will be using the 500 mg/L chloride isocontour as the metric for movement of the seawater intrusion front.
- The model matches well with MCWRA's isocontours in the 180 foot aquifer. In the 400 foot aquifer it also matches pretty well including locations where there are islands of intrusion. However, it shows some seawater intrusion in the Seaside Groundwater Basin which is not there, so it is not accurate there and should not be used in that basin. They are working on correcting geologic discrepancies near the Seaside Groundwater Basin/Monterey Subbasin boundary, as well as inaccurate seawater intrusion simulations in the Seaside Groundwater Basin. They don't know how far offshore the seawater intrusion front is adjacent to the Seaside Groundwater Basin, so the model will not be useful for predicting seawater intrusion in the Seaside Groundwater Basin. They are also working on groundwater elevation calibration inaccuracies in the Salinas Valley.

Mr. Williams responded to various questions throughout the presentation.

6. Approve Monitoring and Management Program (M&MP) for FY 2024

Mr. Jaques summarized the agenda packet materials for this item. Ms. Shirley confirmed that her July 12th requested revision had been satisfactorily incorporated. On a motion by Ms. Shirley, seconded by Mr. Gomez, the 2024 Monitoring and Management Program was unanimously approved as presented.

7. Approve the FY 2024 Monitoring and Management Program (M&MP) Operations and Capital Budgets

Mr. Jaques summarized the agenda packet materials for this item. On a motion by Mr. Lear, seconded by Mr. O'Halloran, the 2024 Monitoring and Management Program budgets were unanimously approved as presented.

8. Schedule

Mr. Jaques reported that at this point it does not appear there will need to be a TAC meeting in the month of September. If that is the case Mr. Jaques will send out a TAC meeting cancellation notice.

Mr. Lear asked Mr. Jaques to briefly describe TAC activities for the rest of the year for the benefit of those who were new members of the TAC. Mr. Jaques described the steps involved in preparing the Annual Report, and highlighted that the November TAC meeting would be on the third Wednesday, rather than the normal second Wednesday, to allow consultants time to complete preparation of documents that need to be included in the Annual Report.

9. Other Business

Ms. Burke asked Mr. Jaques if any progress had been made with regard to allowing the TAC to have future meetings by Zoom rather than in-person. Mr. Jaques said that he was having this matter researched with the newly retained legal counsel for the Watermaster, and would update the TAC once that information had been obtained.

The meeting adjourned at 2:24 PM.

Salinas Seawater Intrusion Model Update

MONTGOMERY & ASSOCIATES

Seaside Watermaster Technical Advisory Committee
August 9, 2023

- Seawater Intrusion Model purpose
- How Salinas Valley groups plan to use it
- Initial calibration
- Response to GTAC comments

Need for Seawater Intrusion Model

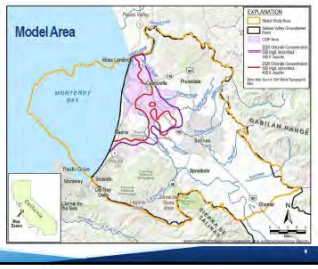
Goal: Develop a tool to assess and design management actions and projects that address seawater intrusion in the Salinas Valley

Seawater Intrusion Model

3D density dependent groundwater flow and transport

Extends offshore to account for ocean interface

Covers Seaside Subbasin at the request of stakeholders, and to extend to natural boundaries



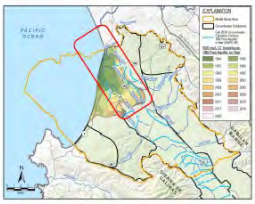
Model Input Integrated Data from Other Models

Model Uses

Model is Focused on the 180/400-Foot Aquifer and Monterey Subbasins

Locations with the most seawater intrusion

Biggest (expensive) projects needed to solve seawater intrusion



Initially Assess Impacts of Three SWI Management Options

1. Extraction barrier in the 180/400-Foot Aquifer Subbasin
2. Injection/temporary storage of Salinas River water in the 180/400-Foot Aquifer Subbasin
3. Demand reduction

Each management option has sub-options

Predicting and managing seawater intrusion in the Seaside Basin is not a primary model objective.

Initial Calibration

Focused on the timing of seawater intrusion in the 180/400-Foot Aquifer Subbasin

Seawater Intrusion Advances at Same Rate and Direction as Observed Seawater Intrusion

180-Foot Aquifer

Seawater Intrusion Advances at Same Rate and Direction as Observed Seawater Intrusion

400-Foot Aquifer

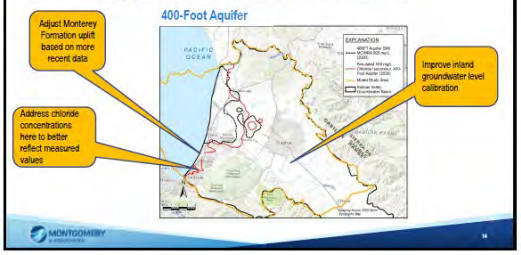
GTAC Comments and Ongoing Activities

GTAC Presentation on

Three main comments

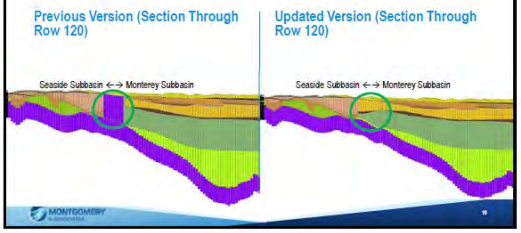
1. Geologic discrepancy near the Monterey Subbasin/Seaside Subbasin boundary
2. Inaccurate seawater intrusion simulated in the southern Seaside Subbasin
3. Simulated groundwater levels in the 180/400-Foot Aquifer Subbasin are too low

Approach to Addressing GTAC Comments



Initial Results From Addressing GTAC Comments

Shallow Monterey Fmt Along Seaside-Monterey Subbasin Boundary



Seawater Intrusion In the Seaside Subbasin

HGU: Paro Robles / Santa Margarita

Groundwater Elevation Calibration

- Significantly improved
- Continuing to calibrate (along with Seaside Seawater Intrusion)


Questions
?
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MONTGOMERY
& ASSOCIATES

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 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 August through October 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 AUGUST 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 August 17, 2023:

Due to a mix-up resulting in a failure to properly notice this meeting, the Advisory Committee could not hold its meeting. However the PowerPoint presentations on two of the items on today's agenda were made. The next regularly scheduled meeting date would be October 19, but the Chair of the Committee suggested having a Special Meeting sooner to enable today's agenda items to be discussed and potentially acted upon.

A presentation on Agenda item 2.a, pertaining to Extraction Barrier Planning in the United Water Conservation District in Ventura County, was made. Mr. John Lindquist from that organization made the presentation with the aid of PowerPoint slides. They are doing planning work to develop a seawater extraction barrier since they are experiencing some seawater intrusion in their basin. The concept they are using is similar to the one being proposed as a project in the 180/400-Foot Aquifer Subbasin in the Salinas Valley Basin.

Mr. Lindquist reported that their aquifers daylight on the ocean floor, some as close as about ¼ mile offshore. They are getting some grant funds to help with the planning, and hopefully also with the design and construction, of the first phase of this project.

They estimate the construction cost of the first phase facilities to be in the $30 million-$50 million range. This would be for a 3,500 acre-foot-per-year sized project.

The United Water Conservation District collects extraction fees from all water users who pump out of the basin, and these fees fund the activities of the District. Mr. Lindquist commented in response to a question that this fee could potentially be increased to pay the cost of building the seawater extraction barrier.

They are currently getting about 50% of their costs for their work on their projects funded through grants. They have applied for grants to hopefully cover the design and construction phase of this project.

A presentation on Agenda item 4.a, pertaining to the Seawater Extraction Barrier Feasibility Study for the 180/400-Foot Aquifer Subbasin, was made. Some of the presentation was made by Ms. Hardgrave and some by representatives of Carollo Engineers who are conducting the study. The goals and objectives are to (1) Evaluate whether the extraction barrier project could effectively achieve Groundwater Sustainability Plan goals to halt seawater intrusion in the

180/400-Foot Aquifer Subbasin, (2) to estimate costs and benefits of potential projects to be able to compare them to other options, and (3) to lay out a roadmap of next steps for the technical, permitting, CEQA, and funding potential for implementation.

There is a 16-month long schedule to complete the study, with the final report expected to be received in September 2024. Defining end users of desalinated water that could come for this project is a task that is currently in progress. I intend to send a letter to formally state the Watermaster's request that some of the water produced from the extraction barrier's desalination plant be provided to the Seaside Groundwater Basin to help replenishment and protect the Seaside Basin against seawater intrusion.

Monterey Subbasin Implementation Committee Meeting August 23, 2023:
Activities at this meeting included a review of the various feasibility studies that are in progress. These are:

- Seawater Intrusion Extraction Barrier Feasibility Study. (See my notes from the August 17 Advisory Committee meeting about this Study). I commented requesting that the Seaside Groundwater Basin be included as a potential end-user of water that could be produced by the desalination plant component of this project. Sarah Hardgrave reported that they are starting a survey of urban water suppliers to determine their interest in getting desalinated water. Some questions were raised by committee members about whether the water could be provided to California American Water since California American Water delivers water outside of the Salinas Valley Groundwater Basin. Ms. Hardgrave pointed out that the Seaside Groundwater Basin is one of the subbasins included within the greater Salinas Valley Groundwater Basin even though it did not have to prepare a Groundwater Sustainability Plan (GSP) because it is adjudicated.
- Demand Management Feasibility Study. This is being developed initially just for the 180/400-Foot Aquifer Subbasin. Demand management in the Monterey Subbasin may be a different approach. Most subbasins' GSPs include demand management as a potential action. It was mentioned that there are numerous means of accomplishing demand management.
- ASR Feasibility Study. This would involve diverting water at the Salinas River Diversion Facility and storing some of it in the 180/400-Foot Aquifer Subbasin to maintain groundwater levels, address seawater intrusion, and provide source water to the CSIP.
- There will be a feasibility study summary report prepared that will cover all three of these studies.

There was also discussion of the Corral de Tierra Management Area's Annual Work Plan. The components of that Plan include:

- Data Expansion & SGMA Compliance
    - Develop Well Registration Program
    - Expand Groundwater Extraction Monitoring
    - Modeling Preparation: Refine Hydraulic Conceptual Model
    - Verify Groundwater Dependent Ecosystems (GDEs)
    - Manage Data/Annual Reports
    - Maintain Groundwater Models

- Interested Parties Coordination and Outreach
    - Meetings
    - Coordination with partner agencies and implementation actions
    - Groundwater Technical Advisory Committee and technical support
- Projects and Management Actions
    - Central Coast Ag Irrigation Efficiency Website
    - Assess Demand Management
    - Assess Groundwater Benefits of Salinas River Stream Maintenance Programs
    - Conduct Deep Aquifer Study

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

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

SVBGSA Advisory Committee Special Meeting September 19, 2023:

Due to a mix-up resulting in a failure to properly notice this meeting, the Advisory Committee could not hold its meeting in August, but the PowerPoint presentations on two of the items on that meeting's agenda were made. The Chair of the Committee suggested having a Special Meeting to enable the August meeting's agenda items to be discussed and potentially acted upon.

At the September 19th Special Meeting:

- Mr. Lindquist of the United Water Conservation District in Ventura County recapped his August presentation on his District's planning work to construct a seawater intrusion extraction barrier and responded to questions from the Advisory Committee members.

- The Carollo Engineers consultant recapped her August presentation on the Seawater Extraction Barrier Feasibility Study for the 180/400-Foot Aquifer Subbasin, and responded to questions from the Advisory Committee members. In this discussion Ms. Hardgrave said that other projects such as the Cal Am Desalination Plant, the Pure Water Monterey Project, a possible desalination plant being considered by the Marina Coast water District, and other such projects would be included in the scope of the study. Also, other water-involved entities in and adjacent to the area of the study would also be considered in the scope of the study. Several persons expressed concerns about how the cost of such a project would be paid for and the impacts on pumpers.

- There was discussion of the Demand Management Study which has recently been started. The SVBGSA has hired a mediator/facilitator consultant to guide them in developing a Demand Management policy. He introduced himself to the Committee and provided background on his work experience. He has worked with numerous water agencies on a variety of issues including demand management issues. He pointed out that this is likely to be a contentious topic. Some members expressed opposition to having a single demand management policy for all subbasins. They felt it would be better to have demand management addressed on an individual subbasin basis. It sounds like this will be a lengthy process for the SVBGSA Board to work its way through. The facilitator said he plans to have the Advisory Committee heavily involved in the process.

Monterey Peninsula Water Operations Meeting September 27 23, 2023:

This meeting takes the place of the previous Pure Water Monterey Water Quality and Operations meetings and is hosted by MPWMD. Topics discussed included:

- ASR annual injection during Water Year 2023 was 1,656 acre-feet. This is the second highest injection rate in the history of the ASR program.
- 2,250 acre-feet of ASR stored water is now in the Seaside Groundwater Basin.
- Groundwater mounding at the ASR injection Wells #1 and #2 to slows movement of the Pure Water Monterey injected water toward the Cal Am and City of Seaside production wells that are located to the west. This increases the travel time from the Pure Water Monterey injection wells to the production wells.
- The regulatory-required 4 month minimum travel time between Pure Water Monterey injection and the Paralta well is being exceeded, i.e. the tracer-measured travel times are well over four months.
- Though advanced water purification facility water quality problems were reported.
- The pure water Monterey expansion Project initial construction contracts have been awarded and notice to proceed has been given.
- The division of drinking water permit has been received for ASR number four.
- Regarding new Extraction Wells #1 and #2, a test well is going to be drilled in October. Regarding new Extraction Wells #3 and #4, Cal Am is working with the Army on this, but expects that it will take quite a while to complete the discussions with them.
- The next meeting of this committee is now scheduled for January 2024.

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

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

180/400 Foot Aquifer Subbasin GSP Implementation Committee Meeting, October 5, 2023:

At this meeting items discussed included presentations on the development of the SVBGSA's Seawater Intrusion Model and the Seasonal Reservoir Releases with Aquifer Storage and Recovery Feasibility Study. The Seawater Intrusion Model presentation was similar to the one made at an earlier meeting and to one that was given to the Watermaster TAC at its August 9, 2023 meeting. The Watermaster TAC meeting presentation is discussed elsewhere in the minutes from that meeting.

The Seasonal Reservoir Releases with Aquifer Storage and Recovery Feasibility Study is being undertaken to determine whether constructing facilities to capture water that is released from the Nacimiento and San Antonio reservoirs can be an effective means of mitigating seawater intrusion in the 180/400-Foot Aquifer Subbasin and increase the reliability of water supply to the Castroville Seawater Intrusion Project (CSIP). Attached are copies of the PowerPoint slides used in the presentation.

During the presentation numerous questions were raised and answered by the consultant, Abby Ostovar of Montgomery & Associates and Sarah Hardgrave of the SVBGSA staff. Several of the Committee members were very familiar with groundwater issues in this subbasin and had personal experience with their own wells located therein. Some of the more pointed questions included:

- If this study is directed at the 180/400-Foot Aquifer Subbasin, why should other subbasins be asked to share in the costs of the study?
- How would the ASR facilities be paid for?
- Will the environmental impacts be manageable?
- With so many challenges facing such a project (e.g. permit issues, environmental issues, etc.) is it worth spending money on this study at this point in time?

Feasibility Study for Seasonal Release with ASR Project

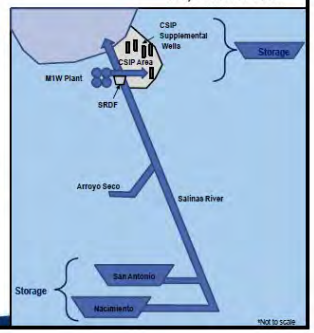
MONTGOMERY & ASSOCIATES
Water Resource Consultants

180/400-Foot Aquifer Subbasin Implementation Committee
October 5, 2023

Project Concept - Summary

Generalized Operations
Many Details not Shown

- Seasonally store water at the Valley's north end using existing aquifer space
- More effectively use existing water and facilities
  - Move water from south to north in wet season
  - Store water in Northern Salinas Valley aquifers
  - Use stored water for CSIP instead of summer releases



MONTGOMERY & ASSOCIATES

PROJECT CONCEPT

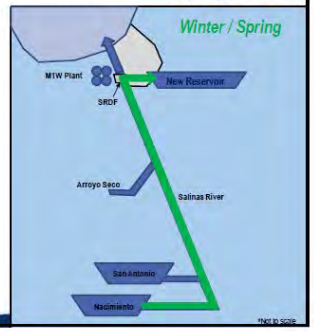
MONTGOMERY & ASSOCIATES

2

Project Concept – Wet Months

Generalized Operations
Many Details not Shown

- Effectively develops a new reservoir in northern Salinas Valley's aquifers
- Shift summer reservoir releases to winter/spring to capture more water and enable more consistent releases
- Water transfers "piggy back" on environmental flows and flood releases



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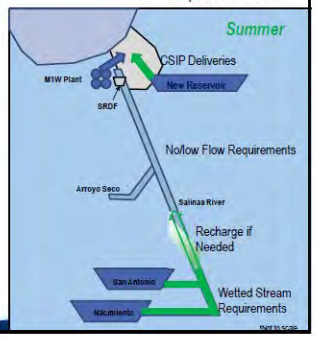
Project Concept – Dry Months

- Targeted reservoir releases for steelhead and, if needed, recharge
- New Reservoir (water stored in aquifer) partially recovered for CSIP
- No large summer conservation releases for CSIP
  - More annual carryover

Generalized Operations
Many Details not Shown



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Potential Challenges

- Regulatory constraints
  - Water rights licenses and permits
- Need to balance operations with flood control, environmental needs, and hydropower commitments
  - No (or reduced) summer recharge of south Valley – but balanced by more reliable releases during droughts
  - No summer flow to lagoon

MONTGOMERY & ASSOCIATES

Potential Benefits

- More annual reservoir carryover (large summer releases not necessary)
- More reliable winter releases (due to more reservoir carryover)
- Improved fish flows
- Increase reliability of CSIP supply
- Injected water remaining in aquifers reduces or halts seawater intrusion
- Less water for invasive species
- Provide functional flows more akin to natural river flows

MONTGOMERY & ASSOCIATES

COMPONENTS

Reoperate reservoirs for winter/spring release

Aquifer storage & recovery

Adjust CSIP operations

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Feasibility Study

Feasibility Study will look at Project and Alternative

New slide

Project	Alternative
• As outlined in GSP and grant documents	• No changes to reservoir operations • Divert and inject additional water available under existing operations

Feasibility Study Goal and Objectives

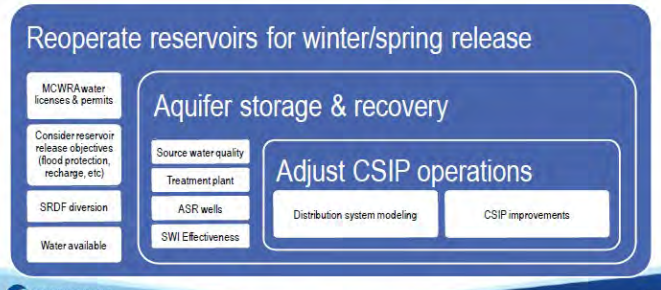
Goal: Assess feasibility of the Seasonal Release with ASR project concept to address seawater intrusion

- Evaluate the extent to which project could achieve or contribute to GSP seawater intrusion goals
- Estimate costs and benefits of project and an alternative
- Lay out road map of next steps for project development

Key Questions for Feasibility Study

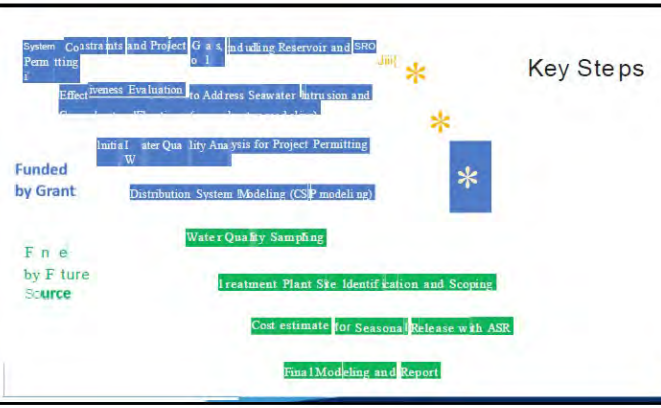
1. What are the reservoir and CSIP system constraints?
2. How effectively would this project address seawater intrusion and meet GSP goals?
3. What are the permitting requirements?
4. What are the estimated project costs?

COMPONENTS



System Constraints Discussions With MCWRA

- September 2023: Project concept and initial analyses
- November 2023: Existing and potential adjustments to reservoir releases and SRDF diversions
- December 2023: Water quality and treatment
- January 2024: CSIP system and injection well locations
- Feb 2024: Refinement of key goals and design of model scenarios



Draft Schedule

	2023						2024										2025					
	Q3			Q4			Q1			Q2			Q3			Q4			Q1			Q2		Q3
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J
1. Constraints/Goals and Permitting																									
2. Modeling																									
3. Water Quality Analysis																									
4. Distribution System Modeling *																									
5. *Water Quality Sampling*																									
6. *Treatment Plant*																									
7. *Cost Estimate*																									
8. *Final Modeling and Report*																									
9. Meetings																									
Team Meetings																									
180/400 Committee																									
Advisory Committee																									
Board of Directors																									
GTAC																									

*Distribution System Modeling of CSIP ASR Scenarios to be performed by MCWRA

Funded by grant
Funded by future source


Questions
?
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MONTGOMERY
& ASSOCIATES
Water Resource Consultants

SVBGSA Advisory Committee Meeting, October 19, 2023:

At this meeting the principal topics discussed pertained to the setting of fees to fund the activities of the SVBGSA, and the start of a process to establish a demand management policy for the subbasins in the SVBGSA. None of these have a direct impact on the Watermaster, so I monitored the meeting in case anything impacting the Watermaster came up, but I also worked on other Watermaster things with the meeting (via Zoom) in the background.

As reported in prior committee meeting summaries, the setting of fees, and the establishment of a demand management policy (which means requiring pumping reductions like those imposed on pumpers in the Seaside Basin by the Adjudication Decision), are expected to be contentious and time-consuming processes. The demand management policy development is being led by a facilitator from the California State University Sacramento. The work to develop the policy is projected to be completed in the Spring of 2025. Hansford Economic Consulting, with its office in Truckee, California, is developing a potential set of fee structures for the SVBGSA.

Monterey Subbasin Implementation Committee Meeting, October 25, 2023:

At this meeting the principal topic of interest to the Watermaster was a discussion of the strategy to achieve sustainability for the Monterey subbasin. Derrik Williams of Montgomery and Associates made a PowerPoint presentation on this topic which included:

- Currently groundwater levels are continuing to fall in both the Marina Ord subarea and the Corral de Tierra subarea, and they have fallen below the Minimum Threshold levels. (The Minimum Threshold is the level which must be achieved in order to be in compliance with the Groundwater Sustainability Plan). The rate of decline is much greater in the Corral de Tierra subarea than in the Marina Ord subarea. Lowering of groundwater levels and loss of storage are both sustainability metrics that are below the Minimum Thresholds in both of these subareas.
- The downward trend of groundwater levels in the Corral de Tierra subarea is caused largely by overpumping. There is also a major loss of groundwater to the 180/400 foot aquifer subbasin from both of these subareas.
- To achieve SGMA compliance it will be necessary to change the groundwater level and storage loss trends to become upward rather than downward in order to reach at least the Minimum Threshold levels.
- In the Corral de Tierra subarea there may be little to no level of pumping that is sustainable, because so much water is lost to the 180/400 foot aquifer subbasin.
- Pumping is currently about two times the sustainable yield in these subareas.
- In the Corral de Tierra subarea it will be necessary to reduce pumping and/or provide recharge water to stop the decline in groundwater levels. And it will then be necessary to add more water for replenishment, or further reduce pumping, to raise groundwater levels.
- The 180/400 foot aquifer subbasin needs to raise its groundwater levels to help the Monterey subbasin achieve sustainability.
- Concern was raised that the 180/400 foot aquifer subbasin will take a very long time to sufficiently raise its ground level groundwater levels, if in fact it is even able to do that. Therefore, it may be unrealistic to count on that to achieve sustainability in the Monterey subbasin. If the 180/400 foot aquifer subbasin is not able to achieve sustainability, then it will be essentially impossible for the Monterey subbasin to achieve sustainability.
- One member of the committee (Janet Brennan) brought up the idea of looking into the potential to have Cal Am extend water service into the Corral de Tierra area as one potential new source of water to help achieve sustainability there.
- A grant was recently awarded to Marina Coast Water District for the Monterey subbasin. Much of it is for administrative and planning work, but it does include some money to install monitoring wells, update models, and for public outreach.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 2023
AGENDA ITEM:	2.C
AGENDA TITLE:	Update on Damage to Sentinel Well No. 4
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

The damage previously reported consisted of having the monitoring well vault cover ripped off, and the plug on the top of the casing, from which the datalogger is suspended, falling into the well.

Maggiora Brothers well drilling contractor was hired by Monterey Peninsula Engineers to retrieve the well plug and they were successful I doing that on August 22, 2023. The datalogger was still attached to the plug so it, too, was retrieved. MPWMD staff reported that the datalogger appeared to still be in satisfactory condition, and it was reinstalled in the well.

To ensure that no debris or other material had fallen into the well, Newman Well Surveys was hired by Monterey Peninsula Engineers to video inspect the full depth of the well. That work was done on October 4, 2023 and the video shows that the well is free of debris over its entire depth. Attached is a copy of the video survey report. We were also provided a video of the inspection itself.

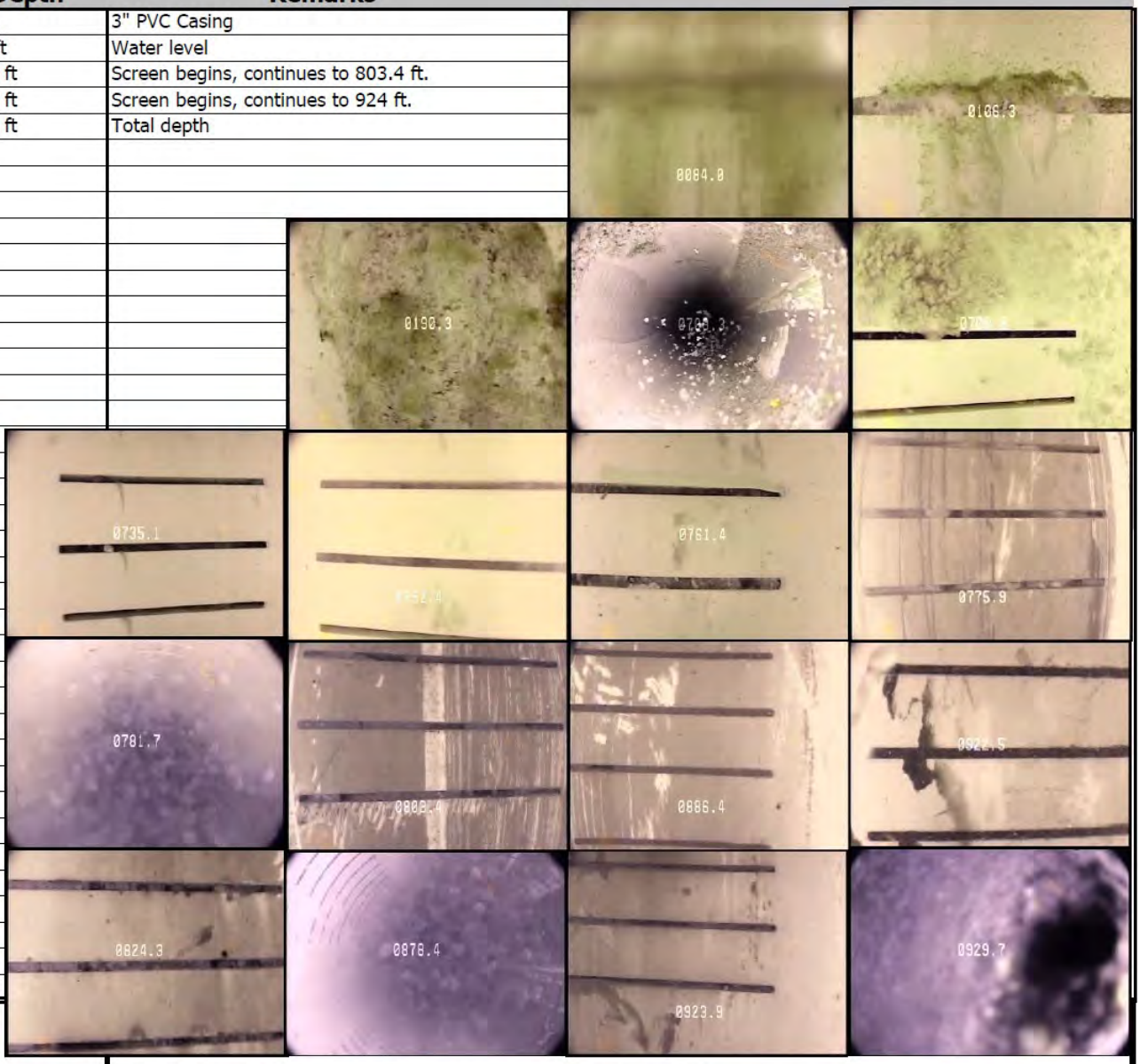
ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

Newman Well Surveys

Video Survey Report

Company:	Marina Water District	**Date:**	4-Oct-23
Well:	Sentinel Well	**Run No.**	Two
Field:	Marina	**Job Ticket:**	76215
State:	California	**Total Depth:**	930.0 ft
		Water Level:	84.0 ft
Location:	Marina, CA	**Elevation:**	76.0 ft
			lat 36.630579° lon -121.839300°
Zero Datum:	Top of casing	**Tool Zero:**	Side view lens
Reason for Survey:	General Inspection		

Depth	Remarks
0.0 ft	3" PVC Casing
84.0 ft	Water level
708.8 ft	Screen begins, continues to 803.4 ft.
824.3 ft	Screen begins, continues to 924 ft.
930.0 ft	Total depth



No debri was found in well. No casing damage was seen.

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	Nonmember 15, 2023
AGENDA ITEM:	2.D
AGENDA TITLE:	Results from Fall 2023 Induction Logging of the Sentinel Wells
PREPARED BY:	Robert Jaques, Technical Program Manager

Mr. Feeney and the induction logging contractor arrived on site to begin the logging work in October but the logging contractor found that there were problems with his equipment and the work could not be performed. The contractor repaired the equipment and performed the logging on November 16th. Mr. Feeney was not able to return to the work site on that date, so the logging was supervised by Cory Steinmetz of MPWMD. Mr. Steinmetz is familiar with these wells and had received a tutorial from Mr. Feeney on how to download and plot the attached induction logging results.

Although there were some minor variations in this year's results compared to prior years (highlighted on the attachments) the induction logs of the Sentinel Wells remained essentially stable over the historical record. I felt that the apparent trend at certain of the wells showing a gradual increase in conductivity at certain depths in the Paso Robles formation could be an early sign that seawater was beginning to creep into that formation. I asked Georgina King to convene a Zoom meeting of our hydrogeologic experts to discuss the findings of the induction logging and provide their thoughts and recommendations. Present at the meeting, which was held on November 27, 2023, were Georgina King (M&A), Patrick Wickham (M&A), Martin Feeney, Michael Ridder (Pacific Surveys – the induction logging contractor), Gus Yates (Todd Groundwater), and Cory Steinmetz (MPWMD) Ms. King provided this summary of the main take-aways from that meeting:

- Group agreed that conductivity in SBWM-1, 2 and 4 appears to be increasing over time in defined zones in the Paso Robles. It was noted that the conductivity increases translate to no more than 100 mg/L increase in TDS (for reference drinking water limit is 500 mg/L)
- Martin and Gus noted the Paso Robles does not have lateral continuity which suggests higher conductivity logged in the 3 wells are either multiple different intrusions or a regional intrusion, rather than a specific lens.
- SBWM-1 and SBWM-2 are outside the Basin. EKI and Marina Coast GSA need to be informed that those Sentinel wells are starting to show an increase in conductivity in defined coarser-grained zones in the Paso Robles Aquifer
- Closest pumping in Paso Robles Aquifer to SBWM-4 is Coe Ave Well (Golf Course well) about 0.7 miles away. All the golf course irrigation wells are screened at least in part in the shallow aquifer. Almost all of CalAm's production wells are screened in both the shallow and deep aquifers.
- All agreed SBWM-3 which has a logger and cable lost in the bottom of the well needs to be fished out and relogged. This can wait until fall 2024
- Jon pointed to the SIRP where it specifies chloride concentrations in specific wells and multiple lines of evidence pointing strongly to seawater intrusion being the trigger for action. The Sentinel wells are no longer sampled so corroborating water quality evidence is not available. Closest monitoring wells are either screened too deep or shallow relative to where the changes in conductivity are being logged to use for corroboration.
- Could potentially start induction logging PCA-West Shallow to see if increased conductivity is also

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

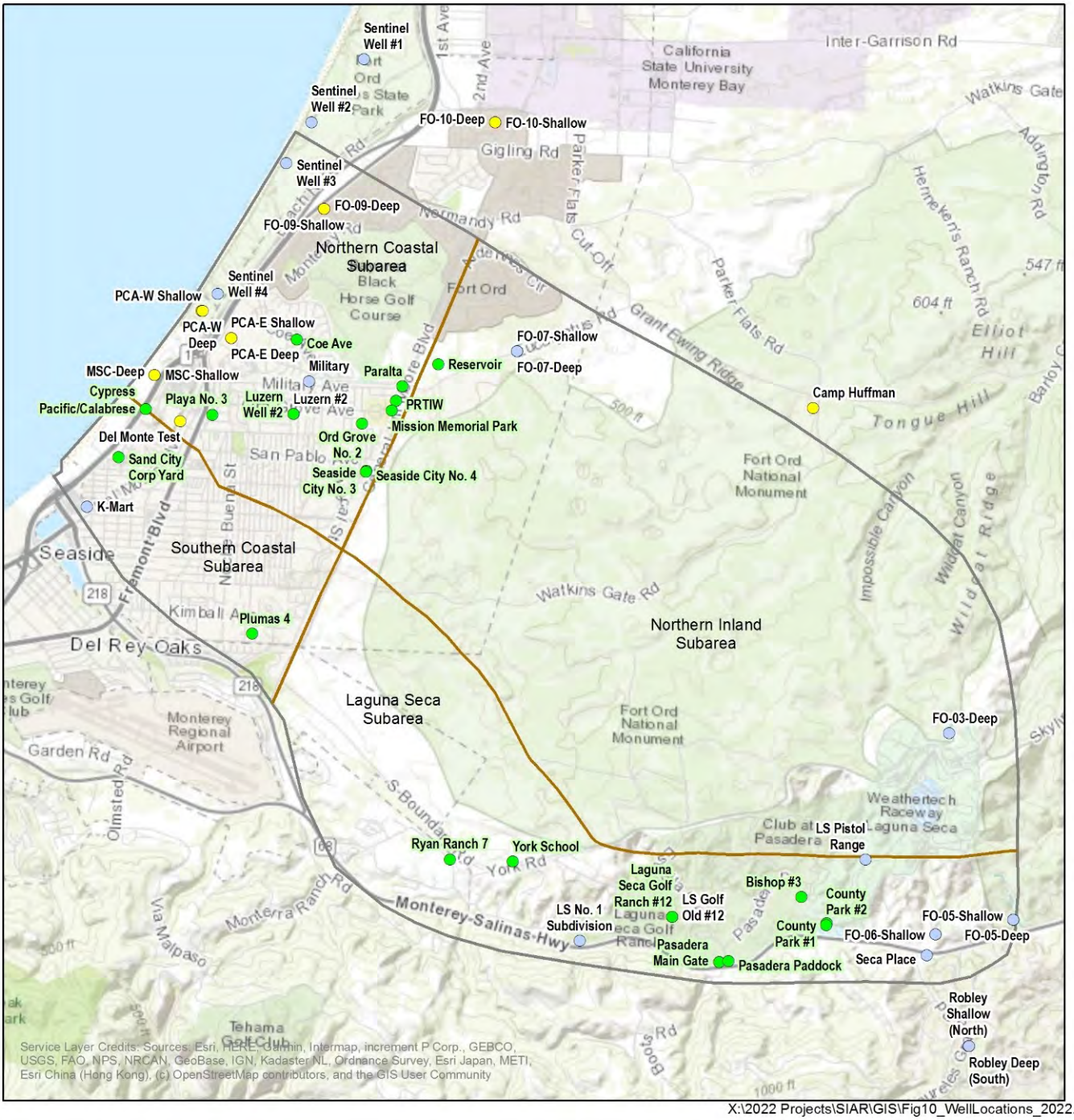
AGENDA ITEM:	2.D (Continued)

occurring in the Paso Robles at that location. Unfortunately, PCA-W Shallow is screened deeper than the zone where the increasing conductivity is in SBWM-4.

- Drilling a new monitoring well targeting the zone of potential intrusion was discussed. It was noted that it is difficult to get a permit in the Coastal Zone. Discussed option of deepening CDM wells that are completed in the Dune Sands to get around Coastal permitting issues. This option will need further discussion.
- Group decided immediate action is not required yet because the conductivity increases have been small so far. There is a need to verify chloride concentrations which will require further discussion.

Given the collective conclusion of our experts that no action is required at this time due to the small conductivity increases, it appears the only action needed will be to continue to monitor this apparent trend as future induction logging is performed to try to ascertain whether or not it is significant.

ATTACHMENTS:	1. Maps showing locations of the Sentinel Wells 2. November 2023 Induction Logging Results from Watermaster's Sentinel Wells, along with plots of induction logging results from prior years, all plotted on the same graphs for ease of comparison. Areas of concern in the 2023 logging are circled to highlight them, and blowups of those portions of the plots are included.
RECOMMENDED ACTION:	None required – information only



X:\2022 Projects\SIAR\GIS\Fig10_WellLocations_2022.mxd

EXPLANATION

- Monitoring Wells used for Groundwater Levels
- Monitoring Well with Water Level and Quality Data
- Production Well with Water Level and Quality Data

Adjudicated Seaside Groundwater Basin Boundary

- Basin Boundary
- Subarea Boundary

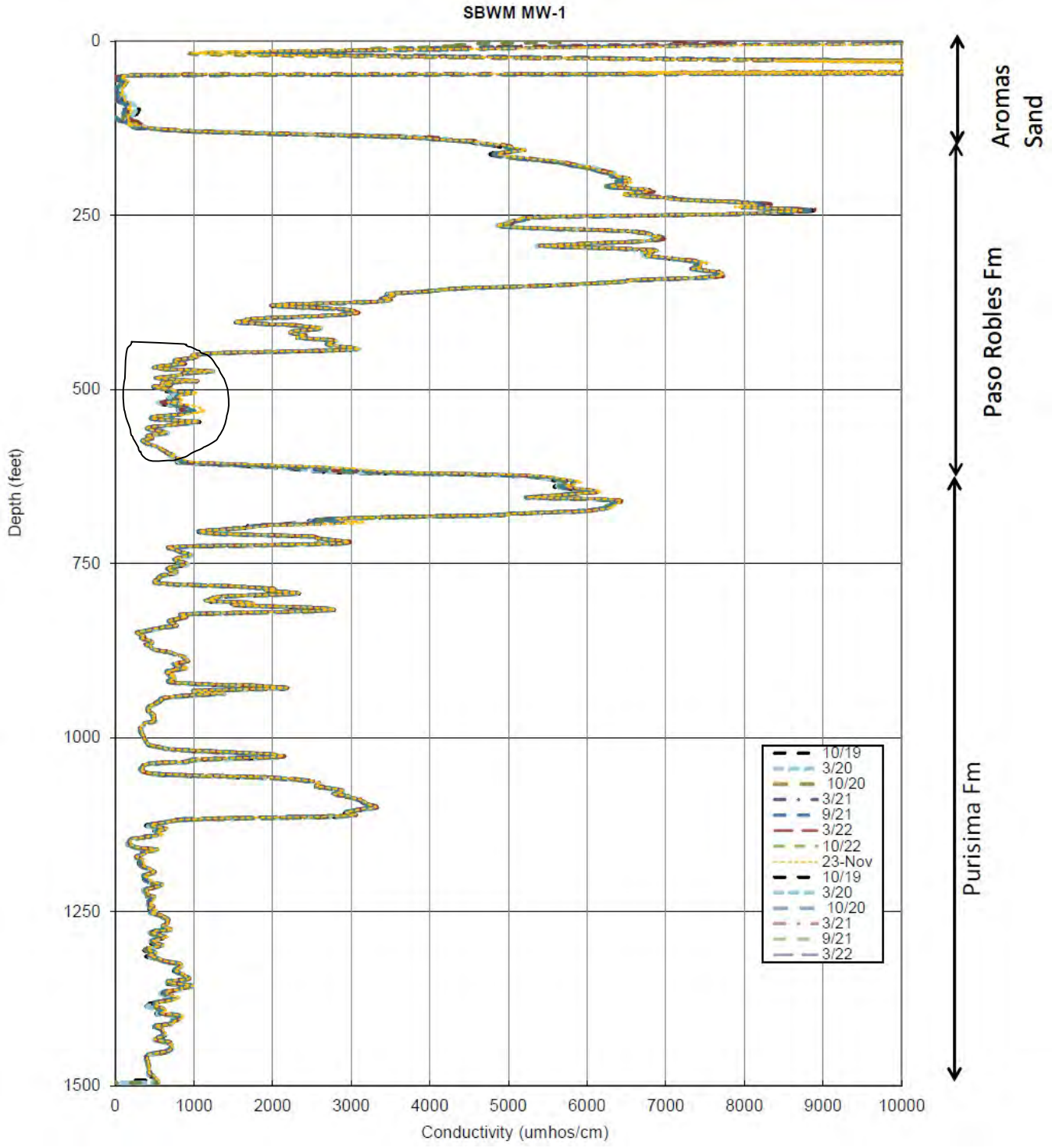
N

0 0.5 1 1.5 2

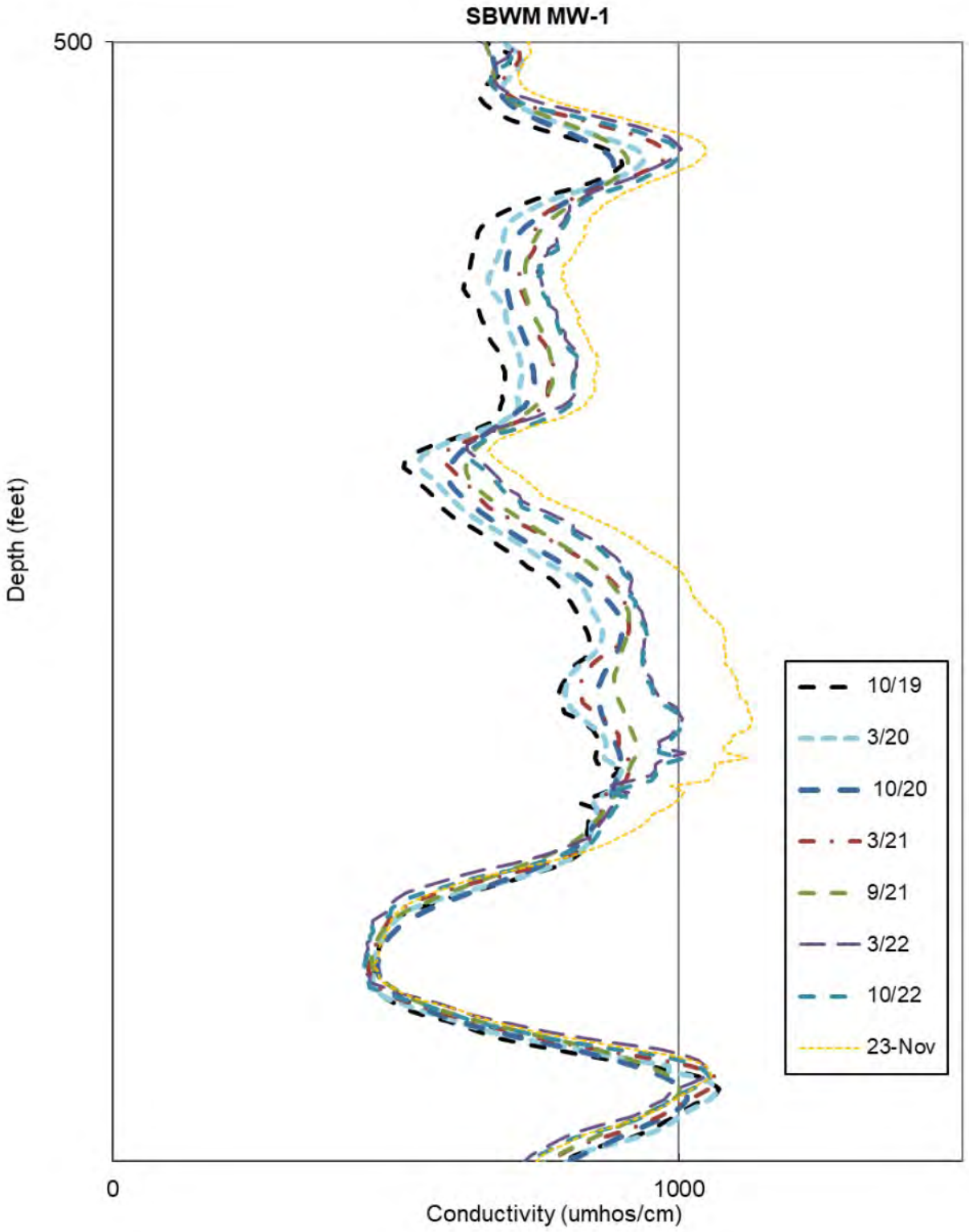
Miles

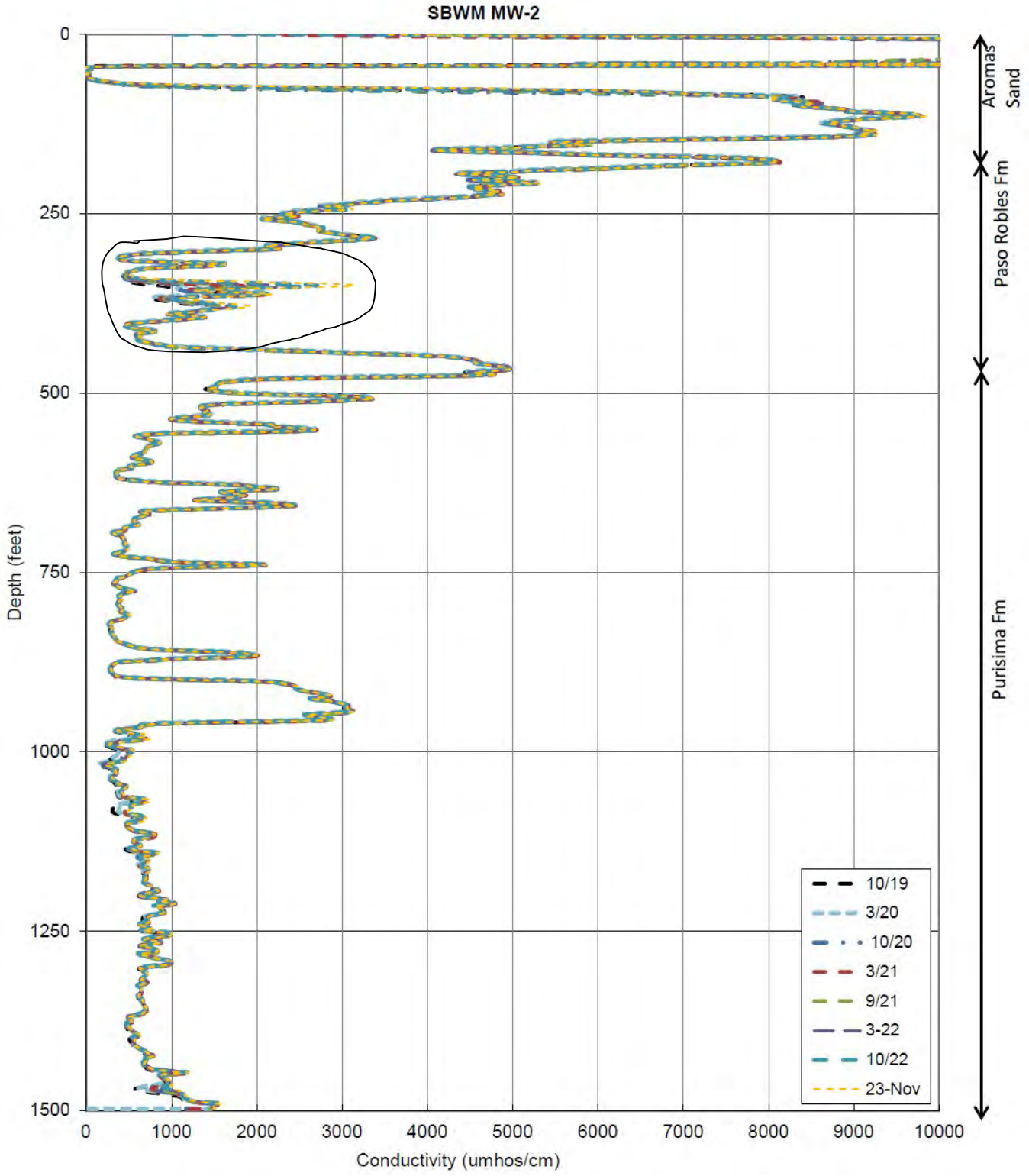
Orthophoto base from HJW (1999), 1:36,000 scale imagery

FIGURE 1

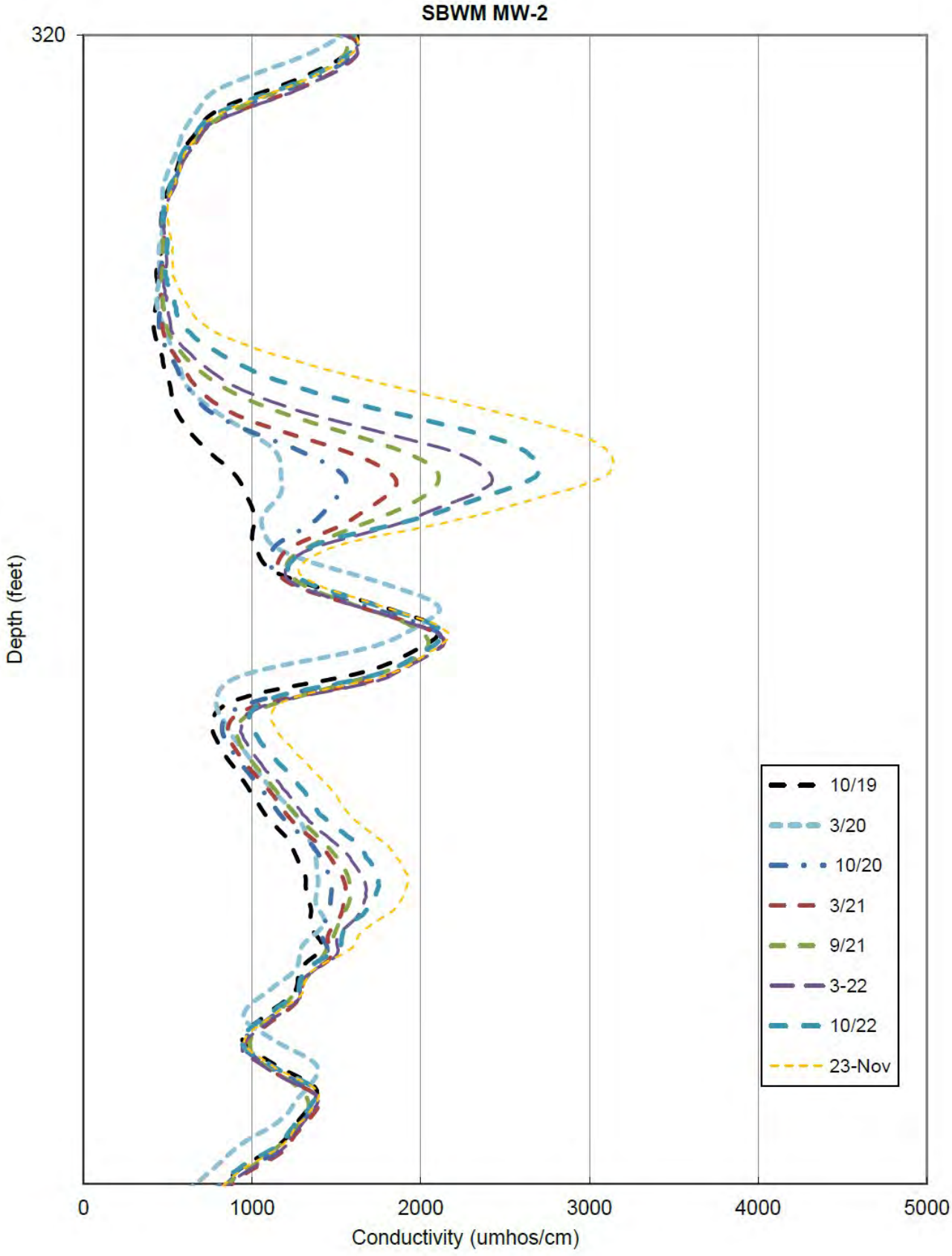

SBWM MW-1
Depth (feet)
0
250
500
750
1000
1250
1500
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity (umhos/cm)
10/19
3/20
10/20
3/21
9/21
3/22
10/22
23-Nov
10/19
3/20
10/20
3/21
9/21
3/22
Aromas Sand
Paso Robles Fm
Purisima Fm

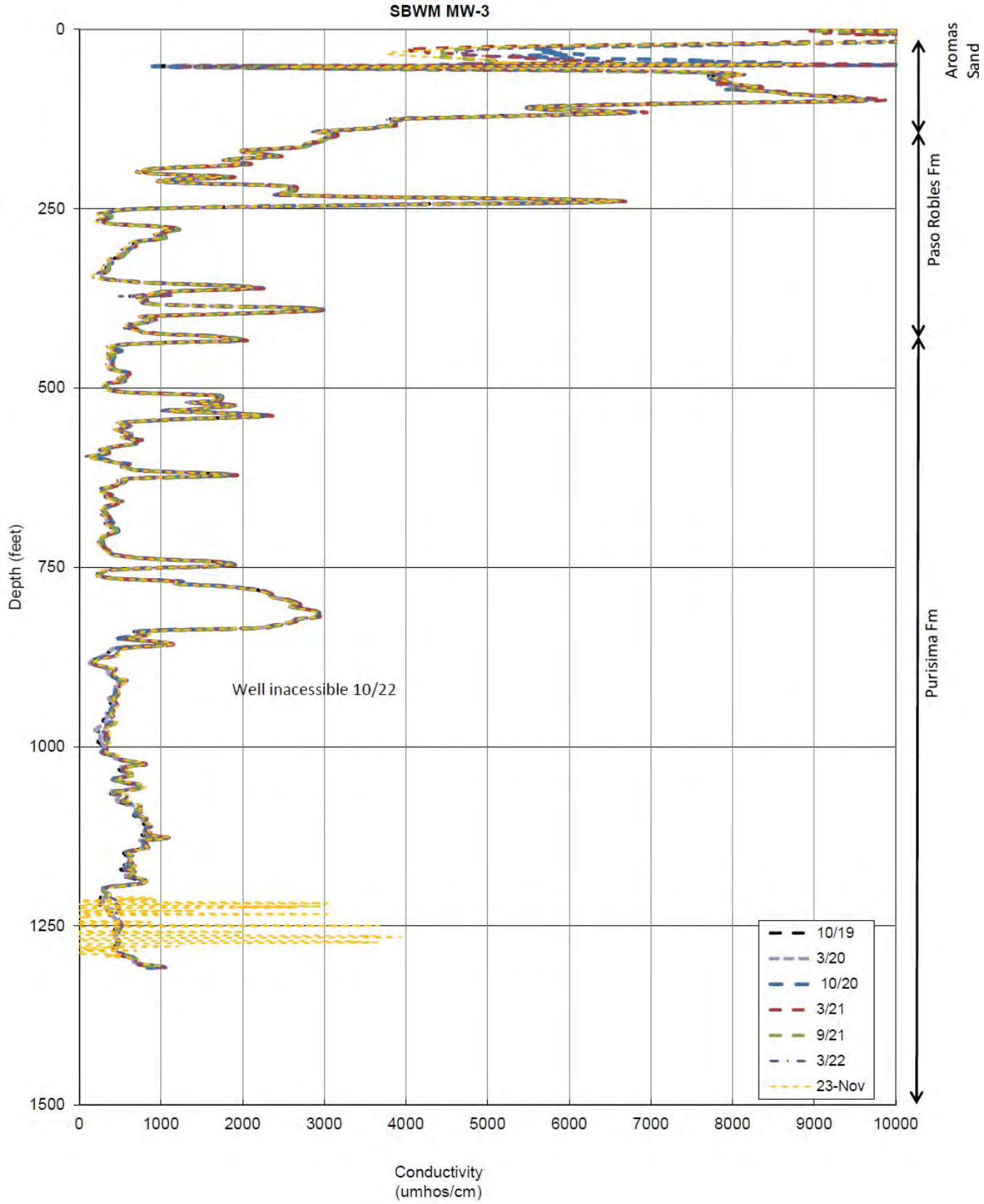
SBWM MW-1
Areas of Interest Enlarged

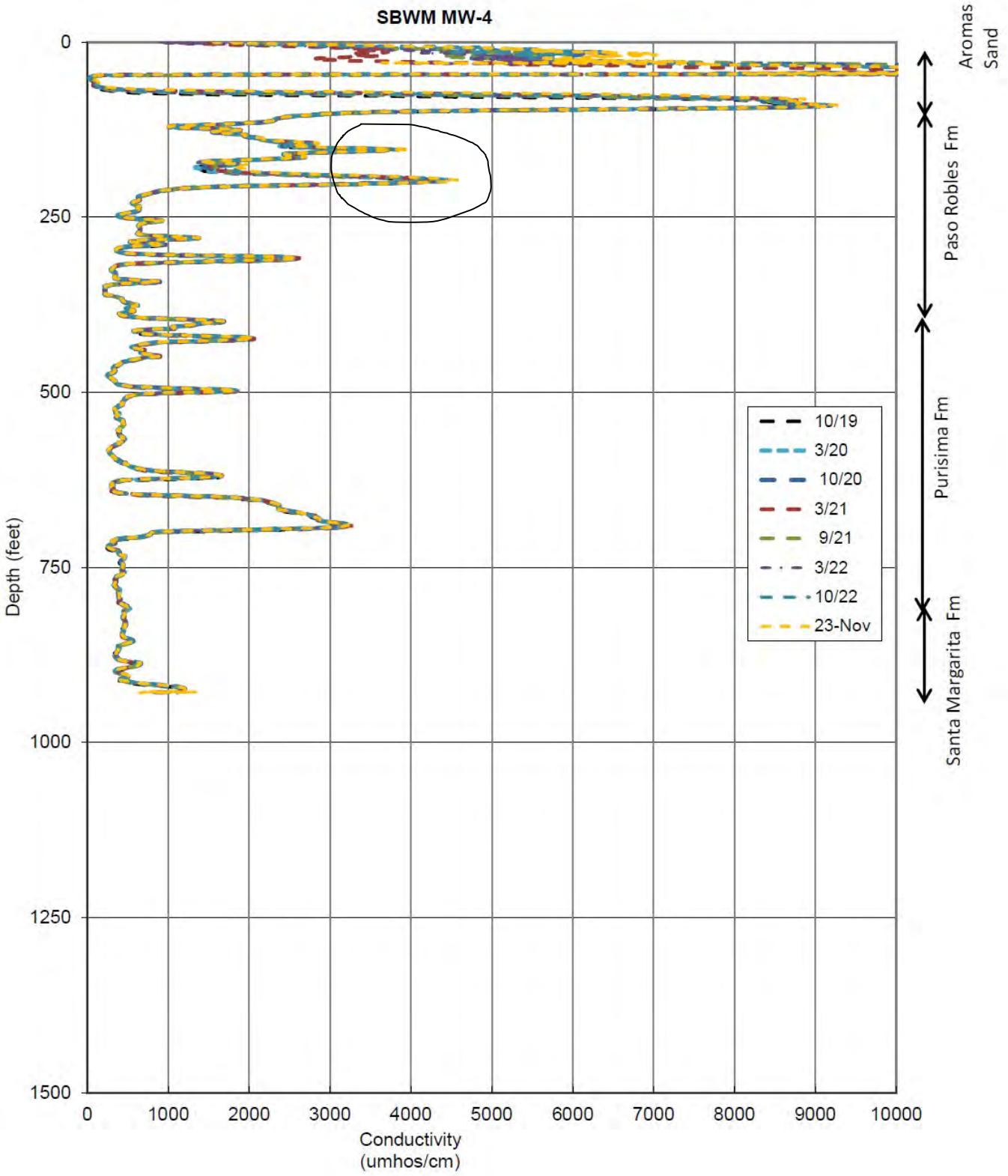



SBWM MW-2
Depth (feet)
0
250
500
750
1000
1250
1500
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity (umhos/cm)
Aromas Sand
Paso Robles Fm
Purisima Fm
10/19
3/20
10/20
3/21
9/21
3-22
10/22
23-Nov

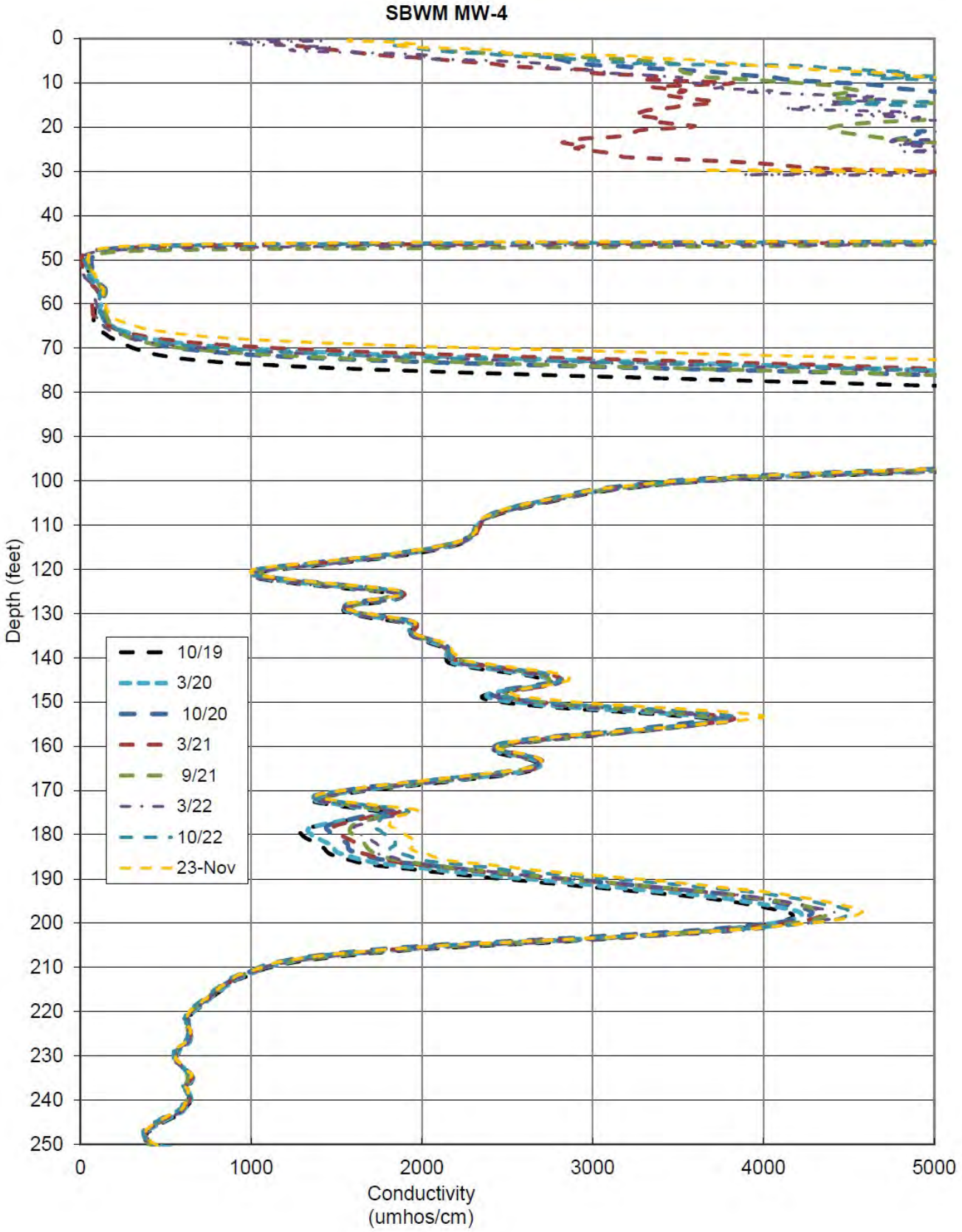
SBWM MW-2
Areas of Interest Enlarged




SBWM MW-3
Depth (feet)
0
250
500
750
1000
1250
1500
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity
(umhos/cm)
Well inacessible 10/22
Aromas
Sand
Paso Robles Fm
Purisima Fm
10/19
3/20
10/20
3/21
9/21
3/22
23-Nov


SBWM MW-4
Depth (feet)
0
250
500
750
1000
1250
1500
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity
(umhos/cm)
10/19
3/20
10/20
3/21
9/21
3/22
10/22
23-Nov
Aromas
Sand
Paso Robles Fm
Purisima Fm
Santa Margarita Fm

SBWM MW-4
Areas of Interest Enlarged



SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 2023
AGENDA ITEM:	2.E
AGENDA TITLE:	Interpretation of Airborne Electromagnetic (AEM) Surveys Conducted by the Department of Water Resources as They Pertain to the Seaside Basin
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:
Pascual Benito has reviewed the recent AEM survey data provided by DWR and will join today's meeting to provide a description of this information and what they show pertaining to the Seaside Basin:

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

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

MEETING DATE:	December 13, 2023
AGENDA ITEM:	2.F
AGENDA TITLE:	Update on SNG Well
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

As reported and discussed at several TAC meetings in prior months, the Security National Guaranty (SNG) well is privately owned and is located in the dunes area in the northern portion of Sand City. It is on land where a development project is being pursued by the owner. Prior to 2021this was an inactive well, and therefore water quality samples were not collected from it. In early 2021 it started to be pumped, thus making it an active well from which water quality samples are to be collected The first sample taken from this well had a very high chloride level (8,660 mg/L) which is a strong indicator that this well is sea water intruded. The well owner (Mr. Ed Ghandour) was contacted and he was asked to look into whether the well casing was leaking and allowing salty water from a shallow aquifer to flow downward into the Paso Robles aquifer and cause the higher chloride level. He responded that he would look into this, but that the development project on this property was in the midst of litigation and he was prevented by the Court from doing any work on the well until the litigation was concluded. In late fall of 2021 he reported that he was awaiting the Court's Decision on the development project litigation, which he expected he would get in late January 2022. He went on to say that as soon as he got the Court's Decision, and finalized the title, he would be able to repair the well.

In October 2022 the well owner reported that the final Court Decision which he originally expected would come out in January of 2022 did not come out until August 2022. He said that SNG found the Decision to be unacceptable and filed an appeal with the State Appellate Court in September 2022. He went on to say that he had sent an email to the other parties to the litigation notifying them that in spite of the Court process being delayed by what will probably be a lengthy time (for the appeal process) the SNG well needs to be repaired, and asking them to agree to have the repair work done. However, as far as I know he did not their concurrence with making repairs. The well is in inactive status now.

In October of 2023 (a month ago) Mr. Ghandour reported that an appeal to the Court's Decision had just been filed (he said previously it had been filed in September 2022), and that he did not anticipate a final Court ruling on the appeal until early 2025. He went on to also report that another lawsuit was filed against the other owner Evariste Group (conversion of property and embezzlement) and that that matter is pending in Orange County.

Because of this litigation and the appeal, Mr. Ghandour said he is not able to address fixing any of the well issues or concerns. As soon as the litigation is concluded or a settlement is achieved, he said he will be able to examine the well and address any concerns that need repairs.

In summary, at this point the well problem cannot be remedied unless/until the other litigants agree to having the repair work performed prior to the litigation being resolved, or there is some other resolution.

It appears there will be no work done to repair what is suspected of being a leaking casing on this well

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

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

AGENDA ITEM:	2.F (Continued)

anytime in the near future, and that it has apparently been leaking an unknown quantity of water from a seawater intruded shallow aquifer into the deeper Paso Robles aquifer for a number of years. I contacted Georgina King of M&A and Martin Feeney for their recommendations. Both felt it would be desirable to pursue efforts to have the well either repaired or destroyed to prevent the potential for cross-aquifer contamination.

Given this information, does the TAC feel that efforts should be initiated through the legal system to seek to have the Court direct that repairs be made now, rather than waiting until the litigation between the well owners (and others) is resolved? This would involve having the Watermaster's legal counsel determine how and if this could be done, and then filing the necessary documents with the Court to seek its direction on this.

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 2023
AGENDA ITEM:	3
AGENDA TITLE:	Progress Report on FO-9 Replacement Well
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Drilling of the replacement for Monitoring Well FO-9 Shallow started on Monday October 16, 2023. All work on the well was completed on Tuesday November 7.

Attached are photos taken during the construction of the well.

ATTACHMENTS:	Well construction photos
RECOMMENDED ACTION:	None required – information only

MONITORING WELL FO-9 AT THE CITY OF SEASIDE GOLF COURSE

Photos of the drill rig

A shaker box is used to separate
the cuttings from the drilling mud.



Installng the 2″ Schedule 80 PVC Casing. The joints are flush threaded.


Centralizers are installed every 10 feet within the screened section, and every 80 feet along the rest of the casing.

The gravel filter material is installed in the bore hole around the screened section of the casing. The filter material is installed using a tremie pipe with water carrying the filter material down the bore hole and depositing it outside of the casing screen . A grout sanitary seal is installed above the screened section to the ground surface.

The bore hole is kept open with a bentonite drilling mud mixture.

At the ground surface there is a vault with a bolt-down cover over the top of the well casing and a lockable plug on the casing itself.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 2023
AGENDA ITEM:	4
AGENDA TITLE:	Discuss and Provide Input on the 2023 Seawater Intrusion Analysis Report (SIAR)
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Montgomery & Associates has completed preparing the Seawater Intrusion Analysis Report (SIAR) for Water Year 2023 and the Executive Summary, which contains conclusions and recommendations, is attached. The complete SIAR is lengthy, so rather than including it in this agenda packet it is being posted on the Watermaster's website so TAC members wishing to review the entire document could do so.

The SIAR examines the "health" of the Basin with regard to whether or not there are any indications that seawater intrusion is either occurring or is imminent. Previous SIARs have stated that depressed groundwater levels, continued pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin. In spite of these factors, the previous SIARs stated that neither the Piper nor the Stiff Diagrams nor any of the other parameters indicated the presence of seawater intrusion in the existing monitoring wells. The 2023 SIAR reports that the evaluation of the data from the sampling and monitoring program continues to indicate that seawater intrusion is <u>not</u> occurring.

A representative from Montgomery & Associates will participate in today's TAC meeting to provide an oral summary of the report and to respond to questions by TAC members.

ATTACHMENTS:	Executive Summary from the 2023 SIAR
RECOMMENDED ACTION:	Discuss and either modify or approve the SIAR and forward the document to the Board with the TAC's recommendation for approval

EXECUTIVE SUMMARY

This report fulfills part of the annual reporting requirements contained in the Seaside Groundwater Basin Adjudication (California American Water v. City of Seaside, Monterey County Superior Court, Case Number M66343). The annual report addresses the potential for, and extent of, seawater intrusion in the Seaside Groundwater Basin (Basin).

Seawater intrusion may occur under basic hydrogeologic conditions as a wedge beneath fresh groundwater or in more complex hydrogeology with various intrusion interfaces among the different aquifers. Continued pumping in excess of recharge and freshwater inflows, coastal groundwater levels well below sea level, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Basin.

Seawater intrusion is typically identified through regular chemical analyses of groundwater which can identify geochemical changes in response to seawater intrusion. No single analysis definitively identifies seawater intrusion, however by examining various analyses it is possible to determine when fresh groundwater mixes with seawater. At low chloride concentrations, it is often difficult to identify incipient seawater intrusion. This is due to the natural variation in freshwater chemistry at chloride concentrations below 1,000 milligrams per liter (mg/L). Mixing trends between groundwater and seawater are more easily defined when chloride concentrations exceed 1,000 mg/L. Common geochemical indicators of seawater intrusion are cation and anion ratios, chloride trends, sodium/chloride ratios, and electric induction logging.

Data collected in Water Year (WY) 2023 from monitoring and production wells do not indicate that seawater intrusion is occurring within the Basin. However, induction logging has revealed small incremental increases in conductivity over time in Sentinel wells SBWM-1, 2, and 4 within the Paso Robles Formation that may be a precursor to seawater intrusion. With SBWM-1 and SBWM-2 located north of the Basin, the focus is on SBWM-4 which has the greater conductivity changes of the 3 wells and is in the Northern Coastal subarea where most of the Basin's groundwater extraction occurs. A zone of increasing conductivity in SBWM-4 is found between 140 to 200 feet below ground surface (bgs) within a coarser-grained unit of the Paso Robles Formation. Because the conductivity changes are relatively small, roughly equating to a total dissolved solids concentration of 100-200 mg/L, and the zone of increasing conductivity is confined to a specific zone in the Paso Robles Formation, no immediate action is warranted.

Since WY 2020, chloride concentrations in FO-10 Shallow, located outside and to the north of the Basin, have been elevated above historical concentrations. Five of the last 7 samples have a sodium/chloride molar ratio below 0.86, which may suggest a seawater chloride source. Of the 4 samples collected from the Shallow well in WY 2023, the first 2 were above 90 mg/L, while

the May and August 2023 samples were just below 90 mg/L. Induction logging of FO-10 Deep in 2021 was inconclusive regarding the presence of seawater intrusion in the well. It was complicated by the presence of a 1,300-foot steel pipe that has been left in the borehole since the well's construction and which is believed to be acting as a conduit across the borehole. Evidence of hydraulic connection between FO-10 Shallow and Deep wells is that the 2 wells have shown extremely similar groundwater elevations over the past 4 years. However, in WY 2023, FO-10 Deep had a 68.4 mg/L chloride decrease bringing concentrations down to those last seen 3 years ago. Regardless, the presence of this steel pipe clouds interpretation of groundwater quality results and may act as a conduit for groundwater in overlying sediments to enter underlying aquifers.

Groundwater levels below sea level, the cumulative effect of pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion has the potential to occur in the Seaside Groundwater Basin.

Based on the findings of this report, the following ongoing detrimental groundwater conditions pose a direct threat of seawater intrusion:

- Both the Paso Robles and Santa Margarita aquifers in the Seaside Groundwater Basin are susceptible to seawater intrusion. The Paso Robles aquifer is in direct hydrogeologic connection with Monterey Bay, and seawater will eventually flow into it if inland groundwater levels continue to be below sea level. The Santa Margarita aquifer may not be in direct connection with Monterey Bay. If that is the case, then seawater intrusion will take longer as seawater in the Paso Robles aquifer would need to move downward through the clay rich deposits overlying the Santa Margarita aquifer before entering the aquifer itself and making its way into Santa Margarita production wells. It is not if, but when, seawater intrusion into these aquifers will occur if protective water elevations are not achieved.
- Over a number of years conductivity data from induction logging of Sentinel Wells 1, 2, and 4 have shown small but steady increases in conductivity within defined coarser-grained zones within the Paso Robles Formation. The estimated total dissolved solids (TDS) increase associated with the change in conductivity since 2019 is approximately 100 mg/L – 200 mg/L. The Secondary Drinking Water limit is 500 mg/L.
- Groundwater levels in some portions of both the Paso Robles and Santa Margarita aquifers in the Northern Coastal subarea continue to be below sea level year-round. WY 2023 fourth quarter (summer/fall) groundwater levels in the Santa Margarita aquifer are approximately 40 feet below sea level. However, pumping depressions in both the Paso Robles and Santa Margarita aquifers are slightly smaller than the previous year.

- Groundwater levels remain below protective elevations in all 3 Santa Margarita aquifer protective elevation monitoring wells (MSC deep, PCA-W Deep, and sentinel well SBWM-3), and 1 of the 3 Paso Robles protective elevation monitoring wells (MSC Shallow). All 3 Santa Margarita monitoring well groundwater elevations recovered slightly in WY 2023 since being the lowest in their historical record the previous year. Other than PCA-W Shallow, the shallow aquifer protective elevation monitoring wells have all consistently been below protective elevations over the period of record shown on Figure 44 through Figure 47. Elevations at PCA-W Shallow were above protective elevations from the late 1990s through 2020 but have since dropped below, though they recovered close to the protective elevation briefly in WY 2023.

The following evidence from this report demonstrates that seawater intrusion has not been detected in monitoring and production wells from which water quality samples are collected:

- Most groundwater samples for WY 2023 from depth-discreet monitoring wells generally plot in a single cluster on Piper diagrams, with no water chemistry changes toward seawater.
- In some production wells, groundwater quality plots on Piper diagrams are different than groundwater quality in monitoring wells. This may be a result of mixed water quality because these wells are perforated in both the Paso Robles and Santa Margarita aquifers. None of the production wells' groundwater qualities are indicative of seawater intrusion.
- None of the Stiff diagrams for monitoring and production wells show the characteristic chloride spike that typically indicates seawater intrusion in Stiff diagrams. The Stiff diagrams for monitoring well FO-10 Shallow show a slightly different shape than other shallow wells because of increased chloride. The stiff diagram for FO-10 Deep, which showed a spike of increased chloride in WY 2022, returned to a shape consistent with its historical shape.
- Chloride concentration trends are stable for most monitoring wells, except FO-10 Shallow and FO-10 Deep. FO-10 Shallow experienced a 13.8 mg/L decrease in chloride concentrations in WY 2023. FO-10 Deep experienced a 68.4 mg/L chloride decrease in WY 2023. The reason for this is not apparent.
- Maps of chloride concentrations for the shallow aquifer do not show chlorides increasing toward the coast. Santa Margarita aquifer chloride concentration maps show that the highest chloride concentrations are limited to coastal monitoring wells PCA-West Deep and MSC Deep, but these are not indicative of seawater intrusion since their concentrations are less than 155 mg/L and they do not have increasing trends.

Other important findings from the analysis contained in this report include the following:

- Due to its distance from the coast, seawater intrusion is not an issue of concern in the Laguna Seca subarea. However, groundwater levels in the eastern Laguna Seca subarea have historically declined at rates of 0.6 feet per year in the shallow aquifers, and up to 4 feet per year in the deep aquifers. These declines have occurred since 2001 despite triennial reductions in allowable pumping and CAWC ceasing pumping its Ryan Ranch and Bishop wells. The cause of the declines is due to the subarea's limited groundwater inflows and natural recharge compounded by the influence of wells pumping east of the Basin. Since WY 2021, groundwater elevations in the area have appeared to experience some stabilization and recovery, potentially correlated with a cessation of pumping at California American Water Company's (CAWC) Ryan Ranch and Bishop wells.
- Native groundwater production in the Basin for WY 2023 was 2,173 acre-feet, which is 698 acre-feet less than WY 2022 and 827 acre-feet less than the Decision-ordered Operating Yield for WY 2023 of 3,000 acre-feet. In addition to WY 2023 being an above average year for rainfall, recovery of 3,458 acre-feet of recycled water from Pure Water Monterey project (PWM) and use of recycled water at the Bayonet/Blackhorse Golf Courses helped offset pumping of native groundwater. Native groundwater production was below the Decision-estimated Natural Safe Yield of 3,000 acre-feet for the fourth year in a row.

The following recommendations should be implemented to monitor and track seawater intrusion.

- Induction logging in the very bottom of SBWM-3 was hampered by the lost transducer and steel cable in the bottom of the well. Given increased conductivity occurring within the Paso Robles aquifer in SBWM-1, 2, and 4, the transducer and cable should be fished out prior to conducting the fall 2024 induction logging so a complete log of conductivity can be obtained.
- EKI and MCWD GSA (Marina Coast Water District Groundwater Sustainability Agency) should be informed that Sentinel wells SBWM-1 and SBWM-2 are starting to show an increase in conductivity in defined coarser-grained zones in the Paso Robles Aquifer. These wells are located outside of the Basin and are within the Marina Subarea of the Monterey Subbasin.
- It is recommended that options for verifying seawater intrusion occurring in the Paso Robles Formation at or near SBWM-4 be evaluated in WY 2024. This may involve finding a site for a new monitoring well, adapting an existing well, induction logging a nearby monitoring well, or some other solution. If the fall 2024 induction logging results

confirm increasing conductivity, the Watermaster should see if it would be feasible to monitor groundwater quality in the affected zone.

- It is recommended that FO-10 Shallow and FO-10 Deep be destroyed and replaced to maintain continuous water quality monitoring and to prevent cross contamination between the Paso Robles and Santa Margarita aquifers, and the overlying Dune Sands. These wells are located outside of the Basin, so destruction would need to be performed by the well owner, MPWMD, and replacement wells would need to be installed by the MCWD GSA.
- It is important to remain vigilant and to closely monitor groundwater quality even though seawater intrusion has not yet been observed in monitoring or production wells in the Basin. As outlined in the most recent Basin Management Action Plan (M&A, 2018a), it is important that the Watermaster continue to promote projects to obtain replenishment water for the Basin that is not extracted out as water supply.
- Based on the WY 2020's SIAR recommendation, groundwater elevation data from the Carmel River water Aquifer Storage and Recovery (ASR) project and PWM monitoring wells are now incorporated into the analysis of groundwater elevations if available. Groundwater level data from PWM monitoring wells are typically available for the second quarter of the water year, but fourth quarter data from are less likely to be posted online at GeoTracker at the time of reporting. Inclusion of groundwater level data from ASR monitoring wells is reliant on direct transmittal from applicable monitoring entity and is not always provided in time for reporting. As these and any future projects are implemented, groundwater levels, groundwater flow directions, and potentially groundwater quality will change in response. It is important data from monitoring wells associated with these projects continue to be evaluated in future SIARs.
- Seawater intrusion is a threat to the Basin, and data must be collected and analyzed regularly to identify incipient intrusion. Maps, graphs, and analyses like those found in this report should continue to be developed every year.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 2023
AGENDA ITEM:	5
AGENDA TITLE:	Discuss and Provide Input on the Preliminary Draft Watermaster 2023 Annual Report
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

The Watermaster submits an Annual Report to the Court after the end of each Water Year to fulfill one of its obligations under the Court Decision that created the Watermaster.

A Preliminary Draft Annual Report for 2023 is being presented to the TAC for its review and input at today's TAC meeting. Due to its large file size, a complete copy of the Preliminary Draft 2023 Annual Report cannot be included with the agenda packet. However, a copy of the body of the Preliminary Draft is attached. A copy of the complete Preliminary Draft Annual Report is being posted on the Watermaster's website for anyone that would like to examine the entire document.

At today's meeting I will review with the TAC the principal components of the Preliminary Draft and provide an opportunity for the TAC to raise questions, provide input, and provide suggested edits to the document.

ATTACHMENTS:	Preliminary Draft 2023 Annual Report (Body only)
RECOMMENDED ACTION:	Provide input to the Technical Program Manager regarding any edits to the Preliminary Draft Annual Report that the TAC wishes to propose

SEASIDE BASIN WATERMASTER PRELIMINARY DRAFT ANNUAL REPORT – 2023

XXXXXX, 2023

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SEASIDE BASIN WATERMASTER

ANNUAL REPORT – 2023

Integral to the Superior Court Decision (Decision) rendered by Judge Roger D. Randall on March 27, 2006 is the requirement to file an Annual Report. This 2023 Annual Report is being filed on or before January 15, 2024, consistent with the provisions of the Decision. as amended by the Order Amending Judgment filed March 29, 2018.

This Annual Report addresses the specific Watermaster functions set forth in Section III. L. 3. x. of the Decision. In addition, this Annual Report includes sections pertaining to:

- Water quality monitoring and Basin management
- Information that the Watermaster would otherwise include within a Case Status Conference Statement, including:
    - A summary of basin conditions and important developments concerning the management of the Basin
    - Planned near- and long-term actions of the Watermaster
    - Information concerning the status of regional water supply issues
    - Management activities that may bear on the Basin's wellbeing.

A. Groundwater Extractions

The schedule summarizing the Water Year 2023 (WY 2023) groundwater production from all the producers allocated a Production Allocation in the Seaside Groundwater Basin is provided in Attachment 1, "Seaside Groundwater Basin Watermaster, Reported Quarterly and Annual Water Production from the Seaside Groundwater Basin for all Producers Included in the Seaside Basin Adjudication During Water Year 2023." Water Year 2023 is defined as beginning October 1, 2022 and ending on September 30, 2023.

B. Groundwater Storage

Monterey Peninsula Water Management District (MPWMD), in cooperation with California American Water (CAWC), operates the Seaside Basin Aquifer Storage and Recovery (ASR) program. Under the ASR program, CAWC diverts water from its Carmel River sources during periods of flow in excess of NOAA-Fisheries' bypass flow requirements, and transports the water through the existing CAWC distribution system for injection and storage in the Seaside Basin at the MPWMD's Santa Margarita ASR site and CAWC's Seaside Middle School ASR site. During WY 2023, 1,656 acre-feet was diverted and stored in the Seaside Basin under the ASR program. Rainfall in the area was about 166% of normal, and Carmel River flow was about 304% of normal.

Based upon production reported for WY 2023, the following Standard Producers are entitled to Free and Not-Free Carryover Credits to WY 2023 in accordance with the Decision, Section III. H. 5:

Producer	Free Carryover Credit (Acre-feet)	Not-Free Carryover Credit (Acre-feet)
Granite Rock	240.37	27.12
DBO Development	440.59	38.98 (-2.31 transfer)
Calabrese (Cypress)	16.46	1.58 (-3.17 transfer)
CAWC	00.00	746.95 (+5.48 transfer)
City of Seaside Muni	00.00	31.15

C. Amount of Artificial Replenishment, If Any, Performed by Watermaster
Per the Decision, "Artificial Replenishment" means the act of the Watermaster, directly or indirectly, engaging in contracting for Non-Native Water to be added to the Groundwater supply of the Seaside Basin through Spreading or Direct Injection to offset the cumulative Over-Production from the Seaside Basin in any particular Water Year pursuant to Section III.L.3.j.iii. It also includes programs in which Producers agree to refrain, in whole or in part, from exercising their right to produce their full Production Allocation where the intent is to cause the replenishment of the Seaside Basin through forbearance in lieu of the injection or spreading of Non-Native Water (referred to herein as "In-lieu Replenishment").

During Water Year 2023 the Watermaster did not indirectly engage in In-lieu Replenishment of the Basin. 386.25 AF of non-native water was made available to the Basin during Water Year 2023 under the April 7, 2010 Memorandum of Understanding and Agreement entered into by Watermaster with the City of Seaside for its golf course irrigation program creating in-lieu replenishment water. The 386.25 AF accrues as a storage credit for any future City of Seaside Municipal or Golf Course use per the agreement.

As reported in the 2019 Annual Report, on September 4, 2019 the City of Seaside filed a motion with the Court seeking the Court's approval of the City's request for a Storage and Recovery Agreement for in-lieu storage and recovery of water. On October 25, 2019 the Court approved the City's request. Court documents pertaining to the City's request were contained in Attachment 15 of the 2019 Annual Report. On February 5, 2020 the Watermaster executed a Storage and Recovery Agreement with the City of Seaside, a copy of which was included in Attachment 7 of the 2020 Annual Report.

D. Leases or Sales of Production Allocation and Administrative Actions
As reported in the 2019 Annual Report, in WY2019 a transfer or assignment of water allocation was activated, as provided for in the Cypress Pacific Investors (CPI), successor to Muriel L. Calabrese 1987 Trust, front-loading delivery of water agreement that was contained in Attachment 14 of the 2019 Annual Report. Per the agreement, CPI leases to California American Water Company (CAWC) 8.0 AF of water (subject to reduction per the formulas in the Decision) for the purpose of producing such water from, or moving the production of such water to, the inland wells operated by CAWC and for delivery of such water by CAWC to one or more CPI properties. In WY 2017 CPI assigned its entire Standard Production Allocation water right to CAWC effective October 1, 2016.

As discussed in Attachment 13 of the 2018 Annual Report, in 2019 Security National Guarantee (SNG) indicated it intended to convert a portion of its Alternative Production Allocation to Standard Production. However, SNG subsequently decided not to make such a conversion.

During WY 2023 the Watermaster Board made changes to sections 3.3.1 through 3.3.2 of the *Rules and Regulations* regarding Standing Committees.

During WY 2023 the Watermaster Board was comprised of the following Members and Alternates:

MEMBER	ALTERNATE	REPRESENTING
Director Paul Bruno	Director John Gaglioti	Coastal Subarea Landowner
Christopher Cook	Tim O'Halloran	California American Water
Director John Gaglioti	Director Paul Bruno	Laguna Seca Subarea Landowner
Director George Riley	Director Alvin Edwards	MPWMD
Mayor Mary Ann Carbone	City Manager Vibeke Norgaard	City of Sand City
Supervisor Wendy Askew	Supervisor Mary Adams	Monterey County (MCWRA)
Councilmember Kim Shirley	Council Member Bill Ragsdale-Cronin	City of Del Rey Oaks
Councilmember Kim Barber	Mayor Tyller Williamson	City of Monterey
Mayor Ian Oglesby	Mayor Pro Tem David R. Pacheco	City of Seaside

E. Use of Imported, Reclaimed, or Desalinated Water as a Source of Water for Storage or as a Water Supply for Lands Overlying the Seaside Basin
The CAWC/MPWMD ASR Program operated in WY 2023 and 1,656 acre-feet of water was injected into the Basin as Stored Water Credits and 806 acre-feet was extracted.

As reported in the 2019 Annual Report, the Watermaster issued a Storage and Recovery Agreement to CAWC and MPWMD governing the injection and recovery of water from the Pure Water Monterey (PWM) Project. A copy of the agreement was included in Attachment 13 of the 2019 Annual Report. The quantities of water that were stored and recovered in accordance with that Agreement during WY 2023 are reported in the lower portion of the spreadsheet in Attachment 1.

F. Violations of the Decision and Any Corrective Actions Taken
Section III. D. of the Decision enjoins all Producers from any Over-Production beyond the Operating Yield in any Water Year in which the Watermaster declares that Artificial Replenishment is not available or possible. Section III. L. 3. j. iii. requires that the Watermaster declare the unavailability of Artificial Replenishment in December of each year, so that the Producers are informed of the prohibition against pumping in excess of the Operating Yield.

In WY 2021 the Watermaster implemented a final ramp-down in production to achieve the Basin's Decision-established Natural Safe Yield of 3,000 AFY. The Watermaster made its declaration regarding the availability of Artificial Replenishment Water, and the Total Usable

Storage Space of the Basin, for WY 2023 at its Board meeting of December 7, 2022. Copies of these declarations are contained in Attachment 2.

Total pumping for WY 2023 did not exceed the Operating Yield (OY) of the Basin, and did not exceed the Natural Safe Yield (NSY) of the Basin.

G. Watermaster Administrative Costs

The total estimated Administrative costs through the end of Fiscal Year 2023 amounted to $75,000 including a $25,000 dedicated reserve. Costs include the Administrative Officer salary and legal counsel fees. The "Fiscal Year 2023 Administrative Fund Report" and "Fiscal Year 2023 Operations Fund Report" are provided in Attachment 3.

H. Replenishment Assessments

At its meeting of November 1, 2023 the Watermaster Board determined that beginning with WY 2024 the Natural Safe Yield Replenishment Assessment unit cost should be updated to $4,528.63 per acre-foot, and the Operating Yield Replenishment Assessment unit cost should be updated to $1,132.16 per acre-foot. The spreadsheet that was included with the agenda transmittal for the November 1 meeting, and which explains the basis of calculation for these new unit costs, is contained in Attachment 4.

Alternative and Standard Producers report their production amounts from the Basin to the Watermaster on a quarterly basis. Based upon the reported productions for WY 2023, no replenishment assessments were made.

A summary of the calculations for Replenishment Assessments for WY 2023 is contained in Attachment 5. Credits against Replenishment Assessments are contained in Attachment 6.

I. All Components of the Watermaster Budget

The Watermaster budget has four separate funds: Administrative Fund; Monitoring & Management–Operations; Monitoring and Management–Capital Fund and; Replenishment Fund. At its meeting of September 6, 2023 the Watermaster Board approved these budgets for Fiscal Year 2024, and copies of these budgets are contained in Attachment 6.

The Watermaster Board is provided monthly financial status reports on all financial activities for each month with year-to-date totals.

J. Water Quality Monitoring and Basin Management

Water Quality Analytical Results

Groundwater quality data continued to be collected and analyzed on a quarterly basis during WY 2023 from the enhanced network of monitoring wells. The low-flow sampling method implemented in 2009 continued to be used in 2023 and is expected to continue to be used in the future to improve the efficiency of sample collection.

Monitoring and Management Program for the Upcoming Year

The 2024 Monitoring and Management Program (M&MP) contained in Attachment 8 includes the same types of basin management activities that have been conducted in prior years.

Most of the differences between the 2023 M&MP and the 2024 M&MP 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. Drilling of this new well commenced on October 16, 2023 and was completed in early November 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.

The 2024 Monitoring and Management Program (M&MP) Budgets contained in Attachment 8 cover the same types of basin management activities that have been conducted in prior years.

The following are comments and/or principal revisions from the 2023 M&MP Budget:

Technical Program Manager: Although the Groundwater Sustainability Plan for the adjacent Monterey Subbasin has been completed and was submitted in early 2022 by the Salinas Valley Basin and the Marina Coast Water District Groundwater Sustainability Agencies, there will continue to be regular meetings of their GSP-related committees that I serve on representing the Watermaster. Also, there will likely be further work related to obtaining replenishment water for the Basin. Therefore, it is anticipated that the 2024 workload will be similar to that of 2023, so the proposed line-item budget amount has been maintained at $75,000 in 2024.

Tasks Involving MPWMD and Montgomery & Associates: The scopes-of-work for both MPWMD and Montgomery & Associates are essentially unchanged from 2023. However, both will have hourly-rate increases in 2024, so the costs of the Tasks in which they are involved reflect somewhat higher dollar amounts in 2024 compared to 2023.

For several of the Tasks involving MPWMD (I.2.a.1, I.2.b.2, I.2.b.3) certain of their costs have been re-allocated to more closely match the Tasks to which they pertain. This accounts for some of the changes in costs of these Tasks in 2024 compared to their costs in 2023.

Task I.2.b.3 includes induction logging of the Sentinel Wells. Access to Sentinel Well #4 may be reduced if the access road leading to it is removed and re-vegetated in conjunction with the demolition of the Ord Village Pump Station. If that is the case, the induction logging vehicle will have to be located some distance away from this well, and the cable that connects the logging tool to the vehicle will have to be supported by a series of braces with pulleys on them. A contingency amount of $5,000 has been included in the cost estimate for this work in case this additional work is needed. This, along with increases in the charges from the induction logging subcontractor, led to the increase in the cost of this Task.

As a result of the changes described above, as indicated by the right-hand column titled "Comparative Costs from 2023 Budget" in the 2024 M&MP Operations Budget in Attachment 6, the proposed 2024 Budget is $31,149 lower ($324,930 -$293,781) than the 2023 Budget.

Basin Management Database

Pertinent groundwater resource data obtained from a number of sources has been consolidated into the Watermaster's database to allow more efficient organization and data retrieval. No modifications or enhancements to the database are planned in FY 2024.

Enhanced Monitoring Well Network

The Seaside Basin M&MP uses an Enhanced Monitoring Well Network to fill in data gaps in the previous monitoring well network used by the Monterey Peninsula Water Management District (MPWMD), and others, in order to improve the basin management capabilities of the Watermaster. The Enhanced Monitoring Well Network has been described in detail in previous Watermaster Annual Reports. It continues to be used to obtain additional data that is useful to the Watermaster in managing the Basin.

As reported in the 2021 Annual Report, monitoring well FO-9 Shallow had developed a leak in its casing and had to be destroyed to prevent cross-aquifer contamination. A Capital Project to drill a replacement for this well was included in the 2022 and 2023 M&MP Capital Budgets. Monitoring data from the replacement well will be useful to MPWMD and MCWD as well as the Watermaster. Therefore, in 2023 a three-party cost-sharing agreement (between MPWMD, the Watermaster, and MCWD) was developed and executed to share in the costs to replace the well. The replacement well was installed in late 2023 and is included in the 2024 M&MP as one of the wells in the Enhanced Monitoring Well Network.

The Security National Guaranty (SNG) well is privately owned and is located in the dunes area in the northern portion of Sand City. It is on land where a development project is being pursued by the owner. Prior to 2021this was an inactive well, and therefore water quality samples were not collected from it. In early 2021 it started to be pumped, thus making it an active well from which water quality samples are to be collected The first sample taken from this well had a very high chloride level (8,660 mg/L) which is a strong indicator that this well is sea water intruded. The well owner was contacted and he was asked to look into whether the well casing was leaking and allowing salty water from a shallow aquifer to flow downward into the Paso Robles aquifer and cause the higher chloride level. He responded that he would look into this, but that the development project on this property was in the midst of litigation and he was prevented by the Court from doing any work on the well until the litigation was concluded. The well is currently inactive and there is no active pumping.

In late fall of 2021 the owner reported that he was awaiting the Court's Decision on the development project litigation, which he expected he would get in late January 2022. He went on to say that as soon as he got the Court's Decision, and finalized the title, he would be able to repair the well. In October 2022 the well owner reported that the final Court Decision which he originally expected would come out in January of 2022 did not come out until August 2022. He said that SNG found the Decision to be unacceptable. In late 2023 the owner reported that an appeal to the Court's Decision had just been filed, and that he did not anticipate a final Court ruling until early 2025.
In the meantime , however, another lawsuit was filed against the other owner Evariste Group (conversion of property and embezzlement) and that matter is pending in Orange County. Because of this litigation and the appeal, the owner said he is not able to address fixing any of the well issues or concerns. As soon as the litigation is concluded or a settlement is achieved, the owner said he will be able to examine the well and address any concerns that need repairs.

In summary, the well problem cannot be remedied unless/until the other litigants agree to having the repair work performed prior to the litigation being resolved, or there is some other resolution.

Basin Management Action Plan (BMAP)

The BMAP constitutes the basic plan for managing the Seaside Groundwater Basin. The BMAP identifies both short-term actions and long-term strategies intended to protect the groundwater resource while maximizing the beneficial use of groundwater in the basin. It provides the Watermaster a logical set of actions that can be undertaken to manage the basin to its Safe Yield.

The Watermaster's first BMAP was completed in 2009 and the Executive Summary from that BMAP was contained in Attachment 9 of the 2009 Annual Report. The complete document is posted on the Watermaster's website at:
http://www.seasidebasinwatermaster.org/Other/BMAP_FINAL_5-Feb-2009.pdf.

The BMAP was updated in 2019 and the Executive Summary from the updated BMAP was contained in Attachment 7 of the 2019 Annual Report. The complete document is posted on the Watermaster's website at:
http://www.seasidebasinwatermaster.org/Other/BMAP%20Final_07192019.pdf .

One of the findings in the Updated BMAP is that the Natural Safe Yield (NSY) of the Basin is 2,370 AFY, which is lower than the Adjudication Decision's initially-established 3,000 AFY. Attachment 10 of the 2019 Annual Report contains a Memo titled "Seaside Groundwater Basin Natural Safe Yield Allocations to Producers." The Memo describes how the Adjudication Decision allocated water rights to each of the Producers (both Standard and Alternative Producers), and the water rights that each Producer would have after all of the Adjudication Decision-required ramp-downs in pumping have been completed. The Memo also briefly describes the water rights impacts that would result from lowering the NSY of the Basin from 3,000 AFY to 2,370 AFY.

At its meeting of June 5, 2019 the Watermaster Board determined to stay with the 3,000 AFY NSY for the time being, in part because ramping-down to 3,000 AFY would cause less hardship on the Alternative Producers by not requiring them to ramp-down along with the Standard Producers, and because ramping down to 2,913 AFY would provide negligible additional benefit and would require both the Standard and Alternative Producers to ramp-down.

In conjunction with updating the BMAP, the Watermaster's hydrogeologic consultants recommended that at some point in the future the Watermaster change to a different approach (Sustainable Yield) rather than continuing to use the Natural Safe Yield approach that was used in the Adjudication Decision, for basin management purposes.

Attachment 11 in the 2019 Annual Report contains a discussion of the pros and cons of using the Sustainable Yield approach vs. the Natural Safe Yield approach. The Watermaster Board considered the information contained in that attachment at its June 5, 2019 meeting and made the following determinations:

- A Sustainable Yield analysis should not be performed at this time.

- The concept of using the Sustainable Yield approach to replace the Natural Safe Yield approach should be revisited after the Groundwater Sustainability Plans (GSP) for the subbasins within the Salinas Valley Groundwater Basin (notably the Monterey and 180/400-Foot Aquifer Subbasins) have been completed, and their impacts on the Seaside Groundwater Basin have been determined. The status of those GSPs is discussed below in the section of this Annual Report titled "Sustainable Groundwater Management Act."
- If something is learned, or events occur, that would warrant performing a Sustainable Yield analysis sooner, the Board should revisit the decision at that time.

The Watermaster Board revisited this topic at its September 1, 2021 meeting, and concluded the following:

- Sustainable Yield (SY) is a technically superior Basin management approach compared to the Natural Safe Yield (NSY) approach used in the Decision, and an SY analysis should be performed at some point in time.
- Because of the historical over pumping from the Basin, regardless of the approach that is used for Basin management, be it NSY or SY, even reducing pumping levels to match either the NSY or SY pumping levels will not achieve protective groundwater elevations. This is because these approaches only seek to stabilize groundwater levels and do not take into account that the Basin would still be at risk of seawater intrusion at some time in the future. An additional source(s) of water (replenishment water) that can be injected into the Basin to raise groundwater levels, and to maintain them at protective water levels, will be necessary regardless of which approach is used for Basin management.
- In view of the expense and complexity of changing to the SY approach, the Board concluded that making this change would not be justified until a source for this replenishment water has been secured.

Seawater Intrusion Response Plan

HydroMetrics LLC (now Montgomery and Associates) was hired by the Watermaster to prepare a long-term Seawater Intrusion Response Plan (SIRP), as required in the M&MP.

The Final SIRP was approved by the Watermaster Board in 2009 and a summary of the Seawater Intrusion Contingency Actions from the SIRP were contained in Attachment 10 of the 2009 Annual Report. The complete document may be viewed and downloaded from the Watermaster's website at: http://www.seasidebasinwatermaster.org/.

Seawater Intrusion Analysis Report

The Seawater Intrusion Analysis Report (SIAR) examines the "health" of the Basin with regard to whether or not there are any indications that seawater intrusion is either occurring or is imminent. Previous SIARs have stated that depressed groundwater levels, continued pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin.

The 2022 Annual Report includes a discussion of two monitoring wells which have experienced increased chloride concentrations. One of these, monitoring well FO-10 Shallow, is north of and outside of the Seaside Basin, and the other, monitoring well FO-9 Shallow, was just inside the northern boundary of the Northern Coastal Subarea of the Seaside

Basin. As reported earlier in this 2023 Annual Report, the original monitoring well FO-9 Shallow was destroyed and was replaced with a new FO-9 Shallow monitoring well in late 2023. Further investigation of Well FO-10 Shallow led to the conclusion that it might be allowing leakage to occur from the shallower Aromas or Dunes Sands formation into the Paso Robles aquifer below. One of the actions listed in the Monterey Subbasin GSP is for MCWD to install monitoring wells near the northern boundary of the Seaside Subbasin. Although work to destroy and replace monitoring well FO-10 Shallow is not mentioned, MCWD may wish to perform such work in order to restore that well for its monitoring purposes.

The induction logging device that has been used each year needed to be repaired before this year's logging event could be performed. Although there were some minor variations in this year's results compared to prior years, the induction logs of the Sentinel Wells remained essentially stable over the historical record. The variations were potentially the result of making the repairs, and were not greater than those experienced in prior years.

The Watermaster retained Montgomery & Associates to prepare the WY 2023 SIAR required by the M&MP. The WY 2023 SIAR provided an analysis of data collected during that Water Year.

There continue to be ongoing detrimental groundwater conditions within the Basin that pose a potential threat of seawater intrusion. Groundwater levels below sea level, the cumulative effect of pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion has the potential to occur in the Seaside Groundwater Basin. However, no data collected in Water Year (WY) 2023 indicate that seawater intrusion is occurring within the Seaside Groundwater Basin.

The SIAR is lengthy, but the full *Executive Summary Section* from it is provided in Attachment 7. A complete copy of the document is posted for viewing and downloading from the Watermaster's website at: http://www.seasidebasinwatermaster.org/. All recommendations contained in the SIAR are being or will be carried out and are included in the budgeted activities contained in Attachment 6 and described in Attachment 8.

Geochemical Impact Assessments

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 into solution which have previously been attached to soil particles, such as arsenic or mercury, and thus into the water itself. This has been experienced in some other locations where changes in water quality occurred as a result of water being injected into an aquifer.

The 2022 Annual Report includes a discussion of geochemical impact assessments pertaining to the introduction of desalinated water, additional ASR water, and advanced wastewater treatment (AWT) water under the Pure Water Monterey Project (PWM).

In 2023 no additional geochemical impact assessments needed to be performed, since the desalination plant component of the Monterey Peninsula Water Supply Project was still in the process of obtaining the permits necessary to move forward.

Sustainable Groundwater Management Act (SGMA)

As reported in the 2015 Annual Report the Watermaster Board determined that the Watermaster should monitor the development of the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) and the State Department of Water Resources' (DWR) development of SGMA regulations with the intent to collaborate with these entities as appropriate.

At the State Level:
During 2023 DWR did not issue any new regulations, or revisions to prior regulations, that impacted the Seaside Groundwater Basin or the Watermaster. In March of 2023 the Watermaster submitted to DWR the reporting information required of it, as an adjudicated basin, under SGMA.

At the Monterey County level:
The 2022 Annual Report includes a discussion of the formation of the Groundwater Sustainability Agencies (GSAs) involved in the development and implementation of the GSP for the Monterey Subbasin. The Watermaster participated in the development of the Monterey Subbasin GSP and continued monitoring the implementation of that GSP in 2023. The Watermaster also continued monitoring the implementation of the GSP for the 180/400-Foot Aquifer Subbasin GSP, since that subbasin has a direct impact on groundwater conditions in the Monterey Subbasin. Its participation as a member of the SVBGSA's Advisory Committee, and the MCWDGSA's Stakeholder Group, helps to ensure that there is close coordination between the SVBGSA, MCWDGSA, and the Watermaster on matters of mutual interest. Monthly summary reports of meetings of those groups are provided to the Watermaster Board by the Watermaster's Technical Program Manager.

K. Information that the Watermaster Would Otherwise Include within a Case Status Conference Statement

This Section was added to the Annual Report beginning in 2018 year as directed by the Court in its Order Amending Judgment filed March 29, 2018. It is formatted to contain the topic headings below, which were requested by the Court in its March 29, 2018 Order.

Summary of Basin Conditions and Important Developments Concerning the Management of the Basin

The condition of the Basin is discussed in the *Water Quality, Seawater Intrusion Analysis Report*, and *Basin Management Action Plan* subheadings in Section J of this Annual Report.

In summary, the *2023 Seawater Intrusion Analysis Report*, which analyzes the water quality data collected under the Watermaster's sampling program, reported that while conditions exist within the Basin that pose a risk of seawater intrusion, none of the data collected in WY 2023 indicate that seawater intrusion has actually occurred.

The 2019 updated *Basin Management Action Plan* found that in spite of recent pumping at levels less than the Decision-established Natural Safe Yield of 3,000 AFY, water levels in some portions of the Basin are continuing to drop. It is expected that once the desalination plant component of the MPWSP becomes operational, or if that plant is not constructed but an expansion of the PWM project is constructed, and CAWC is able to further reduce its pumping from the Basin by 700 AFY through its 25-year overpumping repayment program, the rate of drop in groundwater levels will be at least partially mitigated. However, unless the Basin is

replenished to raise groundwater levels to protective elevations, the Basin will remain vulnerable to seawater intrusion.

As the Groundwater Sustainability Plans (GSPs) were developed under the State's Sustainable Groundwater Management Act (SGMA), the Watermaster became more aware of the impact of adjacent groundwater basins on the Seaside Groundwater Basin. In the context of the Salinas Valley Groundwater Basin, as recognized and defined by the DWR, each basin within that larger Basin is referred to as a "subbasin". Therefore, in this section of this Annual Report the Seaside Basin is referred to as the "Seaside Subbasin." The GSP for the Monterey Subbasin (which abuts the Seaside Subbasin to the north and east) made it clear that:

- The portion of the Monterey Subbasin to the east of the Seaside Subbasin (referred to as the Corral de Tierra/Toro Subarea) will not be able to achieve sustainability as defined under the SGMA without the importation of additional sources of water supply.
- The portion of the Monterey Subbasin to the north of the Seaside Subbasin (referred to as the Marina-Ord Subarea) will not be able to achieve sustainability unless the subarea immediately to the north (the 180/400-foo Aquifer Subbasin) raises its groundwater levels high enough to stop seawater from intruding that subbasin.
- There is significant loss of groundwater from the Seaside Subbasin to the Monterey Subbasin because the groundwater levels in the Monterey Subbasin are lower than those in the Seaside Subbasin.

Planned Near and Long-term Actions of the Watermaster

Near-term actions are described in the 2023 Monitoring and Management Program discussed in Section J and Attachment 8 of this Annual Report.

Long-term actions will include:

- Continuing to carry out the duties and responsibilities assigned to the Watermaster by the Decision
- Continuing to coordinate with the Monterey County Water Resources Agency, the SVBGSA, and the MCWDGSA:
  - In their development of updated hydrogeologic models to ensure that there is hydrogeologic agreement between those models and the Watermaster' Seaside Basin model, and
  - Continuing to coordinate with the SVBGSA to develop measures to aid in groundwater management of the Laguna Seca Subarea.
- Continuing meetings of the ad hoc "Public Awareness Committee" of the Watermaster Board to:
  - Develop information about potential funding mechanism options for the purchase of replenishment water
  - Developing materials to educate decision makers and the public in general about:
    - The risk of seawater intrusion that the Seaside Basin faces
    - The need to replenish the Basin to raise groundwater levels high enough to keep that from occurring
    - Ensuring the Basin has sufficient groundwater resources to supply customer demands.

Information Concerning the Status of Regional Water Supply Issues

MPWSP

Implementation of the Monterey Peninsula Water Supply Project (MPWSP) continues to be actively pursued by CAWC. CAWC received approval of the project from the Coastal Commission in November 2022. The MPWSP 4.8 MGD desalination plant is currently anticipated to be operational in 2027 to 2028.

During WY 2023 CAWC continued to work on getting well ASR-4 permitted for use so it could be used in place of ASR-1 as a supply well. Because ASR-4 had been found to have a mercury concentration level above the drinking water standard, CAWC installed a mercury removal treatment unit so it could be permitted for use as a supply well. The mercury treatment system has been approved by DDW, and CAWC is currently working on startup and commissioning of the well and treatment system.

PWM

Construction work on Monterey One Water's (M1W) Pure Water Monterey (PWM) recycled water project in Marina was completed in late 2019, and the Advanced Water Treatment (AWT) plant began producing water in early 2020. Water began being injected into the Seaside Groundwater Basin in February 2020. In WY 2023 a total of 4,516 acre-feet of water was injected. Of this amount, 3,493 acre-feet was available to CAWC for extraction and 663 acre-feet was added to the operating reserve.

The Title 22 Indirect Potable Reuse (IPR) Groundwater Replenishment regulations require that the water from the PWM project be retained underground no less than two months before it reaches the closest downgradient drinking water well. This is referred to as the Response Retention Time, and is intended to provide sufficient response time to identify a treatment failure and a quick response.

Extrinsic tracer studies conducted during WY 2023 indicated that the minimum retention time was consistently being met, and no violations of the AWT plant's permit had occurred.

On September 14, 2021 the State Division of Drinking Water (DDW) issued a letter to CAWC stating that "the drinking water source designation of ASR Well 01 (ASR-1) has been changed from active to inactive." DDW issued this letter because tracer studies indicated that the minimum retention time requirement for water injected by the PWM project was likely not being met for this well. That inactive status remains in effect today since no changes were made in the operation of the PWM project that would enable the status to revert to "active."

During WY 2023 CAWC continued to work on getting well ASR-4 permitted for use so it could be used in place of ASR-1 as a supply well. Because ASR-4 had been found to have a mercury concentration level above the drinking water standard, CAWC installed a mercury removal treatment unit so it could be permitted for use as a supply well. The Mercury Treatment system has been approved by DDW, California American Water is currently working on startup and commissioning of the well and treatment system.

In 2022, M1W received Division of Drinking Water approval for additional virus log reduction credits for chloramine disinfection based on chlorine residual in the pipeline and the contact time during conveyance. M1W also received approval for 4-logs of virus reduction credit for an underground retention time of 4 months modeled with additional injection volumes and all extraction well operational scenarios. In 2023 M1W optimized the monitoring and reporting of

virus reduction credits through the reverse osmosis system and through conveyance. Since start-up of the PWM Project, M1W has always exceeded the regulatory requirement of 12-logs of virus reduction using a combination of reverse osmosis, ultraviolet advanced oxidation, conveyance system disinfection, and underground retention time.

Public Buyout of CAWC's Water System

As discussed in the 2022 Annual Report, the Local Agency Formation Commission (LAFCO) passed a resolution denying MPWMD's application to activate its latent powers in order to acquire CAWC's Monterey Water System. MPWMD filed an Application for Reconsideration of LAFCO's disapproval, and LAFCO denied MPWMD's Application.

MPWMD initiated litigation against LAFCO on April 1, 2022 as set forth in Monterey County Superior Court Case No. 22CV000925. Numerous filings were made by the parties involved in the litigation, and the case was heard in late September 2023. At that hearing the Court asked for additional citations from the administrative record to be provided, and a "Statement of Intended Decision" was issued by the Court on October 25, 2023. The Conclusion at the end of that Intended Decision reads as follows:

> *Conclusion:*
> *In summary, the Court orders that writ of mandate shall issue on the grounds that (1.) Respondent LAFCO failed properly to consider whether Petitioner will have sufficient revenue to carry out the proposed new or different services following the proposed change, pursuant to Government Code section 56668 (k); (2.) LAFCO improperly applied the 'Environmental Justice" factor of Government Code section 56668(p), since there is no evidence in the record of any pollution; (3.) there is no substantial evidence to support its finding that the proposed action would pose an undue economic hardship on other County residents in satellite water systems; and (4.) LAFCO's findings regarding the sufficiency of water supply for the proposed action here are inconsistent and irreconcilable with its findings the same day in its adoption of the 2021 Municipal Service Review and Sphere of Influence for the District, which concluded that 'completion of either Cal-Am's MPWSP desalination plant or MlW/MPWMD'S Pure Water Monterey Expansion Project will be more than sufficient to meet anticipated water demand for at least the next 20 years." Petitioner is to prepare and submit proposed Writ of Mandate consistent with this ruling. This Statement of Intended Decision shall serve as the Statement of Decision, subject to any objections of the parties.*

At its meeting on October 10, 2023 the MPWMD Board voted to approve a "resolution of necessity" authorizing MPWMD to move ahead with the forced acquisition of the CAWC system and convert it to government ownership. MPWMD has six months from that date to commence an eminent domain proceeding in court to determine the value of CAWC and acquire it.

Management Activities that May Bear on the Basin's Wellbeing

1. *Water Conservation.* From a water conservation standpoint, customers of CAWC are doing an exceptional job. CAWC's Monterey system has one of the highest levels of voluntary conservation in the state. There has essentially been no back-off in conservation following the end of mandatory conservation that occurred after the wet winter of 2016-2017.

2. *Storm Water and Recycled Water.* Storm water and recycled water are both components of the Pure Water Monterey (PWM) project that has been implemented by Monterey One Water (M1W). CAWC has already contracted to receive 3,500 AFY of PWM recycled water for injection into, and recovery from, the Seaside Basin. M1W, in coordination with others, is pursuing the PWMX project to expand the delivery capacity of the PWM project by using additional sources of recycled water and storm water.

Construction contracts for the initial components of the PWMX project were issued in late 2023 by M1W. The current schedule for that project indicates the project could become operational in early 2026.

3. *Sustainable Groundwater Management Act.* Coordination between the Watermaster and the SVBGSA and the MCWD GSA is ongoing and is discussed in more detail above under Section J of this Annual Report. That coordination will aid in groundwater management of the Seaside Basin.

4. Climate Change. Higher seawater levels could exacerbate seawater intrusion concerns, which punctuates the importance of monitoring and long-term management to avoid seawater intrusion. From a water supply perspective, reliance on groundwater with sustainable management is ideal because the resource is a reservoir and therefore not subject to sharp fluctuations in availability resulting from year-to-year precipitation amounts as is the case with surface water supplies. Updating of the Watermaster's *Groundwater Model* in 2018 (discussed in Section J of the 2018 Annual Report) and *Basin Management Action Plan* in 2019 (discussed in Section J of the 2019 Annual Report) incorporated projected impacts from climate change and sea level rise.

5. *New Technical Issues or Activities.*

- Stormwater Projects Being Evaluated in the Monterey Peninsula Stormwater Resource Plan (SWRP).

As reported in the 2018 Annual Report, Monterey One Water as the lead entity coordinated the development of a Stormwater Resource Plan (SWRP) for the Monterey Peninsula, Carmel Bay, and South Monterey Bay (Monterey Peninsula) Integrated Regional Water Management Plan (IRWMP) area.

The purpose of the SWRP is to identify opportunities to capture stormwater that could be utilized as new water supply sources for the Monterey Peninsula and provide additional water quality and environmental benefits. Some of those projects have the potential to minimally benefit the Seaside Basin, and are discussed in the 2019 Updated Basin Management Action Plan.

Of the seven priority projects that were identified in the SWRP, several projects have been able to receive funding and are proceeding as described below.

City of Seaside: The Del Monte Manor project in the City of Seaside received a grant in the amount of approximately $560,000 to complete the project, and the project was completed in 2023. This will divert stormwater that is captured in this area into an infiltration structure and the storm drain.

City of Sand City: The City of Sand City has two green street retrofit projects. They are the West End Stormwater Improvement Projects on Contra Costa Street and Catalina Street. The Contra Costa Street project is funded by an SWRCB Proposition 1 Stormwater Grant (technical assistance and implementation) and the Catalina Street project is funded by a DWR Proposition 1 IRWMP Grant. At the time of preparation of this 2023 Annual Report, both of these projects are in the approximately 70% design phase with construction anticipated to begin at the end of the 1st quarter or in the 2nd quarter of 2024. They are described in more detail below:

West End Stormwater Improvement Project – Contra Costa Street

Project Description

The West End Stormwater Improvement Project is a retrofit of an existing major collector street, Contra Costa Street between Olympia Avenue and Redwood Avenue. The Project will integrate Low Impact Development (LID) strategies to address flood control, water quality, and meet several community objectives. The Project proposes to install bioretention facilities (i.e., urban rain gardens), trash capture, permeable pavement, landscaping, and subsurface infiltration chambers and will improve pedestrian and Americans with Disability Act (ADA) access throughout the corridor. The Project will improve urban storm water runoff quality, augment groundwater quantity, provide climate change adaptation, reduce flooding, and create urban green space. The City developed the conceptual phase of the Project with a grant from the State Water Resources Control Board Proposition 1 Technical Assistance Funding Program for disadvantaged communities. Final design and construction of the Project will be funded through a Proposition 1 Stormwater Implementation Grant.

West End Stormwater Improvement Project – Catalina Street

Project Description

The West End Stormwater Improvement Project is a retrofit of an existing minor collector street, Catalina Street, between Olympia Ave. and Ortiz Avenue. The Project will integrate Low Impact Development (LID) strategies to address flood control, water quality, and meet several community objectives. The Project proposes to install bioretention facilities (i.e. urban rain gardens), trash capture, permeable pavement, landscaping, and subsurface infiltration chambers and will improve pedestrian and Americans with Disability Act (ADA) access throughout the corridor. The Project will improve urban storm water runoff quality, augment groundwater quantity, provide climate change adaptation, reduce flooding, and create urban green space. The City developed the conceptual phase of the Project with a grant from the State Water Resources Control Board Proposition 1 Technical Assistance Funding Program for disadvantaged communities. Final design and construction of the Project will be funded through a Proposition 1 Round 1 Integrated Regional Water Management (IRWM) Grant.

Note: Both Projects are designed to capture, treat, and infiltrate urban storm water runoff to reduce the amount of pollutants such as metals, bacteria, nutrients, and trash that are currently being discharged into the Monterey Bay. Both Projects will increase the reliability of the Seaside Groundwater Basin through infiltration of treated storm water and will incorporate City and regional objectives for economic vitality, community livability, and environmental equity. In addition, the Project will improve regional water self-reliance and strengthen collaborative efforts between local agencies to provide sustainable water resources. The City obtained community input regarding storm water management priorities which influenced the design of the Projects.

City of Monterey:

Oliver Street Stormwater Diversion Project

In October 2022, the City of Monterey received a $25,000 Local Agency MPWMD grant to help with the costs of survey work for the Olivier Street Stormwater Diversion Project (previously known as the Tunnel Diversion Project). The Project will divert urban stormwater drainage from an existing storm drain, currently discharging untreated into the Harbor/Monterey Bay, to an existing City sanitary sewer utility for treatment at M1W's Regional Wastewater Treatment Plant. This diversion is estimated to provide 10-12 acre-feet of dry-weather source water for water recycling at the time of year when source water is not abundant, and reduce the discharge into the Bay. The City is now coordinating with MPWMD on a State funding award to assist with the design and construction of the project.

Lake El Estero Urban Diversion Project

The City of Monterey has received State funding for this project and is beginning to work on the design and permitting for it. Currently, storm water that flows into Lake El Estero is periodically pumped into Monterey Bay to avoid flooding. This project will divert a portion of that pumped flow into the sanitary sewer for treatment at M1W's Regional Wastewater Treatment Plant.

These diversion projects will increase the amount of water that can be recycled for beneficial reuse.

6. Reduction in Pumping in the Laguna Seca Subarea

As mentioned in the 2022 Annual Report, in 2020 CAWC completed construction of an intertie pipeline that enabled it to serve the customers in its Bishop and Ryan Ranch Units in the Laguna Seca Subarea with water from its Main System. With the completion of this pipeline, CAWC has been able to discontinue pumping from the Laguna Seca Subarea to serve those customers. This is expected to reduce total pumping from the Laguna Seca Subarea by about 28%.

7. Obtaining Replenishment Water.

As described in Section J under the subheading "Basin Management Action Plan," and above in the subsection of this Section titled "Summary of Basin Conditions and Important Developments Concerning the Management of the Basin," portions of the Seaside Basin have groundwater levels below sea level. Therefore, even with the pumping reductions achieved to date the Basin will remain vulnerable to seawater intrusion. Replenishing the Basin by injecting water and leaving it in the Basin, rather than withdrawing it as is done in the ASR and PWM projects, could help to raise groundwater levels high enough to protect the Basin against seawater intrusion.

Replenishment water could potentially be obtained from either the MPWSP's desalination plant, or the proposed PWMX project, during their initial years of operation when projected water demands will be less than the production capacities of either of these projects. The replenishment water would be obtained by operating either of these projects at their full capacities and injecting the excess water into the Basin. Doing this would increase the operational costs of those projects, and funds to cover those costs would be needed.

As reported in the 2022 Annual Report, it was found that there are no State or Federal funding programs that could provide money to purchase replenishment water. All of those programs only provide funding for planning, design, and construction of projects, but not for operational

costs once the projects are constructed. Discussions involving the Watermaster, MPWMD, M1W, and CAWC led to the conclusion that MPWMD had the legal authority to levy fees to help pay for replenishment of the Basin. In 2023 the Watermaster formed an ad hoc committee to develop concepts and/or funding mechanisms for replenishing the Seaside Basin, once replenishment water becomes available. Meetings of that ad hoc committee were ongoing as of the date of preparation of this 2023 Annual Report.

Studies performed for the Watermaster in 2022 pertaining to the need for replenishment water to raise ground water levels in the Seaside Subbasin to protect it against seawater intrusion concluded:

- Under a "best case" scenario based on future water demand projections, Aquifer Storage and Recovery (ASR) injection rates, and Pure Water Monterey Expansion (PWMX) injection rates prepared by MPWMD, 1,000 acre-feet-per-year (AFY) of water would need to be injected into the Seaside Basin every year to replenish it and raise groundwater levels high enough to prevent seawater intrusion from occurring.
- Under a more "conservative" scenario based on future water demand projections and the timing of start-up of CAWC's desalination plant contained in CAWC's 2020 Urban Water Management Plan, ASR and PWMX injection rates with a built-in margin of safety, and revised water demands for the City of Seaside's golf courses proposed by Cal Am and the City of Seaside, the amount needed would be 3,600 AFY every year.
- Unless replenishment water in these quantities is added annually, the Seaside Basin will be at risk of seawater intrusion, and that risk will increase each year that groundwater levels continue to fall and remain below sea level.
- Implementation of the PWMX project does not accomplish this, and an additional source of replenishment water will be needed. The only other potential source of replenishment water will be from desalination.

The entire Technical Memorandum describing the work that led to these conclusions is posted on the Watermaster's website at this link: http://www.seasidebasinwatermaster.org/Other/ExceecSummary_and%20TMs_Replenishment_Modeling_WaterBudget_and_AlternateScenario_Analysis%20_BOARD_DRAFT_20220901pdf.pdf. A summary of this Technical Memo was contained in Attachment 9 of the 2022 Annual Report.

As reported in the 2022 Annual Report, studies performed for the Watermaster pertaining to the directions and inland velocities that seawater intrusion into the Seaside Subbasin would move, if intrusion should occur, concluded:

- Under current conditions inland seawater intrusion encroachment of 250 ft/yr could occur.
- Periods of prolonged drought with no ASR injection increases inland travel rates and the risk of seawater intrusion.
- The number of critically dry rainfall years has greatly increased in the last 50 years compared to the prior 50 years of data. Critically dry years now exceed the number of "normal rainfall" years thus becoming the "new norm".

These studies highlight the vulnerability of the Seaside Subbasin to seawater intrusion, and the need for replenishment water to raise groundwater levels within the Seaside Subbasin to prevent that from occurring.

The Watermaster considered performing additional analyses to reflect the impacts from more severe climatic conditions of reduced rainfall and longer periods of drought. However, it was concluded that such additional analyses would be unlikely to provide any further information that would be useful in Basin management. A Memorandum summarizing this work and the basis for not conducting additional analyses is contained in Attachment 10.

L. Conclusions and Recommendations

The Seaside Basin Watermaster Board has worked diligently to meet all of the Court's established deadline dates. All of the Phase 1 Scope of Work activities, which are described in the "Implementation Plan for the Seaside Basin Monitoring and Management Program" dated March 7, 2007, have been completed. The FY 2024 budgets contained in Attachment 6 support carrying out all elements of the 2024 Seaside Groundwater Basin Monitoring and Management Program (M&MP). The M&MP is contained in Attachment 8 and describes the activities that the Watermaster plans to conduct during Fiscal Year 2024.

As described in Section J above, information from the Enhanced Monitoring Well Network is being utilized to detect seawater intrusion. The response actions described in the Watermaster's Seawater Intrusion Response Plan, which was contained in the 2009 Annual Report, will be implemented if seawater intrusion is detected within the Basin.

As of the date of preparation of this 2023 Annual Report, no future status conferences with the Court have been scheduled.

LISTING OF ACRONYMS USED IN THIS ANNUAL REPORT

AF - acre-feet
ASR - Seaside Basin Aquifer Storage and Recovery program
Basin - The adjudicated Seaside Groundwater Basin
BLM - Bureau of Land Management
BMAP - Basin Management Action Plan
CASGEM - California Statewide Groundwater Elevation Monitoring
CAWC - California American Water Company
DDW – State Water Resources Control Board Division of Drinking Water
Decision - Decision filed February 9, 2007 by the Superior Court in Monterey County under Case No. M66343 - California American Water v. City of Seaside et al.
DWR - California State Department of Water Resources
GSA - Groundwater Sustainability Agency
GSP - Groundwater Sustainability Plan
LSSA - Laguna Seca Subarea
M1W - Monterey One Water (formerly Monterey Regional Water Pollution Control Agency)
MCWD - Marina Coast Water District
MPWMD - Monterey Peninsula Water Management District
MPWSP - Monterey Peninsula Water Supply Project
M&MP - Monitoring and Management Program
NSY - Natural Safe Yield
PWM - Pure Water Monterey Project
PWMX – Pure Water Monterey Expansion Project
SGMA - Sustainable Groundwater Management Act
SIAR - Seawater Intrusion Analysis Report
SIRP - Seawater Intrusion Response Plan
SVBGSA - Salinas Valley Basin Groundwater Sustainability Agency
SWRCB - State Water Resources Control Board
TAC - Technical Advisory Committee
USGS - United States Geological Survey
WY - Water Year

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

MEETING DATE:	December 13, 2023
AGENDA ITEM:	6
AGENDA TITLE:	Approve Initial RFSs for Montgomery & Associates, MPWMD, Martin Feeney, and Todd Groundwater for 2024
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY: Attached are the proposed initial contracts for each of the Watermaster's consultants that are expected to work on M&MP activities in 2024. Montgomery & Associates (M&A), Martin Feeney, and Todd Groundwater are currently working under a master form of agreement with the Watermaster called a "Professional Services Agreement" (PSA). Actual work assignments are made through the issuance of Requests for Service (RFS) under the umbrella language of the PSA. MPWMD is working under a Master Agreement that MPWMD developed in 2021. Rather than RFSs, this new Master Agreement calls for actual work assignments to be made through the issuance of "Scopes of Work" (SOW) under the umbrella language of the Master Agreement.

The attached RFSs and the one SOW constitute the proposed initial 2024 work assignments for each of these consultants as follows:

- Montgomery & Associates RFS No. 2024-01 covering their providing general hydrogeologic consulting services and for providing assistance in preparing documents that the Watermaster will need to submit to fulfill its reporting requirements under the Sustainable Groundwater Management Act.
- Montgomery & Associates RFS No. 2024-02 covering their preparing the 2024 SIAR.
- MPWMD SOW No. 2024-01 covering their anticipated 2024 M&MP tasks, and covering their obtaining water quality and water level data from private producers who ask the Watermaster collect this data for them. The costs for the latter work are reimbursed by the private producers, and there is no net cost to the Watermaster for performing that work.
- Martin Feeney RFS No. 2024-01 covering his performing induction logging of certain of the Watermaster's monitoring wells and providing that data to MPWMD and Montgomery & Associates. This work also includes performing some maintenance on the Sentinel Wells.
- Martin Feeney RFS No. 2024-02 covering his providing general hydrogeologic consulting services.
- Todd Groundwater RFS No. 2024-01 covering their providing general hydrogeologic consulting services.

These consultants have reviewed the cost and scope details of these proposed contracts and their input has been included in the attached versions of the contracts.

If geochemical modeling needs to be performed on Cal Am's desalination plant water in 2024, and if that indicates the need to develop mitigation measures for possible adverse impacts from introducing non-native water into the Basin, I will develop an additional RFS for Montgomery & Associates during 2024 to use the Seaside Basin Groundwater Model to provide information to MPWMD's consultant (Pueblo Water Resources) to use in performing that geochemical modeling to develop such mitigation measures. Funds for this additional RFS have been included in the M&MP Operations Budget for 2024. When and if drafted, the RFS would come to the TAC for approval before going to the Board.

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

AGENDA ITEM:	6 (Continued)

These contracts are on today's agenda to provide the TAC with the opportunity to raise questions or make suggestions for changes to the scopes-of-work or costs before they are presented to the Board for approval at the Board's December meeting, in order to ensure the contacts can be in effect at the start of 2024.

Martin Feeney announced that he will no longer be able to manage the induction logging of the four Sentinel Wells located along the coastline in the former Fort Ord. That work will be taken over by MPWMD, and their Scope of Work includes this additional work.

ATTACHMENTS:	5 - Proposed Consultant Contracts for FY 2024 (2 RFSs – Montgomery & Associates, 1 RFS – Martin Feeney, 1 RFS – Todd Groundwater, 1 SOW - MPWMD)
RECOMMENDED ACTION:	Discuss and either modify or approve the proposed contracts

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2024

RFS NO. 2024-01
(To be filled in by WATERMASTER)

TO: Cameron Tana
Montgomery & Associates
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: General hydrogeologic consulting and document preparation services. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2024, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $ 14,070.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V, COMPENSATION.

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to interpretation of water level and water quality data collected by WATERMASTER, BMAP and SIRP implementation issues, and preparation of documents for WATERMASTER's use in fulfilling its Sustainable Groundwater Management Act reporting requirements.

Providing these services will likely involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) meetings, most of which will be attended remotely. These TAC meetings do not include special TAC or other meetings which may be required as part of performing other work which may be authorized under other RFSs issued to PROFESSIONAL by WATERMASTER. Any such other scope and cost proposals will incorporate costs for those meetings.

The Tasks in WATERMASTER's 2024 Monitoring and Management Program (M&MP) to which this RFS No. 2024-01 pertains are:

M. 1. c & M.1. d - Preparation and Attendance of Meetings
M. 1. e - Peer Review of Documents and Reports
M.1.g – Sustainable Groundwater Management Act Documentation Preparation

ESTIMATED COSTS

Tasks M.1.c, M.1.d, and M.1.e: General Consulting Services will consist of working on these Tasks and attending some TAC and other meetings either remotely or in-person in Monterey, as requested by WATERMASTER.

$11,530 in labor, travel, and incidental costs of this RFS No. 2024-01 are allocated to performing work on these Tasks.

Task M.1.g: Section 10720.8 of the Sustainable Groundwater Management Act (SGMA) requires adjudicated basins to submit annual reports. Most of the documentation that needs to be reported is already generated by the WATERMASTER in conjunction with preparing its own Annual Reports. However, information regarding changes in basin storage is not currently generated. PROFESSIONAL will provide an estimate of the change in basin storage under this RFS No. 2024-01.

$2,540 in labor costs of this RFS No. 2024-01 are allocated to performing work for Task M.1.g.

All work under this RFS No. 2024-01 will be billed at the following hourly rates, including all markups and other direct costs:

Derrik Williams = $283.00/hour Georgina King = $235.00/hour Staff = $165.00/hour

The total cost authorized by this RFS No. 2024-01 is $14,070.00.

These costs are summarized in the table below.

Task	Hours			Costs		
	Derrik Williams	Georgina King	Staff	Consulting	Expenses	Total Costs
	$283/hr	$235/hr	$165/hr	Fees		
Prepare 2024 Change in Storage Calculation per SGMA Requirements	0	8	4	$2,540	$0	$2,540
General Consulting	10	30	10	$11,530	$0	$11,530
TOTALS	**10**	**38**	**14**	**$14,070**	**$0**	**$14,070**

ATTACHMENT 2
SCHEDULE

Montgomery & Associates RFS No. 2024-01
Work Schedule

ID	Task Name	2024 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	**M. 1. c - Preparation and Attendance of Meetings**												
2	**M. 1. e - Peer Review of Documents and Reports**												
3	**M.1.g - SGMA Document Preparation**												

Montgomery & Associates RFS No 2024-01 Schedule 10-25-23.mpp Page 1

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 1/1/2024

RFS NO. 2024-02
(To be filled in by WATERMASTER)

TO: Cameron Tana
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Prepare the Seawater Intrusion Analysis Report for 2024. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2024, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $ 28,020.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 3 for Detailed Breakdown of Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

The scope consists of providing professional consulting services to WATERMASTER for preparation of the 2024 Seawater Intrusion Analysis Report (SIAR).

To promote efficiency, much of the text and graphics from the 2023 SIAR will be incorporated directly into the 2024 SIAR.

Preparing the 2024 SIAR will involve analyzing all water quality data at the end of Water Year 2024 (October 1, 2023 to September 30, 2024) and producing semi-annual (2^{nd} and 4^{th} quarters 2024) chloride concentration maps for each aquifer in the Basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. Second and fourth quarter groundwater elevation maps will also be produced. The annual EM logs will be analyzed to identify changes in seawater wedge locations. A determination of whether there is any evidence of seawater intrusion will be made, and recommendations will be included as warranted.

Water level and water quality data for WY 2024 will be provided to PROFESSIONAL in MS Access format. PROFESSIONAL will put this data into a report format and will include it as an attachment to the 2024 SIAR.

A Draft 2024 SIAR will be provided to WATERMASTER in electronic (not printed) form for review. WATERMASTER will provide its review comments and those of its TAC members through direct discussions with PROFESSIONAL at a TAC meeting which PROFESSIONAL will attend remotely via teleconference or Zoom. In addition to these oral comments, some TAC members may also provide recommended editorial changes electronically directly to PROFESSIONAL. These comments will be addressed in a Final 2024 SIAR. PROFESSIONAL will also present the Final version of the SIAR to the Board at a meeting which PROFESSIONAL will attend remotely via teleconference or Zoom. A CD containing an electronic version of the entire Final 2024 SIAR in MS Word will be provided to WATERMASTER. No printed copies of the 2024 SIAR will be required.

ATTACHMENT 2

Montgomery & Associates RFS No. 2024-02
Work Schedule

ID	Task Name	Qtr 1, 2024			Qtr 2, 2024			Qtr 3, 2024			Qtr 4, 2024		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	**I.4.c Annual Seawater Intrusion Analysis Report (SIAR)**												
2	HydroMetrics Provides Draft SIAR to Watermaster											◆ 11/12	
3	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)											◆ 11/20	
4	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)												◆ 12/4

Montgomery RFS No 2024-02 Schedule 10-25-23.mpp Page 1

ATTACHMENT 3

DETAILED BREAKDOWN OF ESTIMATED COSTS

Note: Regardless of the use of the term "Estimated Cost" in this RFS, if the work of this RFS is to be compensated for using Lump Sum Payment method, it is understood and agreed to by PROFESSIONAL that the Total Price listed on page 1 of this RFS is binding and limiting as defined in Section V of the Agreement.

2024 Seawater Intrusion Analysis Report

Task	Hours		Costs		
	Georgina King	Staff	Consulting	Expenses	Total Costs
	$235/hr	$165/hr	Fees		
Prepare 2024 SIAR, including added appendices for groundwater levels and quality	32	108	$25,340	$0	$25,340
Prepare for and Attend One TAC Meeting and One Board Meeting Online to Present Results of SIAR	10	2	$2,680	$0	$2,680
TOTALS	**42**	**110**	**$28,020**	**$0**	**$28,020**

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2024

RFS NO. 2024-01
(To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Blair Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Consultation and other hydrogeologic services. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2024.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $4,000.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for derivation of this Total Price).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ Date: _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____.
PROFESSIONAL

ATTACHMENT 1

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to, interpretation of water level and water quality data, and seawater intrusion analysis issues. In addition PROFESSIONAL may be asked by the Monterey Peninsula Water Management District (MPWMD) to provide support in performing induction logging of WATERMASTER's Sentinel Wells, work which in the past PROFESSIONAL has performed.

Providing these services may involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) and /or Board meetings, most of which will be attended telephonically or via Zoom.

Consulting services will be provided at the rate of $210/hour. Related other direct costs (such as travel costs) will be billed at actual cost. Services under this RFS No. 2024-01 will only be provided when specifically requested by WATERMASTER.

The total cost authorized by this RFS No. 2024-02 is $4,000.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2024

RFS NO. 2024-01
(To be filled in by WATERMASTER)

TO: Gus Yates
Todd Groundwater
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2024.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $4,000.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

Scope of Work

On an ongoing and as-requested basis PROFESSIONAL will provide hydrogeologic consulting services to WATERMASTER on groundwater modeling and related topics. These may include, but not be limited to, responding to questions regarding the Seaside Basin Model that HydroMetrics WRI and Montgomery & Associates has prepared for WATERMASTER, assisting in the interpretation of modeling results, and other related activities.

Providing these services may involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) meetings, some of which may be attended telephonically or via Zoom.

Estimated Costs

Consulting services provided under this RFS No. 2024-01, including attending meetings either remotely or in-person as requested by WATERMASTER, will be billed at PROFESSIONAL's standard hourly rates for calendar year 2023, including all markups and other direct costs.

The total cost authorized by this RFS No. 2024-01 is $4,000.00.

SEASIDE BASIN WATERMASTER
SCOPE OF WORK

Note: The work described in this Scope of Work (SOW) will be performed in accordance with the terms and conditions set forth in the Master Services Agreement for Groundwater Monitoring and Database Services (Agreement) executed between the Monterey Peninsula Water Management District (DISTRICT) and the Seaside Groundwater Basin Watermaster (WATERMASTER), with an effective date of January 1, 2022.

DATE: January 1, 2024

SOW NO. 2024-01
(To be filled in by WATERMASTER)

TO: Jonathan Lear
DISTRICT

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose:
Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2024 (M&MP) (See detailed Scope of Work in Attachment 1).

Schedule:
The work of this SOW No. 2024-01 shall be completed in accordance with the column titled "Schedule" in Table 1 of Attachment 1, and at the frequencies shown in Table 2 of Attachment 1.

Method of Compensation:
Time and Material Payment Method (As defined in Section 6 of the Agreement).

Total Price Authorized by this SOW:
$ 77,525.00 (See Attachment 1 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section 6 of the Agreement (Payment of Services).

Requested by: _____ Date: _____
WATERMASTER

Agreed to by: _____ Date: _____
DISTRICT

ATTACHMENT 1

Detailed Scope of Work for SOW No. 2024-01

Background:

This SOW No. 2024-01 authorizes DISTRICT to perform certain work on certain of the Tasks described in the WATERMASTER's 2024 M&MP. The Task numbers listed in the first column of Table 1 below correspond to the Task numbers in the 2024 M&MP. The Task numbers listed in the second column of Table 1 correspond to DISTRICT's task numbering system.

The wells from which water level and water quality data are to be obtained are listed below in Table 2.

Table 1. Scope of Work and Costs

WATERMASTER M&MP Task No.	DISTRICT Task No.	Description	Time (Hours)	Rate	Cost	Comments	Schedule
I.2.b.2	1	Collect Monthly Water Levels					
		Collect Monthly Water levels at 20 wells	96	$116	$11,136		Ongoing
I.2.b.2	2	Collect Quarterly Water Levels					
		Collect Quarterly Water levels at 8 wells	32	$116	$3,712		Ongoing
I.2.b.3	3	Collect Quarterly Water Quality Samples					
		Collect 7 Water Quality Samples Quarterly (28 total Samples)	64	$116	$7,424		Ongoing
		Order bottles and COC to Laboratory	4	$116	$464		
I.2.b.3	4	Collect Annual Water Quality Samples					
		Collect 12 Water Quality Samples Annually	16	$116	$1,856		Ongoing
		Order bottles and COC to Laboratory	1.5	$116	$174		
		RMA/Procure Replacement pump and Deploy (replaces one pump)	8	$116	$928	Only if necessary	
I.2.a.1	5	Enter Water Level Data QA/QC					
		Enter Qa/QC 272 Water Level Measurements Collected by MPWMD	20	$175	$3,500		Ongoing
		Enter Qa/QC 264 Water Level Measurements Reported to Watermaster	20	$175	$3,500		Ongoing
I.2.a.1	6	Enter Water Quality Data QA/QC					
		Enter Qa/QC 40 Water Quality Samples Collected by MPWMD	40	$175	$7,000		Ongoing
		Enter Qa/QC 12 Water Quality Samples Reported to Watermaster	16	$175	$2,800		Ongoing
I.2.b.7	7	Upload Water Level Data to CASGEM					
		Upload 536 Water Level Measurements to DWR Database	24	$175	$4,200		Ongoing
I.2.b.6	8	Provide Data Tabulation for SIAR Appendix					
		Tabulate and Transfer Water Level and Quality Data to Watermaster Consultant	16	$230	$3,680		November-24
N/A	9	Respond to Data Requests					
		Produce Data Requests as Necessary	10	$230	$2,300	Only if necessary	
I.2.b.2	10	Annual Data Logger Downloads and Data Transfer					
		Download Loggers Field Work	24	$116	$2,784		
		Transfer data	4	$230	$920		October-24
		Exchange logger if not working RMS process (replaces one logger)	4	$116	$464	Only if necessary	
		Answer questions re transferred logs	2	$230	$460	Only if necessary	
		Program and Deploy New Data Logger	2	$116	$232	Only if necessary	
I.2.b.3	11	Water Quality Sample for Camp Huffman					
		Air lift samples from Camp Huffman Deep and Shallow	6	$116	$696		
		Air lift samples from Camp Huffman Deep and Shallow	6	$230	$1,380		
I.2.b.3	12	Sentinel Well MPWMD Labor	12	$116	$1,392		October-24
N/A	N/A	Administrative Staff					
		Create Billings and Cut Checks to Water Quality Laboratory	8	$92	$736		Ongoing

Table 1 Labor and Other Direct Costs Summary						
WATERMASTER M&MP Task No.	DISTRICT Task No.	Item	Quantity	Rate	Subtotal	
		Labor (Hours)	435.5	Varies	$61,738	
I.2.b.2	1, 2, 3, 4, and 10	Estimated Fleet Support (Mileage)	850	$ 0.59	$527	
I.2.b.3	12	Pacific Surveys - Sentinel Well Induction Logging	1	$ 7,333	$7,333	
I.2.b.3	3 and 4	Watermaster Standard Panel Laboratory Analysis (Number of Analyses)	40	$ 135	$5,670	
I.2.b.3		Air Compressor Rental (Camp Huffman)	1	$ 150	$158	
I.2.b.3	3 and 4	Fuel (CO2 Bottle) to run sample pump	10	$ 25	$263	
I.2.b.3	3 and 4	Replacement Low Flow Pump	1	$ 900	$945	Only if necessary
I.2.b.2	1, 2, and 10	Replacement Data Logger	1	$ 850	$893	Only if necessary
		TOTAL			**$77,525**	

If necessary total = $6,222

Note: Fleet Support, Laboratory Fees, Co2 Bottle Exchange, Data Loggers, and Sample Pumps are estimated costs. Direct costs incurred by District will be passed through to the Watermaster according to the Time and Expense method in the Master Services Agreement.

Table 2.

Monthly Water Levels

1. MSC - Shallow
2. MSC - Deep
3. FO 10 (S)
4. FO 10 (D)
5. CDM MW-1
6. CDM MW-2
7. CDM MW-3
8. CDM MW-4
9. Plumas 1990 Test
10. K-Mart
11. MW-BW-08A
12. MW-BW-09
13. Sand City Public Works
14. CAW Granite Construction
15. Cypress Pacific
16. Dand City - Design Center
17. DBO - Target
18. MMP - MM Production
19. PCA West (S)
20. PCA West (D)

Quarterly Water Levels

1. SBWM MW-1
2. SBWM MW-2
3. SBWM MW-3
4. SBWM MW-4
5. Camp Huffman (S)
6. Camp Huffman (D)
7. Shea
8. Laguna Seca Driving Range

Quarterly Water Quality Sampling

1. PCA W (S)
2. PCA W (D)
3. MSC (S)
4. MSC (D)
5. FO 09 (D)
6. FO 10 (S)
7. FO 09 (S)

Annual Water Quality Sampling

1. PCA E (S)
2. PCA E (D)
3. Ord Terrace (S)
4. FO 10 (D)
5. CAW Del Monte Observation
6. Sand City Public Works
7. Laguna Seca County Park #2
8. York School
9. Laguna Seca Golf New #12
10. Pasadera Main Gate
11. Cypress Pacific
12. MMP - MM Production
13. Camp Huffman (S and D)

Water Level Data Reported to Watermaster

1. SNG
2. LSCP
3. Nicolas
4. City of Seaside
5. CalAm

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 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 are the updated schedule for 2023 activities, and the proposed schedule for 2024 activities.

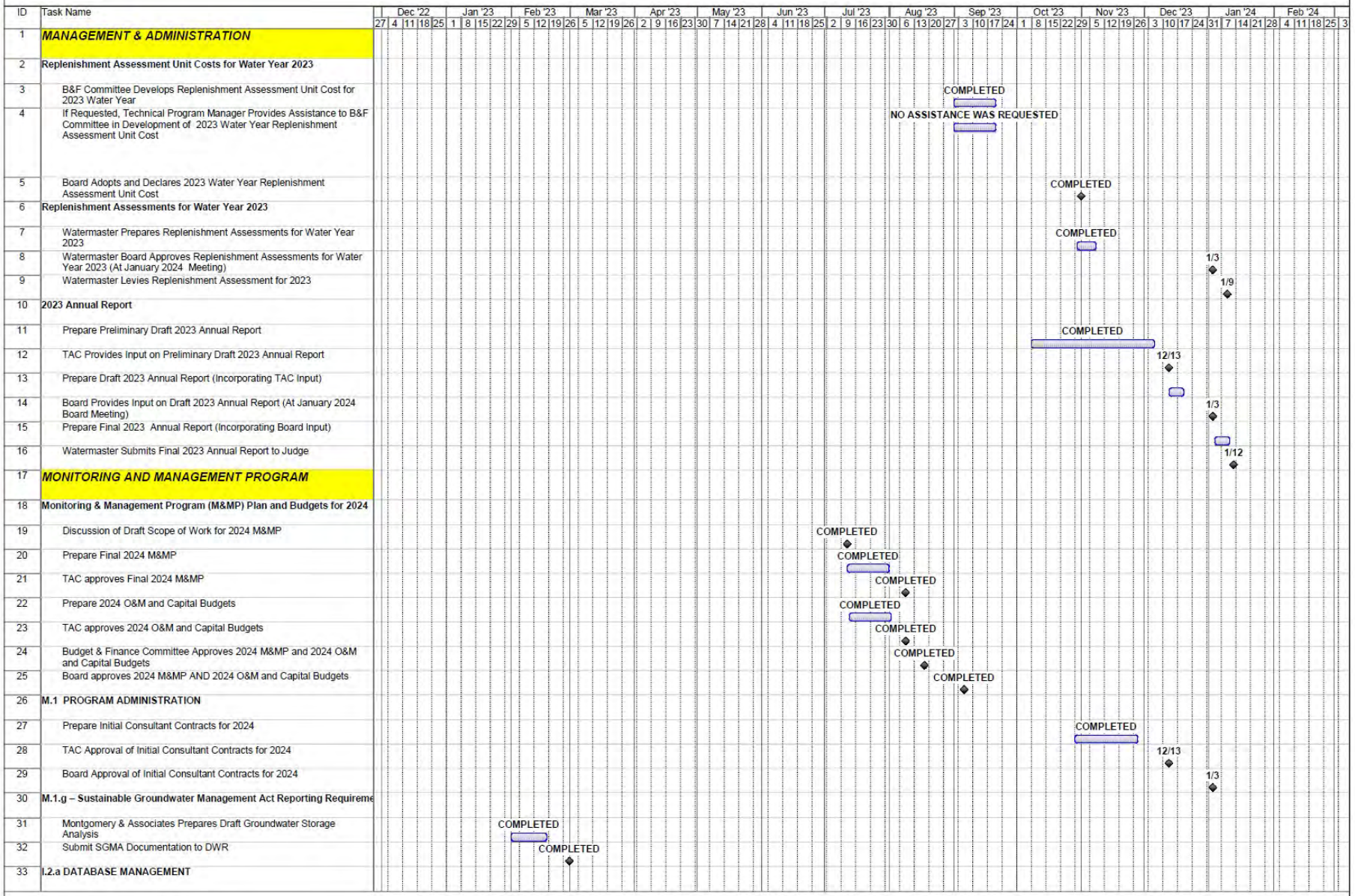
Some activities which may be needed in 2024, such as further geochemical modeling if the MPWSP desalination plant begins construction or if groundwater modeling is needed to assess the impacts of the Groundwater Sustainability Plan for the Monterey Subbasin, will be added during the year if necessary.

Also, in the 2024 schedule I am proposing something different with regard to the Seawater Intrusion Analysis Report (SIAR). Each year we run into a problem getting the SIAR completed in time for it to be presented to the TAC at the November TAC meeting. This is true even though we normally move the November meeting back one week to give more time for all of the water level, water quality, and water production data to be received, compiled, and analyzed. In 2024 I am proposing that instead of presenting the Draft SIAR to the TAC at a meeting, the Draft SIAR would be posted to the Watermaster's website and TAC members would have about a week to review it there. If any TAC members had questions or concerns about the Draft SIAR, they could be communicated to me and I would work with Montgomery & Associates to have them addressed by editing the Draft SIAR into a Final version. I would report any edits that were made to the Draft version orally at the Board's December meeting, which would be held on December 4, 2024, so the Board could approve it. At that same meeting the Board would also be approving the Annual Report, and the Final Version of the Annual Report would include the Executive Summary from the Final SIAR. This would enable the SIAR and the Annual Report to be completed without having to have a December TAC meeting or a January Board meeting, and still get the Annual Report filed with the Court by the January 15th submittal deadline.

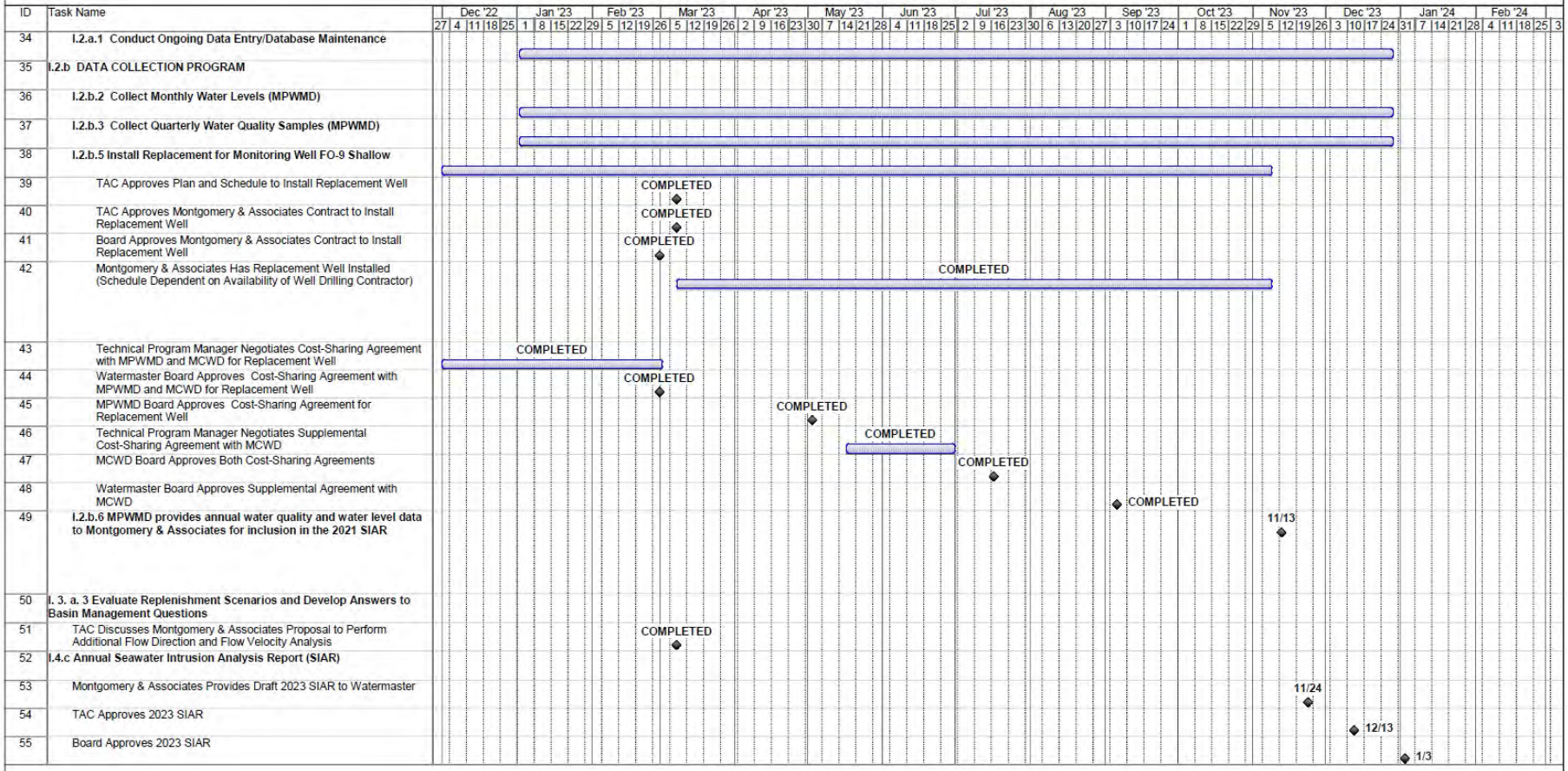
The next TAC meeting is tentatively planned for Wednesday January 10, 2024 at 1:30 p.m. However, that meeting will be cancelled if there is no business that the TAC needs to conduct at that time.

ATTACHMENTS:	**1.** Updated Schedule of Work Activities for FY 2023 **2.** Proposed schedule for 2024 activities
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedules

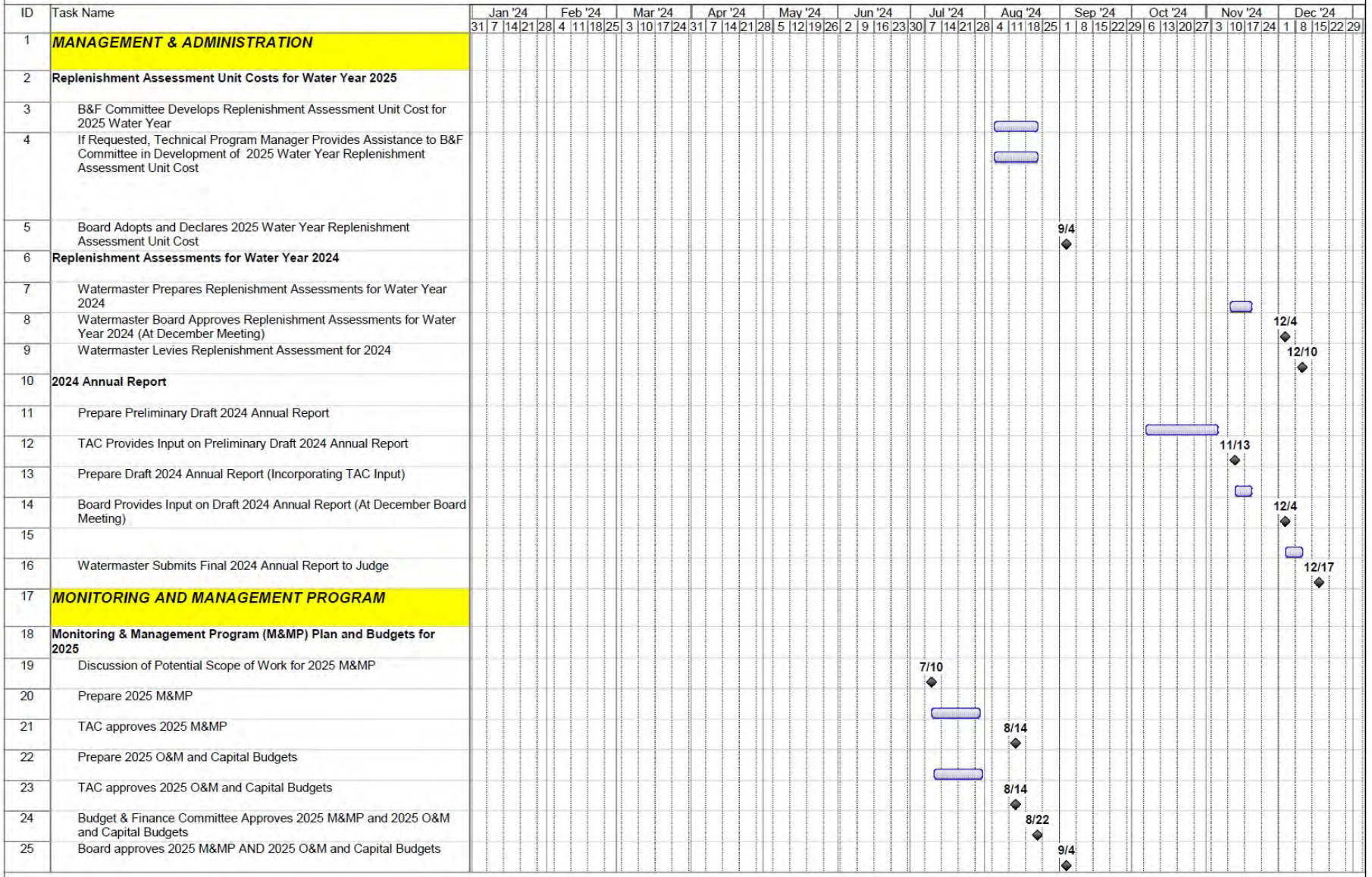
Seaside Basin Watermaster
2023 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2023 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2024 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2024 Monitoring and Management Program
Work Schedule

ID	Task Name
26	**M.1 PROGRAM ADMINISTRATION**
27	Prepare Initial Consultant Contracts for 2025
28	TAC Approval of Initial Consultant Contracts for 2025
29	Board Approval of Initial Consultant Contracts for 2025
30	**M.1.g – Sustainable Groundwater Management Act Reporting Requirem**
31	Montgomery & Associates Prepares Draft Groundwater Storage Analysis
32	Submit SGMA Documentation to DWR
33	**I.2.a DATABASE MANAGEMENT**
34	**I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance**
35	**I.2.b DATA COLLECTION PROGRAM**
36	**I.2.b.2 Collect Monthly Water Levels (MPWMD)**
37	**I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)**
38	**I.2.b.6 MPWMD provides annual water quality and water level data to Montgomery & Associates for inclusion in the 2024 SIAR**
39	**I.4.c Annual Seawater Intrusion Analysis Report (SIAR)**
40	Montgomery & Associates Provides Draft 2024 SIAR to Watermaster
41	Draft 2024 SIAR Posted to Watermaster Website for TAC Review
42	TAC Provides Comments/Questions About Draft 2024 SIAR to Technical Program Manager
43	Board Approves 2024 SIAR

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 13, 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