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

TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER

DATE: Wednesday, August 11, 2021
MEETING TIME: 1:30 p.m.
IN KEEPING WITH GOVERNOR NEWSOMS EXECUTIVE ORDERS N-29-20 AND N-35-20, 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/84638711466?pwd=K0NjYkJBVG5LUXFMdkg5cFY2cGdjQT09
If joining the meeting by phone, dial either of these numbers:
+1 408 638 0968 US (San Jose)
+1 669 900 6833 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: 846 3871 1466
Passcode: 900981

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**

The next regular meeting is tentatively planned for Wednesday September 8, 2021 at 1:30 p.m. However, that meeting may not be necessary and may be cancelled.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	2.A
AGENDA TITLE:	Approve Minutes from the July 14, 2021 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
July 14, 2021
(Meeting Held Using Zoom Conferencing)

Attendees: TAC Members

City of Seaside – Scott Ottmar
California American Water – Tim O'Halloran
City of Monterey – Cody Hennings (joined at 1:49 p.m.)
Laguna Seca Property Owners – Wes Leith
MPWMD – Jon Lear
MCWRA – Tamara Voss
City of Del Rey Oaks – John Gaglioti
City of Sand City – Leon Gomez
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager - Robert Jaques
Administrative Officer – Laura Paxton

Consultants
Montgomery & Associates – Georgina King

Others
MCWD – Ramleh Scherzinger, Patrick Breen

The meeting was convened at 1:34 p.m.

1. Public Comments

There were no public comments.

2. Administrative Matters:

A. Approve Minutes from the June 9, 2021 Meeting

On a motion by Ms. Voss, seconded by Mr. Gaglioti, the minutes were unanimously approved as presented.

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques highlighted several of the topics covered under this item.

Mr. Gaglioti asked if were more than 16 deep aquifer wells. Ms. Voss responded that MCWRA estimates there are approximately 40 wells in the deep aquifer at this time.

3. Update on Water Quality Issues at Monitoring Wells FO-9

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

Mr. Lear said he concurred with Mr. Jaques' summary. He went on to say that if the small diameter PVC in well FO-9 shallow can be removed, then destruction can proceed following internal review by

MPWMD of the well destruction documents prepared by Mr. Feeney. He said it would probably be a few months before the bid process to perform that work would be completed. He said discussions within MPWMD about sharing the cost of constructing a replacement well will first go to the Water Supply Committee which will have its next meeting in August.

4. Continued Discussion of 2012 Cross-Aquifer Contamination Study and Development of Recommendations

Mr. Jaques summarized the agenda packet materials for this item

Mr. Lear explained that this study had been a database search of three databases. He went on to say that Figure 6 shows the wells that MPWMD attempted to inspect. However, only one of the five wells shown in that Figure were found.

Following brief discussion there was TAC consensus that no action should be pursued with regard to conducting conductivity profiling of these wells.

5. Discuss Pros/Cons of Preparing a Sustainable Yield Analysis

Mr. Jaques summarized the agenda packet materials for this item. He reported that Mr. Yates of Todd Groundwater had been asked to join the meeting today to contribute to this discussion. However Mr. Yates was apparently unable to join.

Mr. Gaglioti said he concurred with Mr. Jaques' recommendations, but that this topic should be presented to the Board for its consideration. He noted that a lot of work would be required to change from the Natural Safe Yield approach to the Sustainable Yield approach.

Ms. King said that the 3,000 acre-feet per year Natural Safe Yield in the Decision is too high, and that groundwater levels have been continuing to fall even with pumping at that level. In performing a Sustainable Yield analysis it would necessary to take into account Pure Water Monterey project affects, climate change, and other issues.

Mr. Gaglioti questioned how we should go about lowering the Natural Safe Yield. Ms. Voss felt the TAC is a technical body and that political and policy issues rested with the Board.

Mr. Gaglioti recommended staying with Natural Safe Yield approach for the time being. Ms. Voss felt the TAC should make a recommendation to the Board from a technical standpoint with regard to using either Natural Safe Yield or Sustainable Yield in the future.

Ms. King said that many agencies are now using groundwater levels to manage their basins meaning that they would set pumping limits for each pumper in order to stabilize groundwater levels.

Ms. Voss felt that the Watermaster could go to great effort and expense and still not reach protective levels water levels, even though groundwater levels might be stabilized. She pointed out that it would still be necessary to get replenishment water in order to raise groundwater levels.

Referring to the comment responses contained in the agenda packet, Ms. King noted that consultants have different thoughts about whether seawater intrusion is a direct intrusion risk to the Santa Margarita aquifer. She felt that a Marine Electromagnetic Survey in Monterey Bay [as discussed later under agenda item 8] could help investigate this issue. Ms. Voss pointed out that there is still a concern about vertical migration as well, not just horizontal migration of seawater.

Ms. King wondered what other adjudicated basins might be doing with regard to the Natural Safe Yield versus Sustainable Yield approach. Mr. Jaques said that Ms. Paxton could contact other adjudicated basins and inquire.

Mr. Ottmar did not feel that further pumping reductions are possible, but agreed that Sustainable Yield is a technically superior approach compared to Natural Safe Yield.

Mr. Lear suggested recommending to the Board that the TAC recognizes that Sustainable Yield is a more robust basin management approach than Natural Safe Yield, and that other basins under SGMA will have to use the Sustainable Yield approach as they implement their Groundwater Sustainability Plans over a 20-year period.

Mr. Jaques recommended that he be given the opportunity to attempt to capture the points made in today's TAC discussion in the form of a proposed recommendation to the Board, and to bring that back to the TAC at its August meeting for final review and approval before sending anything to the Board regarding Sustainable Yield. There was consensus to support this recommendation.

6. Discuss Background and Scope of Work for Replenishment Modeling

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

One question that Ms. King asked the TAC to provide direction on was over how long a time period the simulation to reaching protective water levels should be, and at what year the simulation should start. She noted that it would be necessary to extend the existing model beyond 2041 if a simulation period that extended beyond that date was selected, since that is where the model currently ends. She noted, however, that the model may have been extended in conjunction with work on the Pure Water Monterey Project.

Mr. Lear pointed out that SGMA requires sustainability to be achieved within 20 years after approval of Groundwater Sustainability Plans. Mr. Gaglioti, Mr. O'Halloran, and Ms. Voss said they concurred with using a 20-year simulation period to achieve protective water levels.

Mr. Jaques also asked for TAC input on whether to evaluate the Cal Am Desalination Plant and Pure Water Monterey Expansion Project scenarios.

Mr. Lear said there would be six ASR wells into which only desalinated water, not Pure Water Monterey Advance Treated Water, could be injected. Under the Pure Water Monterey Expansion Project there would be either five or six injection wells where Advance Treated Water could be injected. If more Advance Treated Water injection wells were to be needed, they would probably need to be located further inland or to the north in order to avoid travel time problems to nearby production wells.

Using this information, Mr. Jaques and Ms. King will draft a scope of work for a contract for the replenishment modeling update and bring it to the TAC at its next meeting.

7. Initial Discussion Regarding Scope of Work for Monitoring and Management Program (M&MP) for FY 2022

Mr. Jaques summarized the agenda packet materials for this item. He said that he was including replenishment remodeling in the 2022 Monitoring and Management Program, even though it is included in the 2021 Monitoring and Management Program. He said he was doing this in case the Board decided to defer doing that work until 2022.

Mr. Lear and Ms. Voss said they concurred with reducing the monitoring frequency of the Camp Huffman well to once every five years.

No other revisions were recommended. Mr. Jaques will proceed to develop the final draft of the 2022 Monitoring and Management Program for presentation to the TAC at its next meeting.

8. Update on Marine Electromagnetic Surveying in Monterey Bay

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

Ms. Voss asked whether this work would be looking for the freshwater/seawater interface in the offshore area. Ms. King said that the Soquel Creek Water District did some airborne electromagnetic on-shore survey work, but could not get data from the offshore area due to the limitations of the technology. The marine electromagnetic technology can apparently look for this interface in the offshore area. Ms. Voss will see if MCWRA has any reports that might be of use to Rosemary Knight in developing her work. She also noted that the Department of Water Resources airborne electromagnetic survey work will not cover the coastal areas, at least not initially.

9. Schedule

Mr. Jaques highlighted certain items in this agenda item. There was no other discussion.

10. Other Business

There was no other business.

The meeting adjourned at 3:52 PM.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	2.B
AGENDA TITLE:	Sustainable Groundwater Management Act (SGMA) Update
PREPARED BY:	Robert Jaques, Technical Program Manager

At the State level:
Since my last update I have not received anything from the State that impacts the Watermaster.

At the Monterey County level:
Attached are summaries of meetings held in July 2021.

Questions for the TAC:

- Are these monthly meeting summary reports of value or interest to the TAC?
- Should I continue to include them in the TAC agenda packets?

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

SUMMARY OF
PURE WATER MONTEREY,
SALINAS VALLEY GROUNDWATER SUSTAINABILITY, AND
MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY
ZOOM MEETINGS
IN JULY 2021

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

SVBGSA Advisory Committee Meeting, July 15, 2021

This meeting was attended by Laura Paxton. She reported that there was nothing discussed at this meeting that would impact the Watermaster.

SVBGSA Monterey Subbasin GSP Committee Meeting July 22, 2021:

Topics discussed included:

- Draft Chapter 8 of the Groundwater Sustainability Plan: Sustainable Management Criteria. I had reviewed and submitted extensive comments on this draft chapter and they will be considered as the chapter is revised to reflect input that the SVBGSA receives. My comments pertained mainly to ensuring that the impacts on the Seaside Basin from pumping in the Monterey Subbasin are taken into account. In particular, that monitoring wells in the Seaside Basin which are near the boundary between the Seaside Basin and the Monterey Subbasin be included in the Monterey Subbasin's monitoring network. This will enable the SVBGSA and MCWDGSA to determine if their projects and/or management actions are having any adverse impact on the Seaside Basin.
- Projects and management actions to be led by MCWD (or Marina-Ord Area agencies) that will primarily benefit the Marina-Ord Area include:
    - MCWD Demand Management Measures
    - Stormwater Recharge Management
    - Recycled Water Reuse Through Landscape Irrigation and/or Indirect Potable Reuse
    - Monitoring Well(s)
- Projects and management actions to be led by SVBGSA that will primarily benefit the Corral de Tierra Area include:
    - Pumping Allocations and Controls
    - Check Dams
    - Recharge Basins from Surface Water Diversions
    - Wastewater Recycling for Indirect Potable Use
    - Decentralized Residential In-Lieu Recharge Projects
    - Decentralized Stormwater Recharge Projects
    - Increase Groundwater Production in the Upper Corral de Tierra Valley for Distribution to Lower Corral de Tierra Valley (Artesian Well)

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	2.C
AGENDA TITLE:	Information from MPWMD on the Pure Water Monterey Expansion Project
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

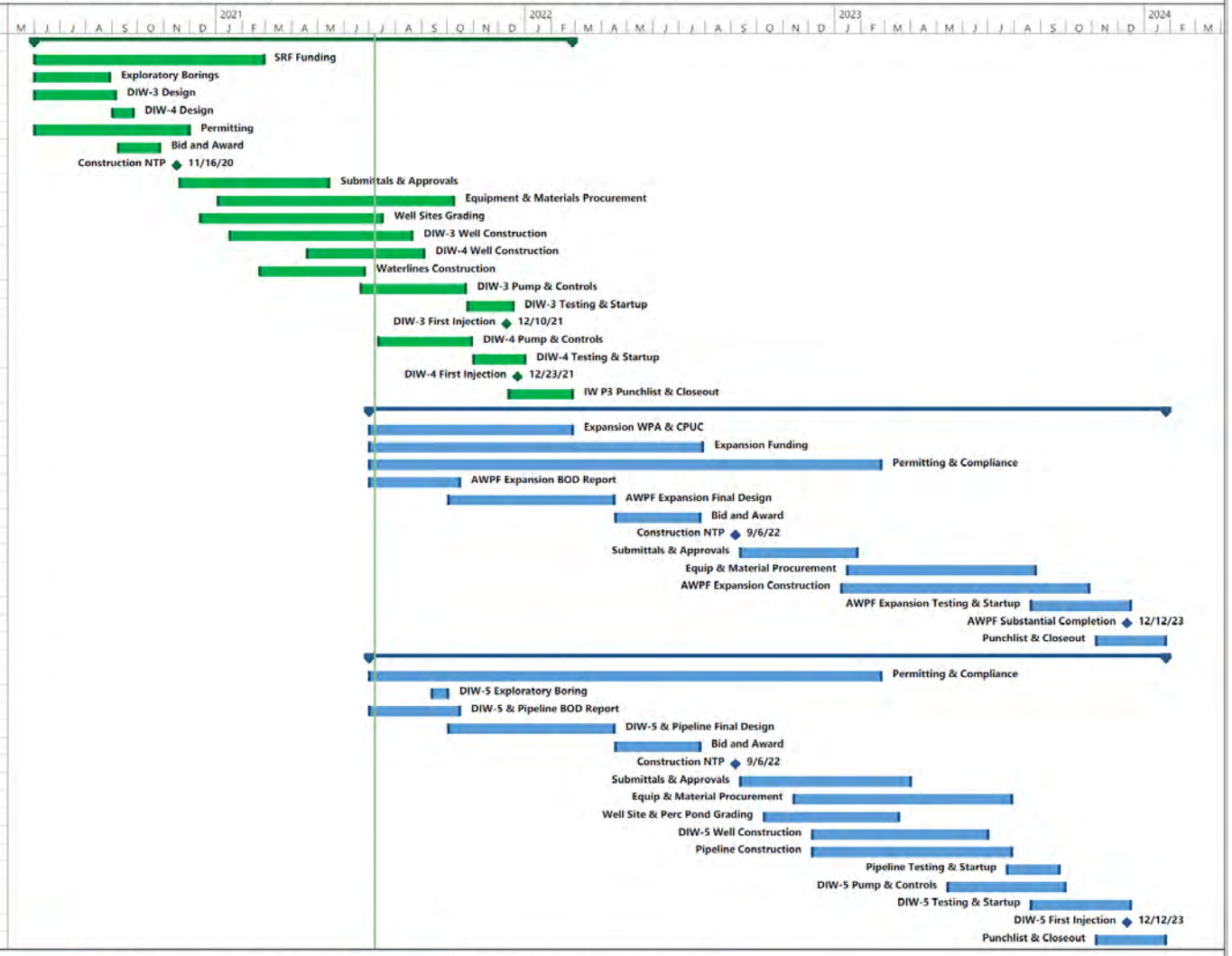
MPWMD's August 2, 2021 Water Supply Planning Committee agenda packet included this information on the Pure Water Monterey Expansion Project:

- At the June 2021 M1W Board meeting, moving forward with final permitting and design of the 2,250 AFY Expanded PWM Project was approved by the Board. Up to $2,000,000 of the initial Expanded PWM soft costs will be funded by Cal Am.
- Following a brief review of the Expanded PWM schedule at the June 2021 M1W Board meeting, the attached integrated PWM and Expanded PWM schedule was prepared.
- Expanded PWM permitting and design have been initiated, with construction scheduled to start in early September 2022, driving substantial completion of the new facilities by the end of 2023.

ATTACHMENTS:	Integrated PWM and Expanded PWM schedule
RECOMMENDED ACTION:	None required – information only

EXHIBIT 4-A: PWM and Expanded PWM Executive Schedules as of 7-15-21

ID	Task Name	Duration	Start	Finish
1	**Injection Wells Phase 3**	**448 days**	**Mon 6/1/20**	**Fri 2/25/22**
2	SRF Funding	191 days	Mon 6/1/20	Fri 2/26/21
3	Exploratory Borings	65 days	Mon 6/1/20	Fri 8/28/20
4	DIW-3 Design	70 days	Mon 6/1/20	Fri 9/4/20
5	DIW-4 Design	18 days	Tue 9/1/20	Fri 9/25/20
6	Permitting	130 days	Mon 6/1/20	Mon 11/30/20
7	Bid and Award	35 days	Tue 9/8/20	Mon 10/26/20
8	Construction NTP	0 days	Mon 11/16/20	Mon 11/16/20
9	Submittals & Approvals	123 days	Fri 11/20/20	Fri 5/14/21
10	Equipment & Materials Procurement	197 days	Mon 1/4/21	Fri 10/8/21
11	Well Sites Grading	151 days	Mon 12/14/20	Fri 7/16/21
12	DIW-3 Well Construction	153 days	Mon 1/18/21	Fri 8/20/21
13	DIW-4 Well Construction	99 days	Mon 4/19/21	Fri 9/3/21
14	Waterlines Construction	89 days	Mon 2/22/21	Fri 6/25/21
15	DIW-3 Pump & Controls	89 days	Mon 6/21/21	Fri 10/22/21
16	DIW-3 Testing & Startup	40 days	Mon 10/25/21	Fri 12/17/21
17	DIW-3 First Injection	0 days	Fri 12/10/21	Fri 12/10/21
18	DIW-4 Pump & Controls	79 days	Mon 7/12/21	Fri 10/29/21
19	DIW-4 Testing & Startup	45 days	Mon 11/1/21	Fri 12/31/21
20	DIW-4 First Injection	0 days	Thu 12/23/21	Thu 12/23/21
21	IW P3 Punchlist & Closeout	54 days	Mon 12/13/21	Fri 2/25/22
22	**AWPF Expansion**	**661 days**	**Thu 7/1/21**	**Fri 1/26/24**
23	Expansion WPA & CPUC	170 days	Thu 7/1/21	Fri 2/25/22
24	Expansion Funding	278 days	Thu 7/1/21	Fri 7/29/22
25	Permitting & Compliance	426 days	Thu 7/1/21	Fri 2/24/23
26	AWPF Expansion BOD Report	76 days	Thu 7/1/21	Fri 10/15/21
27	AWPF Expansion Final Design	140 days	Sun 10/3/21	Fri 4/15/22
28	Bid and Award	69 days	Mon 4/18/22	Mon 7/25/22
29	Construction NTP	0 days	Tue 9/6/22	Tue 9/6/22
30	Submittals & Approvals	100 days	Mon 9/12/22	Fri 1/27/23
31	Equip & Material Procurement	157 days	Mon 1/16/23	Fri 8/25/23
32	AWPF Expansion Construction	206 days	Mon 1/9/23	Fri 10/27/23
33	AWPF Expansion Testing & Startup	84 days	Mon 8/21/23	Fri 12/15/23
34	AWPF Substantial Completion	0 days	Tue 12/12/23	Tue 12/12/23
35	Punchlist & Closeout	58 days	Mon 11/6/23	Fri 1/26/24
36	**Injection Wells Phase 4**	**661 days**	**Thu 7/1/21**	**Fri 1/26/24**
37	Permitting & Compliance	426 days	Thu 7/1/21	Fri 2/24/23
38	DIW-5 Exploratory Boring	15 days	Mon 9/13/21	Fri 10/1/21
39	DIW-5 & Pipeline BOD Report	76 days	Thu 7/1/21	Fri 10/15/21
40	DIW-5 & Pipeline Final Design	140 days	Sun 10/3/21	Fri 4/15/22
41	Bid and Award	69 days	Mon 4/18/22	Mon 7/25/22
42	Construction NTP	0 days	Tue 9/6/22	Tue 9/6/22
43	Submittals & Approvals	144 days	Mon 9/12/22	Fri 3/31/23
44	Equip & Material Procurement	182 days	Mon 11/14/22	Fri 7/28/23
45	Well Site & Perc Pond Grading	114 days	Mon 10/10/22	Fri 3/17/23
46	DIW-5 Well Construction	147 days	Tue 12/6/22	Fri 6/30/23
47	Pipeline Construction	166 days	Tue 12/6/22	Fri 7/28/23
48	Pipeline Testing & Startup	44 days	Mon 7/24/23	Fri 9/22/23
49	DIW-5 Pump & Controls	97 days	Mon 5/15/23	Fri 9/29/23
50	DIW-5 Testing & Startup	84 days	Mon 8/21/23	Fri 12/15/23
51	DIW-5 First Injection	0 days	Tue 12/12/23	Tue 12/12/23
52	Punchlist & Closeout	58 days	Mon 11/6/23	Fri 1/26/24



Project: PWM GWR Summary
Date: Thu 7/8/21

PWM Expansion
Injection Well Ph 3
AWPF Expansion/IW Ph 4 Summary
Injection Well Ph 3 Summary
PWM Expansion Milestones
Injection Wells Phase 3 Milestone

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SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	2.D
AGENDA TITLE:	Geologic Reports from MCWRA
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

At the last TAC meeting, during the discussion of Rosemary Knight's plans for performing an offshore Marine Electromagnetic survey, Ms. Voss said she would research MCWRA's library to see if there were any reports that might be useful to Ms. Knight in performing that work.

She located these two reference documents:

- Greene, H.G. 1970. Geology of Southern Monterey Bay and Its Relationship to the Ground Water Basin and Salt Water Intrusion. U.S. Geological Survey Open-File Report 70-141, 51p. https://www.co.monterey.ca.us/home/showdocument?id=61931.

- Hanson, R.T., et al. 2002. Geohydrology of a deep-aquifer system monitoring-well site at Marina, Monterey County, California. https://pubs.usgs.gov/wri/wri024003/pdf/wrir024003.pdf.

In a quick review of the documents I found the following excerpt (underlining added by me to highlight it) pertaining to seawater intrusion access into the Paso Robles aquifer in the southern portion of Monterey Bay adjacent to the Seaside Basin.

> *The Paso Robles-Aromas unit is more extensive than the overlying Deltaic deposit and contains the "400-foot" aquifer. Northern portions of the Paso Robles-Aromas unit appear to outcrop on the southern wall of Monterey Submarine Canyon. The southern portion of this unit crops out on the ocean bottom in a relatively narrow zone between the bottom outcrops of the underlying Monterey Formation and the overlying Deltaic deposit. This zone is a possible entrance area for sea water. Also, the localities on the walls of Monterey Submarine Canyon where this unit crops out is an area where salt water encroachment can take place.*

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	3
AGENDA TITLE:	Discuss Recommendation to the Board Regarding Preparing a Sustainable Yield Analysis
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

At its July 14 meeting the TAC discussed the Pros and Cons of performing a Sustainable Yield analysis. Using input from that meeting and various documents from previous TAC meetings on that topic, I have prepared the attached draft paper discussing Sustainable Yield vs. Natural Safe Yield, and a draft recommendation to the Board regarding preparation of a Sustainable Yield analysis.

These draft documents are presented to the TAC at today's meeting for discussion and finalization, so they can be presented to the Board at an upcoming Board meeting.

ATTACHMENTS:	1. Paper discussing Sustainable Yield vs. Natural Safe Yield 2. Use of Sustainable Yield vs. Safe Yield by Other Watermaster Adjudicated Basins 3. Draft Recommendation to the Board regarding preparation of a sustainable yield analysis
RECOMMENDED ACTION:	Approve, or provide revisions to, the attached draft report and recommendation, so they can be sent to the Board

Attachment 1

Should the Watermaster at this time perform a Sustainable Yield analysis to be used in place of the Natural Safe Yield approach prescribed in the Adjudication Decision (Decision) for the Seaside Groundwater Basin?

Background

Natural Safe Yield Approach

The Decision uses the Natural Safe Yield (NSY) approach to establish the total quantity of water that producers may pump from the Seaside Basin, and to allocate that quantity amongst the various producers. Under the NSY approach used in the Decision, Alternative Producers have first rights to the NSY, and Standard Producers share in the amount of NSY remaining after the Alternative Producer allocations have been made. The Decision established an initial Basin-wide NSY of 3,000 AFY, and allocated 1,387 AFY of this NSY to Alternative Producers. That left 3,000 – 1,387 = 1,613 AFY to be divided among the Standard Producers. Subsequent to the date of the Decision, one of the Alternative Producers converted part of its allocation to a Standard Producer allocation, which had the effect of lowering the 1,387 AFY figure to 1,379 AFY, and increasing the 1,613 AFY figure to 1,621 AFY. The 2018 update of the Watermaster's *Basin Management Action Plan* (BMAP) found that the 3,000 AFY NSY in the Decision is too high, and that groundwater levels have been continuing to fall even with pumping at that level. The update concluded that the NSY of the Basin is only 2,370 AFY. If this lower figure replaced the 3,000 AFY in the Decision, the Standard Producers would need to reduce their collective annual pumping to 2,370 – 1,379 = 991 AFY. This means the Standard Producers would have to reduce their pumping by an additional 630 AFY.

Sustainable Yield Approach

As described in the 2018 BMAP Update, the simplified method used in the Decision to estimate NSY is now recognized as not being complete enough to take into account the complexities of inflows and outflows that are occurring in the Basin. These ultimately affect the amount of groundwater that can be sustainably pumped from the Basin without causing negative effects, which are referred to in the Decision as "Material Damage." A more complete approach to managing the Basin would be to use the Seaside Basin groundwater model to optimize the amount of pumping that can be sustained (the Sustainable Yield) at existing and/or new wells. The Sustainable Yield (SY) would take into account management targets such as stopping declining groundwater levels or meeting protective groundwater elevations.

TAC Findings and Conclusions

The TAC considers itself to be charged with providing only technical advice to the Board, and that it should not provide policy or other non-technical advice.

The TAC recognizes that SY is a more robust basin management approach than NSY, and that other basins under the Sustainable Groundwater Management Act will have to use the SY approach as they implement their Groundwater Sustainability Plans (GSPs) over a 20-year period. They will be using groundwater levels to manage their basins. In most cases this is expected to lead them to set pumping limits for each pumper in order to stabilize groundwater levels.

The SY analysis would involve making numerous assumptions and evaluations. These could include such things as alternative pumping scenarios and redistribution of pumping locations and quantities in order to stabilize groundwater levels. The analysis would determine how much can be pumped from existing wells while maintaining stable groundwater elevations. The SY for the entire Basin would be the sum of the production quantities that each well could produce and still prevent Material Damage from

occurring. However, many of the groundwater elevations would be stabilized below sea level, resulting in an ongoing threat of seawater intrusion.

The Watermaster's hydrogeologic consultants have different thoughts about whether seawater intrusion is a direct intrusion risk to the Santa Margarita aquifer. One consultant (Mr. Yates of Todd Groundwater) felt that it was unlikely that seawater intrusion would come directly (horizontally) from the Bay into the Santa Margarita aquifer, or if it does that it will be a slow process. However, he acknowledged that there is no geologic data to confirm that horizontal intrusion will not occur in that aquifer at some point in time, if groundwater levels are below protective elevations as they currently are in that aquifer. All of the consultants did agree that downward vertical migration of seawater intrusion from the Dune Sands into the Paso Robles aquifer is a concern, and that seawater intrusion reaching the Paso Robles aquifer could migrate downward into the Santa Margarita, thus posing a risk to that aquifer as well.

A lot of work (both legal and technical) would be required to change from the NSY approach to the SY approach. A February 2019 proposal from Montgomery & Associates indicates that it would cost well over $100K in technical services to perform an SY analysis, which would need to take into account the impacts on the Basin of the Pure Water Monterey project, climate change, and other issues. If that analysis led to imposing further pumping reductions (beyond those already required to reach the Decision-mandated Natural Safe Yield of 3,000 AFY or the updated NSY of 2,370 AFY) protective water levels would still not be achieved, even though groundwater levels might be stabilized. It would be necessary to provide replenishment water in order to raise groundwater levels to reach protective elevations.

Although SY is a technically superior approach compared to NSY, further pumping reductions from the Basin are likely not possible while still meeting customer water demands. This is because significant efforts have already resulted in achieving as much water conservation on the part of customers as can be reasonably expected.

The findings from checking with some of the other adjudicated basins in California as to whether they are using NSY or SY is discussed in the attached Memo from Administrative Officer Laura Paxton.

Groundwater levels in the eastern portion of the Seaside Basin, in the Laguna Seca Subarea, are heavily influenced by pumping from outside of the Seaside Basin. There is significantly more pumping just east of the Laguna Seca Subarea (within the Corral de Tierra subarea of the Monterey Subbasin and outside of the Seaside Basin boundary) than the total pumping that occurs within the Laguna Seca Subarea itself. The GSP that is currently under development for the Monterey Subbasin is expected to include pumping reductions that may help to stabilize groundwater levels in the Laguna Seca Subarea. However, that GSP will give the Monterey Subbasin up to 20 years to become sustainable, so no near-term improvement in groundwater levels within the Seaside Basin is expected to result from this GSP.

The table below summarizes the Pros and Cons of Changing to Using the Sustainable Yield Approach for Basin Management.

PROS	CONS
1. This approach would more realistically reflect the characteristics of the Basin and more accurately predict how much pumping could be sustainably supported without causing Material Damage in the Basin.	1. Performing an SY analysis would be costly. The cost proposal from Montgomery & Associates to do this work is well over $100,000. The proposal notes that modeling the long-term optimization of integrated groundwater management at a basin-wide scale is a complex process with several technical challenges that could arise and could lead to additional effort (and cost) not anticipated in the cost proposal.
	2. Changing from the NSY approach to the SY approach would first have to be approved by the Court. Documentation justifying making this change would have to be prepared and submitted to the Court. This would involve staff, consultant, and legal counsel time and expense.
	3. If the change was approved by the Court, the SY analysis would then need to be prepared and submitted to the Court for its review and approval before it could be used to replace the NSY approach used in the Decision. If the Court approved the SY analysis, then the Decision would need to be amended to reflect this. All of this would involve considerable staff, consultant, and legal counsel time and expense.
	4. If SY were used instead of NSY, a new method of allocating pumping rights to each producer would have to be developed. This could be a contentious and time-consuming undertaking.
	5. It is very likely that greater pumping reductions will be required of many of the Producers if the SY approach is used in place of the NSY approach. It may be difficult if not impossible for some Producers to make these additional pumping reductions while still supplying the water demands of their customers.
	6. Because of the historical overpumping 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. The Basin would therefore still be at risk of seawater intrusion at some time in the future. An additional source(s) of 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. Therefore, the expense and complexity of changing to the SY approach may not be justified until a source for this replenishment water has been secured.

<u>Attachment 2</u>

SEASIDE GROUNDWATER BASIN WATERMASTER

MEMORANDUM

TO: Watermaster (WM) Technical Advisory Committee (TAC)

FROM: Laura Paxton, Administrative Officer (AO)

DATE: August 11, 2021

SUBJECT: Use of Sustainable Yield vs. Safe Yield by Other Watermaster Adjudicated Basins

- -

RECOMMENDATION: None - Informational only

BACKGROUND: At its July 14, 2021 meeting, the TAC, during a discussion of the pros and cons of preparing a Sustainable Yield analysis, Georgina King of Montgomery Associates, the WM hydrogeologic consultant, suggested surveying other watermaster agencies to see if any had converted from Natural Safe Yield (NSY) to Sustainable Yield. Technical Program Manager, Robert Jaques asked the Administrative Officer to contact other watermasters in this regard.

DISCUSSION: The Department of Water Resources lists as of early this year 47 adjudicated basins in the state with 33 basin adjudications filed. After researching several of the basins on line, a trend began to appear that in general the court decisions for the adjudicated basins were either static from inception or amended decision inception, or still in litigation. Furthermore, each decision was notably distinct to the particular basin(s) and predominantly involved overlying agricultural land use. In the interest of time, an attorney known to have participated in drawing up many southern California basin adjudication decisions was queried as to what basins might be considering, or have in fact converted through the court by decision amendment, from Natural Safe Yield to Sustainable Yield. In response, it appears only the recent post-SGMA Borrego adjudication judgment uses Sustainable Yield. (The attorney noted it was argued during the drafting of SGMA with ACWA that the term "safe yield" be used for consistency with the common law term, since the common law term "undesirable result" was being used by SGMA. However, the argument was lost.)

During on-line research, it was found that most southern California watermaster decisions and/or basin management documents used the term "safe yield." The term "NSY" was not found in any of the eight sets of documents reviewed. The term "Natural Recharge" was used in some but was not the basis for pumping allocations, safe yield was.

Various definitions or components of safe and sustainable yield came to light during on-line research. The Seaside Groundwater Basin (SGWB) Decision defines Perennial Natural Safe Yield: … *(as defined in Section III.A. and hereinafter referred to as "Natural Safe Yield") of the Seaside Basin is solely the result of natural percolation from precipitation and surface water bodies overlying the Basin.* SGMA defines safe yield generally as the maximum quantity of water which can be withdrawn annually from a groundwater supply without causing a gradual lowering of the groundwater levels resulting in the eventual depletion of the supply. California Water Code section 10721(v) definition of Sustainable Yield is: *the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.* SGMA further relates that, … *the long-standing concept of "safe yield" utilized by the courts in adjudication of groundwater rights has been **complimented** by SGMA's use of the term "Sustainable Yield."* [emphasis added]. In *Sustainable Yield in Theory and Practice: Bridging Scientific and Mainstream Vernacular (Groundwater Issue Paper, Rudestam & Langridge, 2014)* it is noted, *"In operationalizing the term "safe yield," the Seaside Basin adjudication moved the definition closer to the concept of sustainable yield by acknowledging hydrologic and social issues, including that safe yield is not a "static" amount, and needs periodic re-evaluation."*

Southern basins' management documentation gave the impression generally that watermasters used various established components of respective safe yields to manage basins sustainably. Establishment of water rights was protracted in many of the reviewed decision cases, and the rights of pumpers, especially overlying landowner rights, were firmly set in the judgements. Not surprising it appears other watermasters haven't considered converting yield methodology, or pursuing it (with likely producer litigation) through the courts. SGWB's own decision states: *No Power to Alter Allocation or Rights. Watermaster has no power to adjust any Producer's Base Water Right or the formula for determining Production Allocation, except to accommodate the intervention of a new Party pursuant to Section 1110.1.b.*, and, *The Court, through its reserved and retained jurisdiction, however, shall not have the authority to adjust any Producer's Base Water Right or Production Allocation, except to accommodate the intervention of a new Party pursuant to Section 111.0.1.b.*

FISCAL IMPACTS: Formally replacing Natural Safe Yield with Sustainable Yield that impacts producer rights and/or allocations would necessitate adjudication decision amendment most likely involving a lengthy court process and substantial litigation costs.

ATTACHMENTS: DWR list of California adjudicated basins

NAME	COMMENTS	Label	WATERMASTER	date_data_applies_to
Raymond Basin		Raymond Basin	Raymond Basin Watermaster	1944
Beaumont Basin		Beaumont Basin	Beaumont Basin Beaumont Basin	2004
Main San Gabriel Basin		Main San Gabriel Basin	Main San Gabriel Basin Watermaster	1973
Antelope Valley		Antelope Valley	Western-San Bernardino Watermaster	1999
Santa Maria Valley Management Area		Santa Maria Valley Management Area	Santa Maria Groundwater Basin Litigation	2014
Northern Cities Management Area	2016 annual report boundary update	Northern Cities Management Area	Northern Cities Management Area Agencies	2015
Nipomo Mesa Management Area		Nipomo Mesa Management Area	Nipomo Mesa Management Area Monitoring Parties	2014
Los Osos Basin	updated boundary with 2016 Annual Report 20170413	Los Osos Basin	Los Osos Basin Management Committee	2015
Mojave Basin		Mojave Basin - Oeste Subarea	Mojave Basin Area Watermaster	1996
Mojave Basin		Mojave Basin - Este Subarea	Mojave Basin Area Watermaster	1996
Mojave Basin		Mojave Basin - Centro Subarea	Mojave Basin Area Watermaster	1996
Mojave Basin		Mojave Basin - Alto Transition Zone Subarea	Mojave Basin Area Watermaster	1996
Mojave Basin		Mojave Basin - Baja Subarea	Mojave Basin Area Watermaster	1996
Mojave Basin		Mojave Basin - Alto Subarea	Mojave Basin Area Watermaster	1996
Goleta Basin	Wright Judgement	Goleta Basin - Central	Goleta WD	1989
Goleta Basin	Wright Judgement	Goleta Basin - West	Goleta WD	1989
Goleta Basin	Wright Judgement	Goleta Basin - North	Goleta WD	1989
West Coast Basin		West Coast Basin	WRD - West Coast Basin Watermaster Administrative Body	1989
Chino Basin		Chino Basin	Chino Basin Watermaster	1978
Santa Paula Basin		Santa Paula Basin	United Water Conservation District	2010
Upper Los Angeles River Area		Upper Los Angeles River Area	Upper Los Angeles River Area Watermaster, c/o Richard C. Slade & Associates LLC"	1979
San Bernardino Basin Area		San Bernardino - San Bernardino Area	Western-San Bernardino Watermaster	1969
San Bernardino Basin Area		San Bernardino - Colton Basin Area	Western-San Bernardino Watermaster	1969
San Bernardino Basin Area		San Bernardino - Riverside Basin Area South	Western-San Bernardino Watermaster	1969
San Bernardino Basin Area		San Bernardino - Riverside Basin Area North	Western-San Bernardino Watermaster	1969
Hemet-San Jacinto Basin		Hemet-San Jacinto - San Jacinto Canyon	Hemet-San Jacinto Watermaster	2013
Hemet-San Jacinto Basin		Hemet-San Jacinto - Hemet South	Hemet-San Jacinto Watermaster	2013
Hemet-San Jacinto Basin		Hemet-San Jacinto - Upper Pressure Area	Hemet-San Jacinto Watermaster	2013
Hemet-San Jacinto Basin		Hemet-San Jacinto - Hemet North	Hemet-San Jacinto Watermaster	2013
Brite Basin	part of Tehachapi, Brite, Cummings	Brite Basin	Tehachapi-Cummings County Water District Tehachapi-Cummings County Water District	1970
Tehachapi Basin	part of Tehachapi, Brite, Cummings	Tehachapi Basin	Tehachapi-Cummings County Water District Tehachapi-Cummings County Water District	1971
Cummings Basin	part of Tehachapi, Brite, Cummings	Cummings Basin	Tehachapi-Cummings County Water District Tehachapi-Cummings County Water District	1972
Central Basin		Central Basin	WRD - Central Basin Watermaster Administrative Body	1965
Inyo County Basins		Inyo County Basins	Los Angeles Department of Water and Power	1991
Santa Margarita River Watershed		Santa Margarita River Watershed	Santa Margarita River Watershed Watermaster	1986
Puente Basin		Puente Basin	Puente Basin Watermaster c/o Walnut Valley Water District	1981
Canyon Basin	part of Six Basins	Six Basins - Canyon Basin	Six Basins Watermaster	1998
Ganesha Basin	part of Six Basins	Six Basins - Ganesha Basin	Six Basins Watermaster	1998
Live Oak Basin	part of Six Basins	Six Basins - Live Oak Basin	Six Basins Watermaster	1998
Lower Claremont Heights Basin	part of Six Basins	Six Basins - Lower Claremont Heights	Six Basins Watermaster	1998
Lytle Creek Basin	superseded by San Bernardino Area; ID added 8/3/2017; no previous Adjudication ID	Lytle Basin	Western-San Bernardino Watermaster	1969
Cucamonga Basin		Cucamonga Basin	Cucamonga Valley Water District, et.al	1958
Scott River System		Scott River System	County of Siskiyou	1980
Seaside Basin	corrected boundary updated with Annual Report 20170427	Seaside Basin	Seaside Basin Watermaster	2007

Attachment 3

Draft Recommendation to the Board Regarding Preparation of a Sustainable Yield Analysis

Sustainable Yield (SY) is a more robust Basin management approach than the Natural Safe Yield (NSY) approach used in the Decision. However, because of the historical overpumping 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.

Therefore, the expense and complexity of changing to the SY approach may not be justified until a source for this replenishment water has been secured.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	4
AGENDA TITLE:	Approve Montgomery & Associates RFS No. 2021-01, Amendment No. 2 for Replenishment Water Modeling
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

At its July 14, 2021 meeting the TAC discussed a preliminary scope of work to be used in updating the replenishment water modeling that had been performed in 2013.

Using input from that discussion, and subsequent discussions with Montgomery & Associates, the attached contract for the replenishment modeling update work was prepared.

In summary, the work will consist of updating the previous replenishment study using the Basin groundwater model to estimate how much replenishment injection would be needed to achieve protective elevations in Watermaster coastal protective elevation wells. The work will include these Tasks:

- Extending the historical hydrology Baseline scenario (from that used in the 2013 modeling)
- Incorporating all existing and approved/planned projects into the Baseline Model
- Incorporating sea level rise at ocean boundaries
- Developing iterative scenarios to achieve protective elevations in 20 years
- Preparing a Technical Memorandum
- Making presentations to both the TAC and the Board

ATTACHMENTS:	Montgomery & Associates RFS No. 2021-01, Amendment No 2
RECOMMENDED ACTION:	Recommend that the Board approve this contract amendment

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: September 2, 2021

RFS NO. 2021-01 Amendment No. 2
(To be filled in by WATERMASTER)

TO: Hale Barter
Montgomery & Associates
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Perform additional hydrogeologic consulting services as described herein.

Completion Date: All work of this RFS shall be completed not later than December 31, 2021, and shall be performed in accordance with the Schedule described in Attachment 2.

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

Total Price The Total Price for RFS No. 2021-01 is increased by $37,510.00 by this Amendment No. 2, including Optional Task 1.3 pertaining to the incorporation of sea level rise, and the Total Price for RFS No. 2021-01 is therefore increased to $74,120.00.

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

PROFESSIONAL was authorized by RFS No. 2021-01 to perform general on-call hydrogeologic consulting services. WATERMASTER wishes to also have PROFESSIONAL perform groundwater modeling to determine how much replenishment water will be needed to achieve protective groundwater elevations in the Basin. This Amendment No. 2 to RFS No. 2021-01 authorizes the performance of the work described in Attachment 2 hereto.

ATTACHMENT 2

MONTGOMERY & ASSOCIATES
Water Resource Consultants

Groundwater experts since 1984

July 30, 2021

Mr. Bob Jaques
Seaside Watermaster Technical Program Manager
83 Via Encanto
Monterey, CA 93940

SUBJECT: SCOPE AND COST TO UPDATE PREDICTIVE MODELING OF BASIN REPLENISHMENT OPTIONS TO ACHIEVE PROTECTIVE ELEVATIONS

Dear Mr. Jaques

Per your request, this letter contains a scope of work and estimated cost to update a previous replenishment study using the basin groundwater model to estimate how much replenishment injection would be needed to achieve protective elevations in Watermaster coastal protective elevation wells.

BACKGROUND

In April 2013, HydroMetrics Water Resources Inc. (now acquired by Montgomery & Associates) completed a groundwater modeling study that evaluated 3 scenarios:

- **Scenario 1**: A 25-year groundwater overpumping replenishment program proposed by California American Water (Cal-Am) which replenishes their overpumping by in-lieu recharge through reducing pumping from their Seaside Basin wells production wells.
- **Scenario 2:** A set of pumping reductions by Standard and Alternative Producers to achieve protective groundwater levels over a 25-year period
- **Scenario 3:** Cal-Am's replenishment plan coupled with additional injection into the Santa Margarita aquifer to achieve protective elevations in 25 years.

Scenario 1 did not achieve protective elevations as 700 AFY is too little to raise groundwater levels. This scenario will not be updated as part of the update.

Under Scenario 2, a pumping reduction by Standard and Alternative Producers of just over 2,000 AFY (including Cal Am's 700 AFY reduction) was needed to achieve protective water levels. Scenario 2 is not a practical solution as Standard and Alternative producers do not have access to supplemental sources of water. This scenario will not be updated as part of the update.

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The results of Scenario 3 show that when combined with Cal-Am's 25-year repayment schedule of 700 acre-feet per year, protective elevations can be achieved by injecting an additional 1,000 acre-feet per year of water into existing ASR wells. Recharged water is left in the basin, and not pumped by Standard or Alternative producers. This approach requires less water to implement than the pumping reduction approach for Scenario 2.

The predictive simulation for the 2013 scenarios only took into account historical Carmel River ASR by MPWMD and not Pure Water Monterey (PWM), since in early 2013 PWM was only in the very early planning stages.

TASK 1. DEVELOP BASELINE SCENARIO

Subtask 1.1. Extend Historical Hydrology Baseline Scenario

Since 2009, all predictive simulations using the model have been based on repeating the historical hydrology from the 22-year model calibration period of 1987 – 2008. The previous predictive simulation runs from 2009 through 2042. While maintaining this approach allows for direct comparison between new simulations and previous simulations, it does not take advantage of the additional nine years of hydrologic and climatic data that have been incorporated into the historical model. The historical model was updated in 2014 and 2018, and now includes a continuous 31-year hydrologic record from 1987 through 2017. Significantly, this 31-year hydrologic record includes the recent 2012-2015 drought. We propose that this full 31-year historical hydrology and climate dataset be used as basis for all predictive modeling, as this incorporates a broader range of potential climate variability. The extended hydrology would repeat the 31-year hydrology from 1987 – 2017, so that the baseline scenario is extended out 31-years from 2018 to 2048.

The previous replenishment modeling effort assumed protective elevations must be reached in 25 years from the time supplemental water is available to offset pumping (assumed at that time to be in 2016) thereby resulting in protective elevations being reached in 2041. Per the TACs direction, the update will determine how much replenishment water is needed to achieve protective coastal elevations in 20 years. Extending the hydrology to 2048 covers the 20-year target to be used for evaluating replenishment volumes that achieve protective elevations.

Subtask 1.2. Incorporate all Existing and Approved/Planned Projects into Baseline Model

The Baseline scenario will include the following:

1. PWM injection of 3,500 AFY based on hydrology and planned amount extracted each year
2. Carmel River ASR current planned operations based on hydrology

3. Cal-Am's 700 AFY reduction in pumping as part of its 25-year groundwater overpumping replenishment program, assumed to begin in 2024

Monthly PWM injection rates have some dependence on hydrology because injection is reduced during drought years to send some recycled water to CSIP in Salinas Valley, and they also have a drought reserve that needs to be managed. Similarly, Cal-Am extraction of ASR water also depends on hydrology. All these operating requirements need to be considered when developing the monthly injection and extraction rates to be simulated.

Additionally, it may be necessary to revise the assumptions on Cal-Am annual demand since the assumptions used in the 2013 replenishment modeling have changed. We may potentially update the new demand forecast spreadsheet model that MPWMD (Jon Lear) developed for PWM expansion modeling for the expanded hydrology. The demand forecast has a uniform increase in demand over time and is tied to the hydrology cycle and takes into account all the water rights and allocations and demand/supply sources which are then distributed to Cal-Am extraction wells.

Subtask 1.3. Incorporate Sea Level Rise at Ocean Boundaries (Optional)

An optional item that incorporates sea level rise into the groundwater model is included in the cost estimate attached. We will incorporate estimates of projected sea level rise into the predictive model simulation by adjusting the head boundary conditions specified along the ocean boundary. Generally speaking, sea level rise is expected to increase seawater intrusion and/or the risk of sea water intrusion in coastal aquifers, though the magnitude of the effects due to sea level rise alone are highly dependent on local conditions. The sea level rise estimates will be based on the projected levels for Monterey Bay from the 2018 update of the State of California Sea-Level Rise Guidance document recently released by the California Ocean Protection Council (OPC, 2018). It should be noted that adjustments to the sea level elevations will also entail simple equivalent adjustments to the protective head elevations as they are tied to sea level.

TASK 2. DEVELOP ITERATIVE SCENARIO TO ACHIEVE PROTECTIVE ELEVATIONS IN 20 YEARS

An iterative model scenario to evaluate additional replenishment required to meet protective elevations is based on the Baseline scenario but with additional replenishment injection iteratively adjusted until coastal protective groundwater elevations are achieved within 20 years. As per direction from the TAC, injection will be simulated at PWM injection wells regardless of injection capacity. If existing injection capacity is insufficient to replenish the basin, additional infrastructure to increase injection capacity would be needed.

TASK 3. REPORTING

Subtask 3.1. Prepare Technical Memorandum

A technical memorandum summarizing the assumptions made in developing the Baseline and iterative scenarios, the results of the iterative modeling of replenishment injection needed to achieve protective elevations within 20 years presented on tables and maps, and conclusions of the study will be prepared as a draft. Based on review by Mr. Jaques and the TAC, a final version will be provided as both a PDF and MS Word document.

Subtask 3.2. Presentation

A PowerPoint presentation summarizing the findings of the study will be prepared for presentation to the TAC. It assumed that a similar presentation will be made to the Board. Both presentations are assumed to be made via Zoom.

PROJECT COST ESTIMATE AND SCHEDULE

We anticipate that this work can be completed within a two-month period, though the timing may depend on the scheduling of TAC and Board meetings. We can begin work on this immediately following notice to proceed.

The total estimated cost for the above-described tasks is $37,510, including the optional task of incorporating sea level rise into the baseline scenario. Without the optional seal level rise task, the estimated cost is $32,230. The attached cost estimate provides a breakdown of costs by task and subtask.

The hourly rates contained in this proposal are valid through December 31, 2021. If the work will substantially be completed in 2022, the cost estimate will need to be updated with 2022 rates.

Please feel free to contact us with any questions about the proposed scope of work and budget.

Sincerely,

E.L. MONTGOMERY & ASSOCIATES

Georgina King, Senior Hydrogeologist

MONTGOMERY & ASSOCIATES
Water Resource Consultants

Cost Estimate to Update Predictive Modeling of Basin Replenishment to Achieve Protective Elevations

		Montgomery & Associates Labor							Other Direct Costs	TOTALS
		Scientist VIII	Scientist VI	Scientist V	Scientist III	Technical Editor	Labor Total			
		D. Williams	G. King	P. Benito						
Task	**Hourly Rates**	$260	$215	$195	$150	$80	**Hours**	**($)**	**($)**	
1.0	**DEVELOP BASELINE SCENARIO**									
1.1	Extend Historical Hydrology Baseline Scenario	0	2	10	4	0	16	$2,980	$0	$2,980
1.2	Incorporate all Existing and Approved/Planned Projects and Cal-Am's 700 AFY Replenishment Repayment	2	2	30	16	0	50	$9,200	$0	$9,200
1.3	Incorporate Sea Level Rise at Ocean Boundaries (Optional)	2	4	20	0	0	26	$5,280	$0	$5,280
	Task 1 Subtotal	*4*	*8*	*60*	*20*	*0*	*92*	*$17,460*	*$0*	*$17,460*
2.0	**DEVELOP ITERATIVE SCENARIO TO ACHIEVE PROTECTIVE ELEVATIONS IN 20 YEARS**									
	Iterative Modeling to Determine How Much Water is Needed to Achieve Protective Elevations within 20 Years	0	4	30	8	0	42	$7,910	$0	$7,910
	Task 2 Subtotal	*0*	*4*	*30*	*8*	*0*	*42*	*$7,910*	*$0*	*$7,910*
3.0	**REPORTING**									
3.1	Prepare Technical Memorandum describing Scenarios, Findings, and Conclusions	2	16	24	8	4	54	$10,160	$0	$10,160
3.2	Prepare Presentation and Present Findings to TAC and Board via Zoom	0	6	2	2	0	10	$1,980	$0	$1,980
	Task 3 Subtotal	*2*	*22*	*26*	*10*	*4*	*64*	*$12,140*	*$0*	*$12,140*
	Total with Optional Task Incorporating Sea Level Rise	**6**	**34**	**116**	**38**	**4**	**198**	**$37,510**	**$0**	**$37,510**
	Total without Optional Task Incorporating Sea Level Rise	**4**	**30**	**96**	**38**	**4**	**172**	**$32,230**	**$0**	**$32,230**

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	5
AGENDA TITLE:	Approve Monitoring and Management Program (M&MP) for FY 2022
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

A Preliminary version of the FY 2022 M&MP was reviewed and discussed with the TAC at its July 14, 2021 meeting. The TAC did not request any revisions at that meeting. A few minor changes were made by me, and also a few based on input from our consultants. These are shown highlighted in yellow and red strikeout in the attached proposed Final version of the 2022 M&MP.

The dollar amounts reflect input received from our consultants and contractors.

Note that I have included doing the replenishment modeling update work in the 2022 M&MP even though it is already in the 2021 M&MP. I did this in case the Board decides to defer doing that work until 2022, so it can first get the results of the flow direction/flow velocity report that the TAC approved at an earlier meeting. If the Board elects to proceed with the replenishment modeling update work in 2021, then I will remove it from the 2022 M&MP.

ATTACHMENTS:	Proposed Final FY 2022 Seaside Groundwater Basin M&MP
RECOMMENDED ACTION:	Approve, or provide revisions to, the Proposed Final FY 2022 M&MP

The tasks outlined below are those that are anticipated to be performed during 2022. Some Tasks listed below are specific to 2022, while other Tasks are recurring such as data collection, database entry, and Program Administration Tasks.

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

M.1 Program Administration

M. 1. a Project Budget and Controls ($0)	Consultants will provide monthly or bimonthly invoices to the Watermaster for work performed under their contracts with the Watermaster. Consultants will perform maintenance of their internal budgets and schedules, and management of their subconsultants. The Watermaster will perform management of its Consultants.
M. 1. b Assist with Board and TAC Agendas ($0)	Watermaster staff will prepare Board and TAC meeting agenda materials. No assistance from Consultants is expected to be necessary to accomplish this Task.
M. 1. c., M. 1. d, & M.1.e Preparation for and Attendance at Meetings, and Peer Review of Documents and Reports ($27,560)	The Consultants' work will require internal meetings and possibly meetings with outside governmental agencies and the public. For meetings with outside agencies, other Consultants, or any other parties which are necessary for the conduct of the work of their contracts, the Consultants will set up the meetings and prepare agendas and meeting minutes to facilitate the meetings. These may include planning and review meetings with Watermaster staff. The costs for these meetings will be included in their contracts, under the specific Tasks and/or subtasks to which the meetings relate. The only meeting costs that will be incurred under Tasks M.1.c, M.1.d, and M.1.e will be: • Those associated with attendance at TAC meetings (either in person or by teleconference connection), including providing periodic progress reports to the Watermaster for inclusion in the agenda packets for the TAC meetings, when requested by the Watermaster to do so. These progress reports will typically include project progress that has been made, problem identification and resolution, and planned upcoming work. • From time-to-time when Watermaster staff asks Consultants to make special presentations to the Watermaster Board and/or the TAC, and which are not included in the Consultant's contracts for other tasks. Appropriate Consultant representatives will attend TAC meetings (either in person or by teleconference connection) when requested to do so by Watermaster Staff, but will not be asked to prepare agendas or meeting minutes. As necessary, Consultants may provide oral updates to their progress reports (prepared under Task M.1.d) at the TAC meetings. When requested by the Watermaster staff, Consultants may be asked to

	assist the TAC and the Watermaster staff with peer reviews of documents and reports prepared by various other Watermaster Consultants and/or entities.
M. 1. f QA/QC ($0)	A Consultant (MPWMD) will provide general QA/QC support over the Seaside Basin Monitoring and Management Program. These costs are included in the other tasks.
M.1.g Prepare Documents for SGMA Reporting ($2,380)	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, some information such as changes in basin storage is not currently generated and will require consultant assistance to do so. This task will be used to obtain this consultant assistance, as needed.

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

I. 2. a. Database Management	
I. 2. a. 1 Conduct Ongoing Data Entry and Database Maintenance/ Enhancement ($23,176)	The database will be maintained by a Consultant (MPWMD) performing this work for the Watermaster. MPWMD will enter new data into the consolidated database, including water production volumes, water quality and water level data, and such other data as may be appropriate. Other than an annual reporting of data to another Watermaster Consultant at the end of the Water Year, as mentioned in Task I.4.c below, no reporting of water level or water quality data during the Water Year is required. However, MPWMD will promptly notify the Watermaster of any missing data or data collection irregularities that were encountered. Under this Task, when requested MPWMD will also respond to requests from consultants and others for data from the database. At the end of the Water Year MPWMD will prepare an annual water production, water level, and water quality tabulation in Access format and will provide the tabulation to another Watermaster Consultant who will use that data in the preparation of the SIAR under Task No. I.4.c of the Monitoring and Management Program. No enhancements to the database are anticipated during 2022. A separate consultant will maintain the Watermaster's website.
I. 2. a. 2 Verify Accuracy of Production Well Meters ($0)	To ensure that water production data is accurate, the well meters of the major producers were verified for accuracy during 2009 and again during 2015. No additional work of this type is anticipated during 2022.
I. 2. b. Data Collection Program	
I. 2. b. 1 Site Representation and Selection ($0)	The monitoring well network review that was started in 2008 has been completed, and sites have been identified where future monitoring well(s) could be installed, if it is deemed necessary to do so in order to fill in data gaps. No further work of this type is anticipated in 2022.

I. 2 b. 2 **Collect Water Levels** **($21,490)**	Each of the monitoring wells will be visited on a regular basis. Water levels will be determined by either taking manual water levels using an electric sounder, or by dataloggers. The wells where the use of dataloggers is feasible or appropriate have been equipped with dataloggers. All of the other wells will be manually measured. This Task includes the purchase of one datalogger and parts for the datalogger to keep in inventory as a spare if needed.
I. 2. b. 3 **Collect Water Quality Samples.** **($39,335)**	Water quality data will be collected quarterly from certain of the monitoring wells, but will no longer be collected from the four coastal Sentinel Wells. Discontinuing water quality sampling in those wells is the result of the finding made in 2018 that the water quality samples being extracted from those wells are not representative of the aquifer. Those wells were designed for the purpose of electric induction logging, and will therefore continue to be induction logged twice a year in WY 2022. In 2012 water quality analyses were expanded to include barium and iodide ions, to determine the potential benefit of performing these additional analyses. These two parameters have been useful in analyzing seawater intrusion potential in other vulnerable coastal groundwater basins, and are briefly mentioned in the Watermaster's annual Seawater Intrusion Analysis Reports. These parameters were added to the annual water quality sampling list ~~for the four Watermaster Sentinel wells (SBWM-1, SBWM-2, SBWM-3, and SBWM-4), and also~~ for the 3 most coastal MPWMD monitoring wells (MSC, PCA, and FO-09). Barium and iodide analyses will continue being performed on the 3 most coastal MPWMD monitoring wells in 2022., ~~but will no longer be performed on the Watermaster's coastal Sentinel Wells as discussed above.~~ As discussed in the 2013 Annual Report, the Watermaster reduced the frequency of water quality sampling at monitoring well SBWM-5 (the Camp Huffman well) to once every 3 years beginning in WY 2014. This was based on the January 2010 well construction report in which the well installation hydrogeologic consultant (Martin Feeney) recommended doing initial sampling annually for several years, then reducing the frequency of sampling once it was felt that the water chemistry had been established. Mr. Feeney suggested going to once every five years after initial water quality had been established. Starting with WY 2014 the Watermaster elected to go to once every three years as a more conservative approach. The results from water quality sampling that has performed to date on these wells shows there has been little change in water quality at these wells. Therefore, the sampling frequency has been reduced to once every five years beginning in 2022. Water quality data may come from water quality samples that are taken from these wells and submitted to a State Certified analytic laboratory for general mineral and physical suite of analyses, or the data may come from induction logging of these wells and/or other data gathering techniques. The Consultant or Contractor selected to perform this work will make this judgment based on consideration of costs and other factors.

	Under this Task in 2013 retrofitting to use the low-flow purge approach for getting water quality samples was completed on all of the wells that are sampled. This sampling equipment sits in the water column and may periodically need to be replaced or repaired. Accordingly, an allowance to perform maintenance on previously installed equipment has been included in this Task. Also, in the event a sampling pump fails or is found to be no longer adequate due to declining groundwater levels, an allowance of $900 to purchase a replacement sampling pump has been included in this Task. Improvements to the QA/QC program for the water quality sampling work were adopted in mid-2017 and will be included in this work in 2022.
I. 2. b. 4 Update Program Schedule and Standard Operating Procedures. ($0)	All recommendations from prior reviews of the data collection program have been implemented. No additional work of this type is anticipated in 2022.
I. 2. b. 5 Monitor Well Construction ($0)	A well to replace Monitoring Well FO-9 Shallow, which in 2021 was found to have a leaking casing, is expected to be installed in 2022. The costs for this work are included in the 2022 M&MP Capital Budget, and are not included in the 2022 Operations Budget.
I. 2. b. 6 Reports ($3,136)	This task was essentially eliminated starting in 2020 by having the data collected by MPWMD under tasks I.2.b.1, I.2.b.2, and I.2.b.3 reported in the SIAR under Task I.4.c. The work remaining under this task is for MPWMD to prepare and provide the data appendix to the Consultant that prepares the SIAR. No formalized reporting on a quarterly basis is required. However, MPWMD will promptly notify the Watermaster and the Consultant that prepares the SIAR of any missing data or data collection irregularities in the water quality and water level data collected under Tasks I.2.b.2 and I.2.b.3.
I.2.b.7 CASGEM Data Submittal ($4,704)	On the Watermaster's behalf MPWMD will compile and submit data on the Watermaster's "Voluntary Wells" into the State's CASGEM groundwater management database. The term "Voluntary Well" refers to a well that is not currently having its data reported into the CASGEM system, but for which the Watermaster obtains data. This will be done in the format and on the schedule required by the Department of Water Resources under the Sustainable Groundwater Management Act.
	I. 3 Basin Management
I. 3. a. Enhanced Seaside Basin Groundwater Model (Costs listed in subtasks below)	The Watermaster and its consultants use a Groundwater Model for basin management purposes.

I.3.a.1 **Update the Existing Model** **($0)**	The Model, described in the report titled "Groundwater Flow and Transport Model" dated October 1, 2007, was updated in 2009 in order to develop protective water levels, and to evaluate replenishment scenarios and develop answers to Basin management questions. The Model was again updated in 2014. In 2018 the Model was recalibrated and updated. No further work of this type is anticipated in 2022.
I. 3. a. 2 **Develop Protective Water Levels** **($0)**	A series of cross-sectional models was created in 2009 in order to develop protective water levels for selected production wells, as well as for the Basin as a whole. This work is discussed in Hydrometrics' "Seaside Groundwater Basin Protective Water Elevations Technical Memorandum." In 2013 further work was started to refine these protective water levels, but it was found that the previously developed protective water levels were reasonable. Protective water levels will be updated, if appropriate, as part of the work of Task I.3.c.
I. 3. a. 3 **Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions** **($60,000)**	In 2009 the updated Model was used to evaluate different scenarios to determine such things as the most effective methods of using supplemental water sources to replenish the Basin and/or to assess the impacts of pumping redistribution. This work is described in HydroMetrics' "Seaside Groundwater Basin Groundwater Model Report." In 2010, and again in 2013, HydroMetrics used the updated Model to develop answers to some questions associated with Basin management. Modeling performed to date indicates that the solution to the problem of water levels in the Seaside Basin being below Protective Water Levels will be to inject replenishment water. Within the next few years there may be the ability of either of two projects to provide additional water for Basin replenishment. One of these is the Monterey Peninsula Water Supply Project's (MPWSP) desalination plant. The other is the Pure Water Monterey (PWM) Expansion Project. Growth is built into each of these projects' plant capacity, and the full capacity of these plants will likely not all be needed for some years into the future. During the time period that these projects would have excess capacity, they could potentially provide water for Basin replenishment. Montgomery & Associates agrees that injection is the quickest way to bring groundwater levels up in the Seaside Basin. The original 3,500 AFY PWM Project is already in operation, and construction of either the MPWSP desalination plant or the PWM Expansion Project is expected to begin within the next few years. Modeling to determine the additional amount of replenishment water needed to achieve protective groundwater level elevations throughout the Basin, after either or both of those projects are constructed, would be performed to aid the Watermaster in pursuing approaches to obtain that additional water for Basin replenishment. Based on input from Montgomery & Associates it is expected to cost about $40,000 to update the earlier replenishment water modeling that was performed in 2013. Hence, this Task includes a $40,000 allowance to perform this modeling, if so directed by the Watermaster Board.

	Modeling performed in 2014, 2015, and 2016 led to the conclusion that groundwater levels in parts of the Laguna Seca Subarea will continue to fall, even if all pumping within that subarea is discontinued, because of the influence of pumping from areas near to, but outside of, the Basin boundary. Additional modeling work may be performed in 2022 after the Groundwater Sustainability Plan for the Monterey Subbasin (being jointly prepared by the Salinas Valley Basin and the Marina Coast Water District Groundwater Sustainability Agencies) to further examine this situation. This Task provides a $20,000 allowance to perform modeling or other work to develop answers to basin management questions, if so directed by the Watermaster Board.
I. 3. b. **Complete Preparation of Basin Management Action Plan** **($0)**	The Watermaster's Consultant completed preparation of the Basin Management Action Plan (BMAP) in February 2009. The BMAP serves as the Watermaster's long-term seawater intrusion prevention plan. The Sections that are included in the BMAP are: Executive Summary Section 1 – Background and Purpose Section 2 – State of the Seaside Groundwater Basin Section 3 – Supplemental Water Supplies Section 4 –Groundwater Management Actions Section 5 – Recommended Management Strategies Section 6 – References
I. 3. c. **Refine and/or Update the Basin Management Action Plan** **($0)**	In 2019 the BMAP was updated based on new data and knowledge that has been gained since it was prepared in 2009. No further work of this type is anticipated in 2022. However, although no funds are budgeted for this Task in 2022, at some point after the Groundwater Sustainability Plan (GSP) for the adjacent Monterey Subbasin of the Salinas Valley Groundwater Basin is completed, it may be appropriate to further update the BMAP to reflect the impacts of implementing that GSP. That GSP is scheduled to be completed by early 2022.
I. 3. d. **Evaluate Coastal Wells for Cross-Aquifer Contamination Potential** **($0)**	If seawater intrusion were to reach any of the coastal wells in any aquifer, and if a well was constructed without proper seals to prevent cross-aquifer communication, or if deterioration of the well led to casing leakage, it would be possible for the intrusion to flow from one aquifer to another. An evaluation of this was completed in 2012 and is described in MPWMD's Memorandum titled "Summary of Seaside Groundwater Basin Cross-Aquifer Contamination Wells Investigation Process and Conclusions" dated August 8, 2012. This Memorandum did not recommend performing any further work on this matter, other than to incorporate into the Watermaster's Database data from wells that were

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newly identified by the work performed in 2012. That data has now been incorporated into the Database. In 2021 the Watermaster TAC examined the feasibility of performing conductivity profiling of certain of the near-coastal wells that were evaluated in the 2012 Memorandum, as a method of determining if any of those wells was allowing downward migration of intruded water from the shallow dunes aquifer to enter the Paso Robles aquifer. However, it was concluded that conditions in those wells would make it infeasible to perform such work.

In late 2017 a request was made to MPWMD to destroy one of its no-longer-used monitoring wells that is perforated in multiple aquifers (Well PCA-East Multiple). MPWMD performed this work in 2018.

No further work of this type is anticipated in 2022.

I.3. e.
Seaside Basin Geochemical Model
($10,000)

When new sources of water are introduced into an aquifer, with each source having its own unique water quality, there can be chemical reactions that may have the potential to release minerals which have previously been attached to soil particles, such as arsenic or mercury, into solution and thus into the water itself. This has been experienced in some other locations where changes occurred in the quality of the water being injected into an aquifer. MPWMD's consultants have been using geochemical modeling to predict the effects of injecting Carmel River water into the Seaside Groundwater Basin under the ASR program.

In order to predict whether there will be groundwater quality changes that will result from the introduction of desalinated water and additional ASR water (under the Monterey Peninsula Water Supply Project) and advance-treated water (under the Pure Water Monterey Project) geochemical evaluations, and potentially modeling, will be performed in the areas of the Basin where injection of these new water sources will occur.

In 2019 a geochemical evaluation of introducing advance-treated water from the Pure Water Monterey Project was performed. That evaluation concluded that there would be no adverse geochemical impacts as a result of introducing that water into the Basin. A similar evaluation of the impact of introducing ASR water also concluded that there would be no adverse geochemical impacts. An evaluation of introducing desalinated water will be performed, if the Monterey Peninsula Water Supply Project's desalination plant proceeds into the construction phase.

If the geochemical evaluation of injecting desalinated water indicates the potential for problems to occur, then Montgomery and Associates may use the Watermaster's updated groundwater model, and information about injection locations and quantities, injection scheduling, etc. provided by MPWMD for each of these projects, to develop model scenarios to see if the problem(s) can be averted by changing delivery schedules and delivery quantities. This Task includes an allowance of $10,000 to have Montgomery and Associates perform such modeling, if necessary.

	If the modeling predicts that there may be adverse impacts from introducing these new sources of water, measures to mitigate those impacts will be developed under a separate task that will be created for that purpose when and if necessary.

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

I. 4. a. **Oversight of Seawater Intrusion Detection and Tracking** **($0)**	Consultants will provide general oversight over the Seawater Intrusion detection program under the other Tasks in this Work Plan.
I. 4. c. **Annual Report- Seawater Intrusion Analysis** **($26,290)**	At the end of each water year, a Consultant will reanalyze all water quality data. Water level and water quality data will be provided to the Consultant in MS Access format. The Consultant will put this data into a report format and will include it as an attachment to the Seawater Intrusion Analysis Report. If possible, semi-annual chloride concentration maps will be produced for each aquifer in the basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. The annual EM logs will be analyzed to identify changes in seawater wedge locations. All analyses will be incorporated into an annual report that follows the format of the initial, historical data report. Potential seawater intrusion will be highlighted in the report, and if necessary, recommendations will be included. The annual report will be submitted for review by the TAC and the Board. Modifications to the report will be incorporated based on input from these bodies, as well as Watermaster staff.
I. 4. e. **Refine and/or Update the Seawater Intrusion Response Plan** **($0)**	At the beginning of 2009, and again in 2021, it was thought that it might be beneficial or necessary to perform work to refine the SIRP and/or to update it based on new data or knowledge that was gained subsequent to the preparation of the SIRP. However, this did not prove to be necessary, and no further work of this type is anticipated in 2022.
I. 4. f. **If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan** **($0)**	The SIRP will be implemented if seawater intrusion, as defined in the Plan, is determined by the Watermaster to be occurring.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	6
AGENDA TITLE:	Approve the FY 2022 Monitoring and Management Program (M&MP) Operations and Capital Budgets
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Attached are the proposed M&MP Operations and Capital Budgets for 2022 and 2023. The Board has asked that two-year budgets be developed to alert the Board to potential changes in scope and/or cost in near future years. Only the 2022 budgets are before the TAC for approval, the 2023 budgets are for information only.

The following are comments and/or principal revisions from the 2021 M&MP Budget:

Technical Program Manager: Due to the large number of meetings being held by the Salinas Valley Basin's and Marina Coast Water District's Groundwater Sustainability Agency's committees that I serve on representing the Watermaster, and the increasing work associated with working toward obtaining replenishment water to protect the Seaside Basin against the threat of seawater intrusion, the budget amount for the Technical Program Manager had to be increased in 2021 through a mid-year budget amendment from an initial $60,000 to $95,000. I anticipate that this increased workload will begin to reduce in 2022 after the Monterey Subbasin GSP has been completed. Therefore, the proposed line-item budget amount has been reduced to $75,000 in 2022.

Tasks M.1.c, M.1.d, and M.1.e (On-call/as-needed Consulting Services): In 2020 and again in 2021 we have needed a greater amount of assistance from Montgomery and Associates in evaluating a number of different issues that have come before the TAC, than has been the case in prior years. In 2022 there will be some hourly rate increases for the Montgomery and Associates staff that will likely be the ones to provide on-call/as-needed hydrogeological consulting services under Tasks M.1.c, M.1.d, and M.1.e (Derrik Williams, Pascual Benito, and Georgina King). I also anticipate that there may be an ongoing need for a greater amount of services in 2022, and have accordingly increased the on-call consulting services allowance for this budget line-item.

Task M.1.g (SGMA Documentation Preparation): Although the scope of work for this Task is unchanged from 2021, in 2022 there will be some hourly rate increases for the Montgomery and Associates staff that perform this work. Therefore, the amount proposed for 2022 is slightly increased from 2021 amount.

Tasks I.2.a.1 (Conduct Ongoing Data Entry/ Database Maintenance/Enhancement), I.2.b.2 (Collect Water Levels), and I.2.b.3 (Collect Quarterly Water Quality Samples and Perform Sentinel Well Induction Logging): Although the scope of work for these Tasks is essentially unchanged from 2021, in 2022 there will be significant hourly rate increases for the MPWMD staff that perform this work, and additional charges for direct and indirect MPWMD costs associated with performing this work. Also, under the new Scope of Work being used with MPWMD under the new Master Agreement starting in

AGENDA ITEM:	**6 (Continued)**

2022, some of the cost allocations between their work on these Tasks is slightly different than in 2021. The proposed cost for the induction logging work that is performed by Mr. Feeney and his subcontractor in Task I.2.b.3 is slightly higher than it was in 2021. This is because more maintenance work on the Sentinel wells is anticipated in 2022, and the induction logging contractor's costs have gone up.

Therefore, the amounts proposed for these Tasks in 2022 differ significantly from the 2021 amounts, and are generally higher than they were in 2021.

Task I.2.b.6 (Reports): Although the scope of work for this Task is unchanged from 2021, in 2022 there will be hourly rate increases for the MPWMD staff that perform this work. Therefore, the amount proposed for 2022 is slightly increased from 2021 amount.

Task I.2.b.7 (CASGEM Data Submittal for Watermaster's Voluntary Wells): MPWMD has been able to reduce the amount of time needed to format and submit this data to DWR in 2022 to comply with the SGMA requirements for adjudicated basins. Even with MPWMD's hourly rate increases, it has been possible to reduce the budget for this Task in 2022 from the amount budgeted in 2021.

Task I.3.a.3 (Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions): Included in Task I.3.a.3 is $40,000 to perform work to update modeling performed in 2013 pertaining to injection of water to raise groundwater levels. This additional work was initially proposed for 2020, but was removed based on input from Todd Groundwater and Montgomery & Associates that pointed out that if all the water injected by the PWM and desalination plant projects is subsequently extracted, there would be little if any net increase in groundwater levels. Reinstating that work was proposed for 2021 in order to work on getting additional water above and beyond that which would be injected by the desalination plant or the PWM Expansion Project (depending on which of these moves forward to construction) and not extracted, in order to raise groundwater levels to protective elevations Basinwide. However, in the event the Board decides to defer this work until 2022, funds to perform that work have been included in the 2022 budget for this Task. If the Board proceeds with that work in 2021, the scope and budget for this Task in 2022 will delete that work.

Task I.4.c (Annual Report- Seawater Intrusion Analysis): Although the scope of work for this Task is essentially unchanged from 2021, Montgomery & Associates has been able to slightly reduce its costs to prepare the 2022 Seawater Intrusion Analysis Report, and no costs for MPWMD to perform work under this Task is anticipated. Therefore, the amount proposed for 2022 is lower than the 2021 amount.

As indicated by the right-hand column titled "Comparative Costs from 2021 Budget" in the proposed 2022 M&MP Operations Budget in Attachment 1, the proposed 2022 Budget is $30,809 higher ($314,878-$284,069) than the 2021 Budget. However, if the replenishment water modeling update work in Task I.3.a.3 is performed 2021 rather than in 2022, the 2022 Budget will be $9,191 lower than the 2021 Budget.

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

AGENDA ITEM:	**6 (Continued)**

Following TAC approval of the 2022 M&MP and Budgets, they will be forwarded to the Budget and Finance Committee and then to the Board for approval.

It is anticipated that a new well to replace monitoring well FO-9 Shallow will be constructed in 2022. The 2022 M&MP Capital Budget includes the estimated Watermaster cost to perform that work.

ATTACHMENTS:	1. 2022 and 2023 M&MP Operations Budgets 2. 2022 and 2023 M&MP Capital Budgets
RECOMMENDED ACTION:	Approve, or make changes to, the attached Budgets and then recommend these for approval by the Board

Monitoring and Management Program Operations Budget
For Tasks to be Undertaken in 2022

Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS[3]			Total	Comparative Costs from 2021 Budget
				MPWMD	Private Consultants	Contractors		
			Labor					
			Technical Project Manager[18]	$0	$75,000	$0	$75,000	$60,000
M.1 Program Administration								
	M.1.a		Project Budget and Controls	$0	$0	$0	$0	$0
	M.1.b		Assist with Board and TAC Agendas	$0	$0	$0	$0	$0
	M.1.c, M.1.d, & M.1.e		Preparation for and Attendance at Meetings and Peer Review of Documents and Reports[8]	$0	$27,560	$0	$27,560	$23,000
	M.1.f		QA/QC	$0	$0	$0	$0	$0
	M.1.g		SGMA Documentation Preparation	$0	$2,380	$0	$2,380	$2,320
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed in Phase 1)								
I.2 Production, Water Level and Quality Monitoring								
	I. 2. a.		Database Management					
		I. 2. a. 1.	Conduct Ongoing Data Entry/ Database Maintenance/Enhancement[15]	$20,776	$2,400	$0	$23,176	$17,004
		I. 2. a. 2.	Verify Accuracy of Production Well Meters	$0	$0	$0	$0	$0
	I. 2. b.		Data Collection Program					
		I. 2. b. 1.	Site Representation and Selection[7]	$0	$0	$0	$0	$0
		I. 2. b. 2.	Collect Water Levels[6]	$21,490	$0	$0	$21,490	$3,726
		I. 2. b. 3.	Collect Quarterly Water Quality Samples and Perform Sentinel Well Induction Logging[1][5]	$18,770	$0	$20,565	$39,335	$42,101
		I. 2. b. 4.	Update Program Schedule and Standard Operating Procedures.	$0	$0	$0	$0	$0
		I. 2. b. 5.	Monitor Well Construction[7]	$0	$0	$0	$0	$0
		I. 2. b. 6.	Reports	$3,136	$0	$0	$3,136	$2,086
		I. 2. b. 7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	$4,704	$0	$0	$4,704	$5,960
I.3 Basin Management								
	I. 3. a.		Enhanced Seaside Basin Groundwater Model	(Costs Shown in Subtasks Below)				
		I. 3. a. 1	Update the Existing Model[11]	$0	$0	$0	$0	$0
		I. 3. a. 2	Develop Protective Water Levels[12]	$0	$0	$0	$0	$0
		I. 3. a. 3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions[10]	$0	$60,000	$0	$60,000	$70,000
	I. 3. b.		Complete Preparation of Basin Management Action Plan	$0	$0	$0	$0	$0
	I. 3. c.		Refine and/or Update the Basin Management Action Plan	$0	$0	$0	$0	$0
	I. 3. d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	$0	$0	$0	$0	$0
	I. 3. e		Seaside Basin Geochemical Model[13]	$0	$10,000	$0	$10,000	$10,000
I.4 Seawater Intrusion Contingency Plan								
	I. 4. a.		Oversight of Seawater Intrusion Detection and Tracking[17]	$0	$0	$0	$0	$0
	I. 4. c.		Annual Report- Seawater Intrusion Analysis[16]	$0	$26,290	$0	$26,290	$27,502
	I. 4. e.		Refine and/or Update the Seawater Intrusion Response Plan[2] [9]	$0	$0	$0	$0	$0
	I. 4. f.		If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan[2]	(No Costs are Included for This Task, as This Task Will Likely Not be Necessary During 2021. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)				
		TOTALS CONSULTANTS & CONTRACTORS		**$68,876**	**$128,630**	**$20,565**		
			SUBTOTAL not including Technical Program Manager =				$218,071	$203,699
			Contingency (not including Technical Program Manager) @ 10%[4]=				$21,807	$20,370
			Technical Program Manager =				$75,000	$60,000
			TOTAL[19]=				**$314,878**	**$284,069**

Footnotes:

(1) Under this Subtask the Watermaster will directly contract with an outside contractor to perform the Sentinel Well induction logging work, and to also collect water level data in conjunction with doing the induction logging. MPWMD will perform the other portions of the work of this

(2) The response plan would only be implemented in the event sea water intrusion is determined to be occurring.

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

(4) Due to the uncertainties of the exact scopes of some of the larger Tasks listed above at the time of preparation of this Budget it is recommended that a Contingency of approximately 10% be included in the Budget.

(5) The MPWMD portion of this Task includes: (1) $900 to purchase a new sampling pump if an existing one needs to be replaced, (2) $476 for vehicle mileage costs for both this Task and Task I.2.b.2, (3) $6,200 for laboratory analytical costs, (4) $150 for CO2 bottles to run the sample pumps, and (5) $504 of administrative support costs for preparing billings and processing invoices from the water quality laboratory.

(6) Does not include costs for MPWMD to collect water level data or water quality samples from wells other than those that are part of the basic monitoring well network, i.e. for private well owners who have requested that the Watermaster obtain this data for them. Costs to obtain that data are to be reimbursed to the Watermaster by those well owners, so there should be no net cost to the Watermaster for that portion of the work under these Tasks. Includes the purchase and installation of one new replacement datalogger at a price of $850 including installation parts, or to keep in inventory as a spare if needed,

(7) A replacement for monitoring well FO-9 Shallow is expected to be constructed in 2022. The costs for this work are contained in the Capital Budget for 2022 and no costs for it are included in the Operations Budget for 2022.

(8) This cost is for Montgomery and Associates, Todd Groundwater, and Martin Feeney to provide hydrogeologic consulting assistance to the Watermaster, beyond that associated with performing other specified Tasks, when requested to do so by the Technical Program Manager. This work may include, but not be limited to, participation in conference calls and reviewing documents prepared by others.

(9) If work under this Task is found to be necessary, it will be funded through the Contingency line item in this Budget.

(10) The 2021 budget line-item for this Task included doing replenishment water updated modeling for an estimated $50,000. A cost proposal for this work was received and it was found that this work could be performed for approximately $40,000.The 2021 budget also included $20,000 for evaluating other issues the Board might wish to evaluate. Depending on direction from the Board, the replenishment modeling update work may be performed in 2021. If so, the funds in this Task would only be used if there were other issues the Board wished to evaluate and which were not covered in the updated BMAP, and the budget amount for this Task would be reduced from $60,000 to $20,000.

(11) The Model was updated and recalibrated in 2018, so no costs for this Task are anticipated in 2022.

(12) The protective water levels developed in 2009 were examined in 2013 to see if they needed to be updated. It was concluded that the 2009 protective levels were still satisfactory for Basin management purposes, and that no revisions were needed. No work under this Task is anticipated in 2022.

(13) This was a new Task that was started in 2018, and was completed for the PWM AWT water in 2019. Funds allocated for this Task in 2022 would only be used if geochemical modeling is performed in 2022 for the MPWSP desalination plant water, and if that modeling indicates the need to have Montgomery and Associates use the Seaside Basin groundwater model to provide additional information needed by the geochemical model to develop miitgation measures for any adverse water quality impacts the geochemical model predicts could occur from introducing desalinated water into the Basin.

(14) This Task is included to provide funds for the Watermaster to perform modeling and other investigative work to aid in making Basin management decisions.

(15) Includes $200/month for an outside consultant to maintain the Watermaster's website and post documents on it. Also includes $1,960 for MPWMD to respond to requests from consultants and others for data from the database.

(16) MPWMD's costs to assist in this Task are included in its costs under Task I.2.b.6.

(17) MPWMD's and Montgomery & Associates' costs to provide oversight in this Task are included under their other Tasks.

(18) The amount originally budgeted for the Technical Program Manager in 2021 was $60,000. However, this was increased to $95,000 by a budget amendment in mid-year when it became apparent that more work needed to be done than was originally anticipated.

(19) As noted in footnote 10, the Total Cost for the 2022 M&MP budget would be reduced by $40,000 if the replenishment water modeling update is performed in 2021.

Monitoring and Management Program Operations Budget

For Tasks to be Undertaken in 2023[12]

Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS[3]			Total
				MPWMD	Private Consultants	Contractors	
Labor							
			Technical Project Manager	$0	$75,000	$0	$75,000
M.1 Program Administration							
	M.1.a		Project Budget and Controls	$0	$0	$0	$0
	M.1.b		Assist with Board and TAC Agendas	$0	$0	$0	$0
	M.1.c, M.1.d, & M.1.e		Preparation for and Attendance at Meetings and Peer Review of Documents and Reports[8]	$0	$28,387	$0	$28,387
	M.1.f		QA/QC	$0	$0	$0	$0
	M.1.g		SGMA Documentation Preparation	$0	$2,451	$0	$2,451
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed in Phase 1)							
I.2 Production, Water Level and Quality Monitoring							
	I. 2. a.		Database Management				
		I. 2. a. 1.	Conduct Ongoing Data Entry/ Database Maintenance/Enhancement	$21,399	$2,472	$0	$23,871
		I. 2. a. 2.	Verify Accuracy of Production Well Meters	$0	$0	$0	$0
	I. 2. b.		Data Collection Program				
		I. 2. b. 1.	Site Representation and Selection[7]	$0	$0	$0	$0
		I. 2. b. 2.	Collect Monthly Water Levels[6]	$22,135	$0	$0	$22,135
		I. 2. b. 3.	Collect Quarterly Water Quality Samples[1][5][6]	$19,333	$0	$21,182	$40,515
		I. 2. b. 4.	Update Program Schedule and Standard Operating Procedures.	$0	$0	$0	$0
		I. 2. b. 5.	Monitor Well Construction[7]	$0	$0	$0	$0
		I. 2. b. 6.	Reports	$3,230	$0	$0	$3,230
		I. 2. b. 7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	$4,845	$0	$0	$4,845
I.3 Basin Management							
	I. 3. a.		Enhanced Seaside Basin Groundwater Model	(Costs Shown in Subtasks Below)			
		I. 3. a. 1	Update the Existing Model	$0	$0	$0	$0
		I. 3. a. 2	Develop Protective Water Levels	$0	$0	$0	$0
		I. 3. a. 3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions	$0	$20,000	$0	$20,000
	I. 3. b.		Complete Preparation of Basin Management Action Plan	$0	$0	$0	$0
	I. 3. c.		Refine and/or Update the Basin Management Action Plan [11]	$0	$0	$0	$0
	I. 3. d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential[13]	$0	$0	$0	$0
	I. 3. e		Seaside Basin Geochemical Model[14]	$0	$0	$0	$0
I.4 Seawater Intrusion Contingency Plan							
	I. 4. a.		Oversight of Seawater Intrusion Detection and Tracking	$0	$0	$0	$0
	I. 4. b.		Analyze and Map Water Quality from Coastal Monitoring Wells	(Costs Included Under I.4.a)			
	I. 4. c.		Annual Report- Seawater Intrusion Analysis	$0	$27,079	$0	$27,079
	I. 4. e.		Refine and/or Update the Seawater Intrusion Response Plan[2][9]	$0	$0	$0	$0
	I. 4. f.		If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan[2]	(No Costs are Included for This Task, as This Task Will Likely Not be Necessary During 2019. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)			
		TOTALS CONSULTANTS & CONTRACTORS		**$70,942**	**$80,389**	**$21,182**	
						SUBTOTAL not including Technical Program Manager =	$172,513
						Contingency (not including Technical Program Manager) @ 10%[4]=	$17,251
						Technical Program Manager	$75,000
						TOTAL=	**$264,764**

Footnotes:						
(1) Under this Subtask the Watermaster will directly contract with an outside contractor to perform the Sentinel Well induction logging work, and to also collect water level data in conjunction with doing the induction logging. MPWMD will perform the other portions of the work of this Subtask.						
(2) The response plan would only be implemented in the event sea water intrusion is determined to be occurring.						
(3) Within the context of this document the term "Consultant" refers either to a Private Consultant providing professional engineering or other types of technical services, or to the Monterey Peninsula Water Management District (MPWMD). The term "Contractor" refers to a firm providing construction or field services such as well drilling, induction logging, or meter calibration.						
(4) Due to the uncertainties of the exact scopes of some of the Tasks listed above at the time of preparation of this Budget, it is recommended that a 10% Contingency be included in the Budget.						
(5) A portion of this cost is for maintaining sampling equipment that was installed in prior years.						
(6) Does not include costs for MPWMD to collect water level data or water quality samples from wells other than those that are part of the basic monitoring well network, i.e. for private well owners who have requested that the Watermaster obtain this data for them. Costs to obtain that data are to be reimbursed to the Watermaster by those well owners, so there should be no net cost to the Watermaster for that portion of the work under these Tasks.						
(7) No additional monitoring well is expected to be constructed in 2023.						
(8) For Montgomery and Associates, Todd Groundwater, and Martin Feeney to provide hydrogeologic consulting assistance to the Watermaster, beyond that associated with performing other specified Tasks, when requested to do so by the Technical Program Manager.						
(9) If work under this Task is found to be necessary, it will be funded through the Contingency line item in this Budget.						
(10) Not used.						
(11) If necessary to reflect knowledge gained from modeling work or other data sources. Since the BMAP was updated in 2018, no work on this Task is anticipated in 2022.						
(12) Includes a 3% inflation factor on most annually recurring costs in the 2022 Budget, except the Technical Program Manager cost which has no inflation factor applied to it.						
(13) No further work on this Task is anticipated in 2023.						
(14) It is assumed that all work of this Task will be completed in 2022.						

Monitoring and Management Program Capital Budget For Tasks to be Undertaken in 2022

A replacement for monitoring well FO-9 Shallow is expected to be constructed in 2022. All costs including consultants for design and the well drilling contractor for construction are included in this Capital Budget. It is assumed that there will be a 3-way cost sharing agreement between the Watermaster, MPWMD, and MCWD for that work. MPWMD estimated the cost of a replacement well with a depth of 600 feet would be approximately $114K, based on an estimated per-foot cost of $140 and a construction supervision cost of $30K. Mr. Feeney estimated it would cost about $280 per-foot, which would increase the MPWMD estimated cost to $198K. The amount budgeted for this Task is based on a 3-way share of an estimated cost of $200K, with the Watermaster's share being $66,667.

Monitoring and Management Program Capital Budget For Tasks to be Undertaken in 2023

No Capital projects are anticipated to be undertaken in 2023, so this budget is $0.

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

MEETING DATE:	August 11, 2021
AGENDA ITEM:	7
AGENDA TITLE:	Approve Initial RFSs for Montgomery & Associates, MPWMD, Martin Feeney, and Todd Groundwater for 2022
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 during 2022. Each of these 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.

In mid-2021 MPWMD requested changing from the PSA format to a new format of Master Agreement they had created. 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 2022 work assignments for each of these consultants as follows:

- Montgomery & Associates RFS No. 2022-01 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. 2022-02 covering their preparing the 2022 SIAR.
- MPWMD SOW No. 2022-01 covering their anticipated 2022 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. 2022-01 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. 2022-02 covering his providing general hydrogeologic consulting services.
- Todd Groundwater RFS No. 2022-01 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 2022, 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 2022 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 2022. 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:	7 (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, in order to ensure the contacts can be in effect at the start of 2022.

ATTACHMENTS:	6 - Proposed Consultant Contracts for FY 2022 (2 RFSs – Montgomery & Associates, 2 RFSs – 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, 2022

RFS NO. 2022-01
(To be filled in by WATERMASTER)

TO: Hale Barter
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, 2022, 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: $21,940.00 (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 2022 Monitoring and Management Program (M&MP) to which this RFS No. 2022-01 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.

$19,560 in labor, travel, and incidental costs of this RFS No. 2022-01 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. 2022-01.

$2,380 in labor costs of this RFS No. 2022-01 are allocated to performing work for Task M.1.g.

All work under this RFS No. 2022-01 will be billed at the following hourly rates, including all markups and other direct costs:

Derrik Williams = $265.00/hour Georgina King = $220.00/hour Staff = $155.00/hour

The total cost authorized by this RFS No. 2022-01 is $21,940.00.

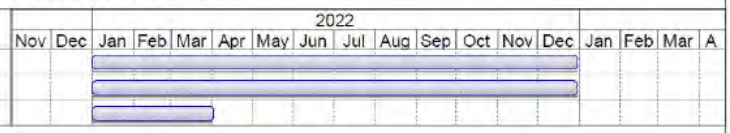
These costs are summarized in the table below.

Task	Hours			Costs		
	Derrik Williams $265/hr	Georgina King $220/hr	Staff $155/hr	Consulting Fees	Expenses	Total Costs
Prepare 2022 Change in Storage Calculation per SGMA Requirements	0	8	4	$2,380	$0	$2,380
General Consulting	24	60	0	$19,560	$0	$19,560
TOTALS	**24**	**68**	**4**	**$21,940**	**$0**	**$21,940**

ATTACHMENT 2
SCHEDULE

Montgomery & Associates RFS No. 2022-01
Work Schedule

ID	Task Name
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 2022-01 Schedule 7-19-21.mpp Page 1

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 1/1/2022

RFS NO. 2022-02
(To be filled in by WATERMASTER)

TO: Hale Barter
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Prepare the Seawater Intrusion Analysis Report for 2022. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2022, 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: $ 26,290.00 (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 2022 Seawater Intrusion Analysis Report (SIAR).

To promote efficiency, much of the text and graphics from the 2021 SIAR will be incorporated directly into the 2022 SIAR.

Preparing the 2022 SIAR will involve analyzing all water quality data at the end of Water Year 2022 (October 1, 2021 to September 30, 2022) and producing semi-annual (2^{nd} and 4^{th} quarters 2022) 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.

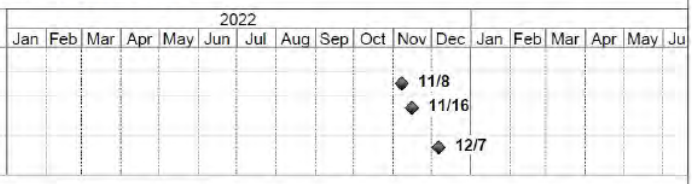
Water level and water quality data for WY 2022 will be provided to PROFESSIONAL in MS Access format. PROFESSIONAL will put this data into a report format and will include it as an attachment to the 2022 SIAR.

A Draft 2022 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 2022 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. PROFESSIONAL will provide to WATERMASTER both a PDF and MS Word version of the final report. No printed copies of the 2022 SIAR will be required.

ATTACHMENT 2

Montgomery & Associates RFS No. 2022-02
Work Schedule

ID	Task Name
1	**I.4.c Annual Seawater Intrusion Analysis Report (SIAR)**
2	HydroMetrics Provides Draft SIAR to Watermaster
3	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)
4	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)



Montgomery RFS No 2022-02 Schedule A 7-19-21.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.

2022 Seawater Intrusion Analysis Report

Task	Hours		Costs		
	Georgina King	Staff	Consulting Fees	Expenses	Total Costs
	$220/hr	$155/hr			
Prepare 2022 SIAR, including added appendices for groundwater levels and quality	32	108	$23,780	$0	$24,430
Prepare for and Attend One TAC Meeting and One Board Meeting Online	10	2	$2,510	$0	$2,510
TOTALS	**42**	**110**	**$26,290**	**$0**	**$26,290**

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2022 **RFS NO.** 2022-01
(To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose:
Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2022 (See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2022-01 shall be completed in accordance with the schedule described in Attachment 1.

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

Total Price Authorized by this RFS: $ 20,565.00 (See Attachment 2 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 V. COMPENSATION.

Authorized by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2022-01

Background:
Performance of the work of RFS No. 2022-01 will require compliance with the State Department of Parks and Recreation Right of Entry Permit contained in Attachment 3. PROFESSIONAL agrees to comply with the requirements of the Right of Entry Permit in conjunction with PROFESSIONAL's performance of this work.

Scope of Work
This RFS No. 2022-01 authorizes PROFESSIONAL to perform the work described in PROFESSIONAL's Proposal for Hydrogeologic Services, dated August 2, 2021 and contained in Attachment 2, with the following clarifications and/or additions:

PROFESSIONAL will collect water level data from the wells identified as SBWM-1, SBWM-2, SBWM-3, and SBWM-4. PROFESSIONAL will also perform induction logging on each of these wells. These wells are commonly referred to as WATERMASTER's Sentinel Wells. Water level data collection and induction logging will be performed on each of these wells as described below and according to the schedule described below:

Induction Logging
Induction logging will be performed on each of the four Sentinel Wells semi-annually in March and September.

Water Level
Water levels in each of the four Sentinel Wells will be continuously measured by data loggers and will be downloaded semi-annually when induction logging is being performed.

PROFESSIONAL will transmit the digital water level data to the Monterey Peninsula Water Management District (MPWMD), Montgomery and Associates, and to the WATERMASTER promptly after the data is acquired, so that (1) MPWMD can use that data in preparing its reports to the WATERMASTER and (2) Montgomery and Associates and the WATERMASTER will be made promptly aware of the data. Digital induction data will also be provided to MPWMD, Montgomery and Associates, and to the WATERMASTER as soon as it becomes available to PROFESSIONAL. Digital induction data will also be reduced and presented graphically and provided to Montgomery and Associates for use by Montgomery and Associates in preparing reports for the WATERMATER.

ATTACHMENT 2

Martin B. Feeney
Consulting Hydrogeologist

P.G. 4634
C.E.G. 1454
C.Hg 145

August 2, 2021

Seaside Basin Watermaster
PO Box 51502
Pacific Grove CA.
93950

Attention: Bob Jaques, PE

Subject: Sentinel Well Data Collection Program 2022 – Proposal for Hydrogeologic Services

Dear Bob:

Following up on our discussions, I'm pleased to provide this proposal to assist the Seaside Basin Watermaster (Watermaster) with data collection from the Sentinel Wells for the upcoming year. Presented in this proposal is an outline of the data collection plan and an estimate of associated costs.

The data collection program for the Sentinel Wells will continue as it has been performed since the last half of 2017. The data collection program currently includes semi-annual induction logging and continuous water level data collection. The program previously included depth-specific downhole water quality sampling, however, the data proved unreliable and this portion of the program was terminated. The subcontractor for the induction logging remains unchanged.

The components of this program are as follows:

Data collection from each well:

- Semi-Annual down-loading of water level data logger.
- Semi-Annual induction logging (March and September)
- Transmittal of water level data to Monterey Peninsula Water Management District personnel.
- Processing of induction log data and presentation

The well vaults that protect the Sentinel Wells continue to need maintenance to remain functional. This could include painting of the vault covers, repairing stripped threads for the bolts that hold down the covers, and general cleaning. Costs of these services are included in this proposal.

It is understood that, as in the past, the Monterey Peninsula Water Management District (District) will share some of the data collection and analysis tasks of the overall data collection program. The District will collect water level data from the array of data loggers on the alternate quarters. Water level data from the data loggers will be collected as part of this scope of services only when induction logging is performed. Collected water level data will be transmitted to the District for compilation and processing. Induction logging data will continue to be compiled and processed by this author.

Annual costs for the data collection program are estimated at $ 20,565 inclusive of outside services. Cost is up from previous year due to an increase in the service charge and mileage for Pacific Surveys. Also the vaults are in bad shape and need maintenance. A breakdown of costs is presented in the table below.

P.O. Box 23240, Ventura, CA 93002 ♦ **Phone: 831-915-1115** ♦ e-mail mfeeney@ix.netcom.com

SENTINEL WELLS LOGGING/SAMPLING WL DATA COLLECTION PROGRAM
2022

Pacific Surveys	Unit Cost	Number	Semi-Annual Cost	# per annum	Annual Cost
Service Charge	1305	1	1305	2	$ 2,610.00
Induction Logging	0.75	5310	3982.5	2	$ 7,965.00
E-file generation/transmittal	115	1	115	2	$ 230.00
mileage	480	1	480	2	$ 960.00
					$ 11,765.00
Professional Services (hrs)					
Well Vault Maintainance	175	8	1400	1	$ 1,400.00
Supervise Logging/Download Data Loggers	175	12	2100	2	$ 4,200.00
Process Induction Data	200	4	800	2	$ 1,600.00
Transmit Water Level Data	200	2	400	2	$ 800.00
per diem	200	2	400	2	$ 800.00
					$ 8,800.00
				Total	$ 20,565.00

The opportunity to present this proposal is appreciated. Please call if you have any questions.

Sincerely,

Martin B. Feeney

ATTACHMENT 3

RIGHT OF ENTRY PERMIT	Agency: Department of Parks and Recreation Project: Fort Ord Dunes State Park – Monitoring Wells

This Right of Entry Permit (Permit) is made and entered into this 1st day of August 2020, between the State of California, acting by and through its Department of Parks and Recreation, hereinafter called State, and Seaside Groundwater Basin Watermaster hereinafter called Permittee; State and Permittee may hereinafter be referred to as a Party, or collectively the Parties.

RECITALS

- **Whereas**, the State owns, operates and maintains the State Park known as Fort Ord Dunes State Park, in the County of Monterey, State of California; and
- **Whereas**, Permittee has applied to State for permission to access Fort Ord Dunes State Park for purposes of carrying out Permittee's Monitoring Wells project (the Project); and
- **Whereas**, the State desires to accommodate Permittee's application for permission to enter Fort Ord Dunes State Park for purposes of the Project.

TERMS AND CONDITIONS

Now therefore, the State by this Permit hereby grants to the Permittee permission to enter upon State's property, conditioned upon the agreement of the Parties that this Permit does not create or vest in Permittee any interest in the real property herein described or depicted, that the Permit is revocable and non-transferable, and that the Permit is further subject to the following terms and conditions:

1. **Project Description:** By this Permit, the State hereby grants to the Permittee permission to enter onto those lands depicted and/or described on **Exhibit A** (the Property), attached hereto and herein incorporated by this reference, solely for the purpose of monitoring four (4) wells twice yearly, and as described in the completed Project Evaluation Form, **Exhibit B**, attached hereto.

2. **Permit Subject to Laws and Regulatory Agency Permits:** This Permit is expressly conditioned upon Permittee's obtaining any and all regulatory permits or approvals required by the relevant regulatory agencies for the Project and Permittee's use of the Property, and upon Permittee's compliance with all applicable municipal, state and federal laws, rules and regulations, including all State Park regulations. Permittee shall, at Permittee's sole cost and expense, comply with the Project Description, and requirements and mitigations contained in the Environmental Document.

   Prior to commencement of any work, Permittee shall obtain all such legally required permits or approvals and submit to the State full and complete copies of all permits and approvals, including documentation related to or referenced in such permits and approvals, along with the corresponding agency contact and telephone numbers, and related California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) documentation as applicable.

3. **Term of Permit:** This Permit shall only be for the period beginning on August 1, 2020, and ending on August 1, 2021, or as may be reasonably extended by written mutual agreement of the Parties.

4. **Consideration:** Fee waived.

5. **Permit Subject to Existing Claims:** This Permit is subject to existing contracts, permits, licenses, encumbrances and claims which may affect the Property.

6. **Waiver of Claims and Indemnity:** Permittee waives all claims against State, its officers, agents and/or employees, for loss, injury, death or damage caused by, arising out of, or in any way connected with the condition or use of the Property, the issuance, exercise, use or implementation of this Permit, and/or the rights herein granted. Permittee further agrees to protect, save, hold harmless, indemnify and defend State, its officers, agents and/or employees from any and all loss, damage, claims, demands, costs and liability which may be suffered or incurred by State, its officers, agents and/or employees from any cause whatsoever, arising out of, or in any way connected with this Permit, exercise by Permittee of the rights herein granted, Permittee's use of the Property and/or the Project for which this Permit is granted, except those arising out of the sole active negligence or willful misconduct of State. Permittee will further cause such indemnification

and waiver of claims in favor of State to be inserted in each contract that Permittee executes for the provision of services in connection with the Project for which this Permit is granted.

7. **Contractors:** Permittee shall incorporate the terms, conditions and requirements contained herein when contracting out all or any portion of the work permitted hereunder. Permittee shall be responsible for ensuring contractor/subcontractor compliance with the terms and conditions contained herein. Failure of Permittee's contractors to abide by State's terms and conditions shall constitute default by Permittee (see DEFAULT paragraph below) allowing State to terminate this Permit and seek all legal remedies.

8. **Insurance Requirements:** As a condition of this Permit and in connection with Permittee's indemnification and waiver of claims contained herein, Permittee shall maintain, and cause its contractors to maintain, a policy or policies of insurance as follows:

General Provisions Applying to All Policies

A. **Coverage Term** – Coverage needs to be in force for the complete term of the contract. If insurance expires during the term of the contract, a new certificate must be received by the State at least ten (10) days prior to the expiration of this insurance. Any new insurance must still comply with the original terms of the contract.

B. **Policy Cancellation or Termination & Notice of Non-Renewal** – Contractor is responsible to notify the State within five business days before the effective date of any cancellation, non-renewal, or material change that affects required insurance coverage. In the event Contractor fails to keep in effect at all times the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this Contract upon the occurrence of such event, subject to the provisions of this Contract.

C. **Deductible** – Contractor is responsible for any deductible or self-insured retention contained within their insurance program.

D. **Primary Clause** – Any required insurance contained in this contract shall be primary, and not excess or contributory, to any other insurance carried by the State.

E. **Insurance Carrier Required Rating** – All insurance companies must carry a rating acceptable to the Office of Risk and Insurance Management. If the Contractor is self-insured for a portion or all of its insurance, review of financial information including a letter of credit may be required.

F. **Endorsements** – Any required endorsements requested by the State must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.

G. **Inadequate Insurance** – Inadequate or lack of insurance does not negate the contractor obligations under the contract.

H. **Satisfying an SIR** - All insurance required by this contract must allow the State to pay and/or act as the contractor's agent in satisfying any self-insured retention (SIR). The choice to pay and/or act as the contractor's agent in satisfying any SIR is at the State's discretion.

I. **Available Coverages/Limits** - All coverage and limits available to the contractor shall also be available and applicable to the State.

J. **Subcontractors** - In the case of Contractor utilization of subcontractors to complete the contracted scope of work, contractor shall include all subcontractors as insured's under Contractor and insurance or supply evidence of insurance to The State equal to policies, coverages and limits required of Contractor.

COMMERCIAL GENERAL LIABILITY:
Commercial General Liability Insurance covering bodily injury and property damage in a form and with coverage that are satisfactory to the State. This insurance shall include personal and advertising injury liability, products and completed operations, and liability assumed under an insured contract. Coverage shall be written on an occurrence basis in an amount of not less than $1,000,000 per occurrence. Annual aggregate limit shall not be less than $2,000,000. **The State of California, its officers, agents, and employees are to be covered as additional insureds with respect to liability arising out of work or operations.**

AUTOMOBILE LIABILITY INSURANCE:

Automobile Liability Insurance covering all owned, non-owned, and hired vehicles with a combined single limit of not less than $1,000,000 for bodily injury and property damage. **The State of California, its officers, agents, and employees are to be covered as additional insureds with respect to liability arising out of work or operations.**

WORKERS COMPENSATION AND EMPLOYERS LIABILITY:
Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the State of California.**

9. **Reservation of Rights:** State reserves the right to use the Property in any manner, provided such use does not unreasonably interfere with Permittee's rights herein.

10. **Access Limits and Conditions:** Access to the Property shall be limited to the access designated by State.

11. **Notice of Work:** Any required notices to State shall be sent to the State authorities in charge of Fort Ord Dunes State Park named below. At least forty-eight (48) hours prior to any entry upon the Property for any of the purposes hereinabove set forth, Permittee shall provide the State contact[s] named below with written notice of Permittee's intent to enter the Property. Permittee shall also notify the State contact[s] listed below in writing at least -eight (48) hours prior to any change in the Project schedule or cessation or completion of work. Should State personnel need to contact Permittee, State shall notify Permittee's contact person listed below:

STATE:
Contact: Brent C. Marshall, District Superintendent

District: Monterey District

Address: 2211 Garden Road
Monterey, CA 93940
Telephone: 831-649-2836

PERMITTEE'S CONTACT:
Contact: Seaside Groundwater Basin Watermaster
Robert S. Jaques, email: bobj83@comcast.net
Address: PO Box 51502 Pacific Grove, CA 93950
Telephone: 831-375-0517

12. **Limits of Work:** In no event shall this Permit authorize work in excess or contrary to the terms and conditions of any regulatory agency permit or approval. Under no circumstances, whether or not authorized by any regulatory agency, other permit or any person or entity other than State, shall work exceed that which is authorized by this Permit.

13. **Public Safety:** Permittee shall erect orange plastic temporary construction fencing and appropriate signage prior to commencement of work to prevent public access to the construction zone. Permittee shall remove such fencing within two (2) days after the completion of work. Permittee shall take, and shall cause its contractors or subcontractors to take, any and all necessary and reasonable steps to protect the public from harm in connection with the Project or implementation of this Permit.

14. **Compliance with Project Requirements:**

Permittee's activities conducted under this Permit shall comply with all State and Federal environmental laws, including, but not limited to, the Endangered Species Act, CEQA, and Section 5024 of the Public Resources Code.

Any of Permittee's archaeological consultants working within the boundaries of the Property shall submit a DPR 412A permit application to the District cultural resource specialist for approval prior to commencing any archaeological or cultural investigations of the Property.

Permittee shall immediately advise State's contact person if any new site conditions are found during the course of permitted work. State will advise Permittee if any new historical resources (including archaeological sites), special status species, threatened/endangered species protocols, or other resource issues are identified within the Project site. Permittee shall abide by District Superintendent or designee's instructions to protect the resource(s) during the permitted work or risk revocation of the Permit.

Permittee shall make all excavation activities on the Property available to the State archaeologist for observation and monitoring. During excavation, the State archaeological monitor may observe and report to the State on all excavation activities. State archaeological monitor shall be empowered to stop any construction activities as necessary to protect significant cultural resources from being disturbed.

In the event that previously unknown cultural resources, including, but not limited to, dark soil containing shell, bone, flaked stone, groundstone, or deposits of historic trash are encountered during Project construction by anyone, work will be suspended at that specific location, and the Permittee's work will be redirected to other tasks, until a State archaeologist or professionally qualified designee has evaluated the find and implemented appropriate treatment measures and disposition of artifacts, as appropriate, in compliance with all applicable laws and department resource directives.

If human remains are discovered during the Project, work will be immediately suspended at that specific location and the District Superintendent or designee shall be notified by Permittee. The specific protocol, guidelines and channels of communication outlined by the California Native American Heritage Commission (NAHC), and/or contained in Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.9 et seq., will be followed. Those statutes will guide the potential Native American involvement in the event of discovery of human remains.

If resource monitoring is required to be performed by State staff, the Permittee shall provide a written work schedule to the State at least 48 hours in advance of the work. Permittee shall provide reasonable advance notice of and invite the District Superintendent or designee to any preconstruction meetings with the prime contractor or subcontractors.

15. **Restoration of Property:** Permittee shall complete the restoration, repair, and revegetation of the Property in consultation with, and to the satisfaction of, the State Environmental Scientist within one (1) year after completion of the Project or the expiration or termination of this Permit, whichever comes first. This obligation shall survive the expiration or termination of this Permit.

16. **Performance Bond:** If required by State in order to ensure that Permittee performs and completes its obligations in accordance with the terms of the Permit, Permittee shall obtain a Performance Bond in the amount of from a surety duly licensed in the State of California. Permittee shall provide State with a copy of such insurance bond.

17. **Right to Halt Work:** The State reserves the right to halt work and demand mitigation measures at any time, with or without prior notice to Permittee, in the event the State determines that any provision contained herein has been violated, or in the event that cessation of work is necessary to prevent, avoid, mitigate or remediate any threat to the health and safety of the public or state park personnel, or to the natural or cultural resources of the state park.

18. **Use Restrictions:** The use of the Property by Permittee, including its guests, invitees, employees, contractors and agents, shall be restricted to the daytime hours between sunrise and sunset on a day-by-day basis, unless otherwise approved in advance in writing by State. No person shall use or occupy the Property overnight.

    Activities on the Property shall be conducted only in a manner which will not interfere with the orderly operation of the state park. Permittee shall not engage in any disorderly conduct and shall not maintain, possess, store or allow any contraband on the Property. Contraband includes, but is not limited to: any illegal alcoholic beverages, drugs, firearms, explosives and weapons.

    Roads and trails where motorized vehicles are normally prohibited may be used for vehicle access by Permittee, its employees, agents or contractors for patrol, maintenance or repair purposes only, and only to the extent specified by State, and shall be otherwise subject to all other conditions and/or restrictions of this Permit and any applicable laws, state park regulations and state park policies.

    Permittee shall not use or allow the Property to be used, either in whole or in part, for any purpose other than as set forth in this Permit, without the prior written consent of the State.

19. **State's Right to Enter:** At all times during the term of this Permit and any extension thereof, there shall be and is hereby expressly reserved to State and to any of its agencies, contractors, agents, employees, representatives, invitees or licensees, the right at any and all times, and any and all places, to temporarily enter upon said Property to survey, inspect, or perform any other lawful State purposes.

    Permittee shall not interfere with State's right to enter.

20. **Protection of Property:** Permittee shall protect the Property, including all improvements and all natural and cultural features thereon, at all times at Permittee's sole cost and expense, and Permittee shall strictly adhere to the following restrictions:

(a) Permittee shall not place or dump garbage, trash or refuse anywhere upon or within the Property, except in self-contained trash receptacles that are maintained to State's satisfaction by Permittee.

(b) Permittee shall not commit or create, or suffer to be committed or created, any waste, hazardous condition or nuisance in, on, under, above or adjacent to the Property.

(c) Permittee shall not cut, prune or remove any vegetation upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(d) Permittee shall not disturb, move or remove any rocks or boulders upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(e) Permittee shall not grade or regrade, or alter in any way, the ground surface of the Property, except as herein permitted, or subsequently approved in writing by the District Superintendent.

(f) Permittee shall not bait, poison, trap, hunt, pursue, catch, kill or engage in any other activity which results in the taking, maiming or injury of wildlife upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(g) Permittee shall not use, create, store, possess or dispose of hazardous substances (as defined in the California Hazardous Substances Act) on the Property except as herein permitted, or subsequently approved in writing by the District Superintendent.

(h) Permittee shall exercise due diligence to protect the Property against damage or destruction by fire, vandalism and any other causes.

21. **Default:** In the event of a default or breach by Permittee of any of the terms or conditions set forth in this Permit, State may at any time thereafter, without limiting State in the exercise of any right of remedy at law or in equity which State may have by reason of such default or breach:

(a) Maintain this Permit in full force and effect and recover the consideration, if any, and other monetary charges as they become due, without terminating Permittee's right to use of the Property, regardless of whether Permittee has abandoned the Property; or

(b) Immediately terminate this Permit upon giving written notice to Permittee, whereupon Permittee shall immediately surrender possession of the Property to State and remove all of Permittee's equipment and other personal property from the Property. In such event, State shall be entitled to recover from Permittee all damages incurred or suffered by State by reason of Permittee's default, including, but not limited to, the following:

(i) any amount necessary to compensate State for all the detriment proximately caused by Permittee's failure to perform its obligations under this Permit, including, but not limited to, compensation for the cost of restoration, repair and revegetation of the Property, which shall be done at State's sole discretion and compensation for the detriment which in the ordinary course of events would be likely to result from the default; plus

(ii) at State's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

22. **State's Right to Cure Permittee's Default:** At any time after Permittee is in default or in material breach of this Permit, State may, but shall not be required to, cure such default or breach at Permittee's cost. If State at any time, by reason of such default or breach, pays any sum or does any act that requires the payment of any sum, the sum paid by State shall be due immediately from Permittee to State at the time the sum is paid. The sum due from Permittee to State shall bear the maximum interest allowed by California law from the date the sum was paid by State until the date on which Permittee reimburses State.

23. **Revocation of Permit:** The State shall have the absolute right to revoke this Permit for any reason upon ten (10) days written notice to Permittee. Written notice to Permittee may be accomplished by electronic or facsimile transmission, and the notice period set forth in this paragraph shall begin on the date of the electronic or facsimile transmission, or, if sent by mail, on the date of delivery. If Permittee is in breach of the Permit or owes money to the State pursuant to this Permit, any prepaid monies paid by Permittee to State shall be held and applied by the State

as an offset toward damages and/or amounts owed. Nothing stated herein shall limit the State's exercise of its legal and equitable remedies.

24. **Recovery of Legal Fees:** In any action brought to enforce or interpret any provisions of this Permit or to restrain the breach of any agreement contained herein, or for the recovery of possession of the Property, or to protect any rights given to the State against Permittee, and in any actions or proceedings under Title 11 of the United States Code, if the State shall prevail in such action on trial or appeal, the Permittee shall pay to the State such amount in attorney's fees in said action as the court shall determine to be reasonable, which shall be fixed by the court as part of the costs of said action.

25. **Voluntary Execution and Independence of Counsel:** By their respective signatures below, each Party hereto affirms that they have read and understood this Permit and have received independent counsel and advice from their attorneys with respect to the advisability of executing this Permit.

26. **Reliance on Investigations:** Permittee declares that it has made such investigation of the facts pertaining to this Permit, the Property and all the matters pertaining thereto as it deems necessary, and on that basis accepts the terms and conditions contained in this Permit. Permittee acknowledges that State has made, and makes, no representations or warranties as to the condition of the Property, and Permittee expressly agrees to accept the Property in its as-is condition for use as herein permitted.

27. **Entire Agreement:** The Parties further declare and represent that no inducement, promise or agreement not herein expressed has been made to them and this Permit contains the entire agreement of the Parties, and that the terms of this agreement are contractual and not a mere recital.

28. **Warranty of Authority:** The undersigned represents that they have the authority to, and do, bind the person or entity on whose behalf and for whom they are signing this Permit and the attendant documents provided for herein, and this Permit and said additional documents are, accordingly, binding on said person or entity.

29. **Assignment:** This Permit shall not be assigned, mortgaged, hypothecated, or transferred by Permittee, whether voluntarily or involuntarily or by operation of law, nor shall Permittee let, sublet or grant any license or permit with respect to the use and occupancy of the Property or any portion thereof, without the prior written consent of State.

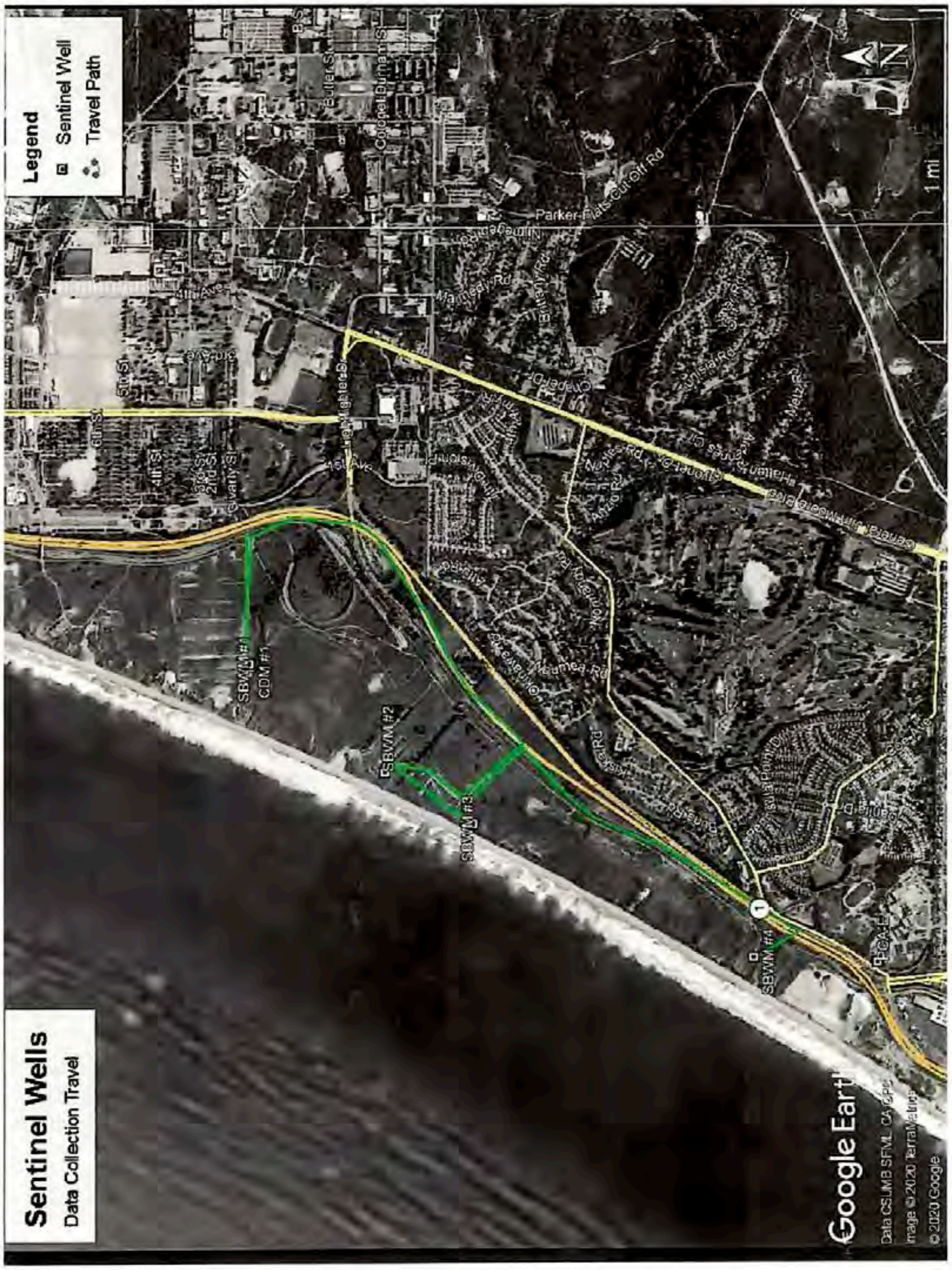
30. **Choice of Law:** This Permit will be governed and construed by the laws of the State of California.

STATE OF CALIFORNIA
Department of Parks and Recreation

By: Brent C. Marshall
Name: Brent C. Marshall
Title: District Superintendent

SEASIDE GROUNDWATER BASIN WATERMASTER

By: Robert S. Jaques
Name: Robert S. Jaques
Title:
Address: PO Box 51502 Pacific Grove, CA 93950
Phone: 831-375-0517


Sentinel Wells
Data Collection Travel
Legend
Sentinel Well
Travel Path
SBVM #1
CDM #1
SBVM #2
SBVM #3
SBVM #4
Parker Flats Cut Off Rd
Google Earth
1 mi

State of California - Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Project Name _____

PROJECT EVALUATION (PEF)

PROJECT CONCEPT

PROJECT TITLE		PARK UNIT NAME & NUMBER
Right of Entry Permit - Monitoring Wells		Fort Ord Dunes SP
DISTRICT NAME & NUMBER		FACILITY NUMBER
Monterey District 720		
PROJECT MANAGER & TITLE	PHONE NUMBER	EMAIL
Stephen Bachman, Sr Park & Rec Spec	831-649-2862	stephen.bachman@parks.ca.gov
DISTRICT PROJECT MANAGER & TITLE	PHONE NUMBER	EMAIL
PROJECT BID DATE	CONSTRUCTION START DATE	FUNDING SOURCE & PCA #
n/a	n/a	n/a

PROJECT DESCRIPTION

Identify the scope of the project in detail, including its purpose, location, and potential impacts. If the ground is to be disturbed, describe the depth and extent of excavation. Describe the existing site conditions, including previous development. Note if work will impact or extend beyond park property. Indicate if work will be done in conjunction with, or as part of, other projects. (Use additional pages if necessary.)

Issue Right of Entry Permit to the Seaside Groundwater Basin Watermaster for continued access to four (4) monitoring wells at Fort Ord Dunes State Park. Access is only for monitoring wells twice yearly. See attached map for wells locations.

SECTOR SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL

SECTOR SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL	TITLE	DATE
[signature]	SPS III	7/27/2020

DISTRICT SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL

DISTRICT SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL	TITLE	DATE

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name 0

PROJECT EVALUATION (PEF)

DOCUMENTS ATTACHED

- ☑ 7.5 minute (quad) map of project area (***Required***)
- ☑ Site Map (***Required*** - *Scale should show relationship to existing buildings, roads, landscape features, etc.)*
- ☑ Graphics *(Specify - photos, diagrams, drawings, cross-sections, etc.)*
- ☑ DPR 727 Accessibility Review & Comment Sheet *(Note: Environmental Coordinator will send PEF to the Accessibility Section for review & comment)*
- ☐ Sea-Level Rise Worksheet *(for coastal park units)*
- ☐ Other (Specify):

REGULATORY REQUIREMENTS

IS AN APPLICATION, PERMIT, OR CONSULTATION REQUIRED?

	YES	MAYBE	NO
PRC 5024 - Historical Review/Archaeological Review	☐	☐	☑
Native American Consultation	☐	☐	☑
Coastal Development Permit	☐	☐	☑
CDFW Stream Alteration Permit	☐	☐	☑
State & Federal Endangered Species Consultation	☐	☐	☑
DPR Right to Enter or Temporary Use Permits	☐	☐	☑
US Army Corps of Engineers 404 Permit	☐	☐	☑
Regional Water Quality Control Board (RWQCB) Permit	☐	☐	☑
National Pollutant Discharge Elimination System Permit	☐	☐	☑
Stormwater Management Plan	☐	☐	☑
Encroachment Permit *(Specify Agency)*:	☐	☐	☑
Other *(Specify)*:	☐	☐	☑

DEPARTMENT POLICY COMPLIANCE

	YES	NO
HAS A GENERAL PLAN BEEN APPROVED FOR THE UNIT?	☑	☐
If YES, is the project consistent with the GP?	☑	☐
If NO, what is the project justification?		
Is it a temporary facility? (No permanent resource commitment)	☐	☐
Health and Safety project?	☐	☐
Is it a Resource Management Project?	☐	☐
Is it repairing, replacing, or rehabilitating an existing facility?	☐	☐
IS THE PROJECT WITH A CLASSIFIED SUBUNIT?		
Natural Preserve	☐	☑
Cultural Preserve	☐	☑
State Wilderness	☐	☑
IS THE PROJECT CONSISTENT WITH THE DEPARTMENT'S CULTURAL RESOURCE MANAGEMENT DIRECTIVES? DOM CHAPTER 1600	☑	☐
IS THE PROJECT CONSISTENT WITH THE DEPARTMENT'S OPERATIONS MANUAL CHAPTER 0300, NATURAL RESOURCES?	☑	☐

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name: ROE - Monitoring Wells

PROJECT EVALUATION (PEF)

RESOURCES

Explain all 'Yes' or 'Maybe' answers in the 'Evaluation and Comments' section (reference by letter and number). Attach additional pages, if necessary.

YES	MAYBE	NO	A. EARTH - *WILL THE PROJECT:*
☐	☐	☑	1. Create unstable soil or geologic conditions?
☐	☐	☑	2. Adversely affect topographic features?
☐	☐	☑	3. Adversely affect any unusual or significant geological features?
☐	☐	☑	4. Increase wind or water erosion?
☐	☐	☑	5. Adversely affect sand deposition or erosion of a sand beach?
☐	☐	☑	6. Expose people, property or facilities to geologic hazards or hazardous waste?
☐	☐	☑	7. Adversely affect any paleontological resource?

YES	MAYBE	NO	B. AIR - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect general air quality or climatic patterns?
☐	☐	☑	2. Introduce airborne pollutants that may affect plant or animal vigor or viability?
☐	☐	☑	3. Increase levels of dust or smoke?
☐	☐	☑	4. Adversely affect visibilty?

YES	MAYBE	NO	C. WATER - *WILL THE PROJECT:*
☐	☐	☑	1. Change or adversely affect movement in marine or fresh waters?
☐	☐	☑	2. Change or adversely affect drainage patterns or sediment transportation rates?
☐	☐	☑	3. Adversely affect the quality or quanity of groundwater?
☐	☐	☑	4. Adversely affect the quantity or quality of surface waters?
☐	☐	☑	5. Expose people or property to flood waters?
☐	☐	☑	6. Adversely affect existing or potential aquatic habitat(s)?

YES	MAYBE	NO	D. PLANT LIFE - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect any native plant community?
☐	☐	☑	2. Adversely affect any unique, rare, endangered, or protected plant species?
☐	☐	☑	3. Introduce a new species of plant to the area?
☐	☐	☑	4. Adversely affect agricultural production?
☐	☐	☑	5. Adversely affect the vigor of any tree?
☐	☐	☑	6. Encourage the growth or spread of exotic (non-native) species?
☐	☐	☑	7. Interfere with established fire management plans or practices?

YES	MAYBE	NO	E. ANIMAL LIFE - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect any native or naturalized animal population?
☐	☐	☑	2. Adversely affect any unusual, rare, endangered, or protected species?
☐	☐	☑	3. Adversely affect any animal habitat?
☐	☐	☑	4. Introduce or encourage the proliferation of any non-native species?

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name ROE - Monitoring Wells

PROJECT EVALUATION (PEF)

YES	MAYBE	NO	F. CULTURAL RESOURCES - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect a prehistoric or historic archaeological site or tribal cultural resource?
☐	☐	☑	2. Adversely affect a prehistoric or historic building, structure or object?
☐	☐	☑	3. Cause an adverse physical or aesthetic effect on an eligible or contributing building, structure, object, or cultural landscape?
☐	☐	☑	4. Diminish the informational or research potential of a cultural resource?
☐	☐	☑	5. Increase the potential for vandalism or looting?
☐	☐	☑	6. Disturb any human remains?
☐	☐	☑	7. Restrict access to a sacred site or inhibit the traditional religious practice of a Native American community?

YES	MAYBE	NO	G. AESTHETIC RESOURCES - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect a scenic vista or view?
☐	☐	☑	2. Significantly increase noise levels?
☐	☐	☑	3. Adversely affect the quality of the scenic resources in the immediate area or park-wide?
☐	☐	☑	4. Create a visually offensive site?
☐	☐	☑	5. Be incompatible with the park design established for this unit or diminish the intended sense of "a special park quality" for the visitor?

YES	MAYBE	NO	H. RECREATIONAL RESOURCES - *WILL THE PROJECT:*
☑	☐	☐	1. Be in a public use area?
☐	☐	☑	2. Have an adverse effect on the quality of the intended visitor experience?
☐	☐	☑	3. Have an adverse effect on the quality or quantity of existing or future recreational opportunities or facilities?
☐	☐	☑	4. Have an adverse effect on the accessibility of recreational facilities (e.g. ADA requirements)?

YES	MAYBE	NO	I SEA-LEVEL RISE AND EXTREME EVENTS (COASTAL UNITS ONLY):
☐		☑	1. Has this project been evaluated for potential impacts from sea-level rise, coastal storm surge, and other extreme events, using the Department's Sea-Level Rise and Extreme Events Guidance Document or an equivalent process? *Please attach the Sea-Level Worksheet or other detailed evaluation.*
☐	☐	☑	2. Based on the evaluation described above, will the project be adversely impacted by frequent flooding or permanent inundation during its expected lifetime?
☐	Non-coastal unit		

EVALUATION AND COMMENTS

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

ENVIRONMENTAL SCIENTIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

FINDINGS:

☐ No Impact

☒ Project Conditions necessary, see below

☐ Potential Significant Impact

EXPLANATION AND COMMENTS:

Vehicles must stay on established routes, minimize vegetation disturbance, and avoid protected species and their habitat.

SIGNATURE *Matthew Allen*	PRINTED NAME Matthew Allen
TITLE SENIOR ENVIRONMENTAL SCIENTIST	DATE 8/27/2020

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

HISTORIAN COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

FINDINGS:

☒ No PRC 5024 necessary (explain below)

☐ PRC 5024 attached, project approved as written

☐ PRC 5024 attached, conditions necessary

☐ PRC 5024 attached, mitigations and/or significant impacts

EXPLANATION AND COMMENTS:

No historical resources at the monitoring well sites. There will be no impacts to surrounding historical resources as a result of the project either.

SIGNATURE MATT BISCHOFF	PRINTED NAME MATT BISCHOFF
TITLE HISTORIAN III	DATE 7/28/20

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

ARCHAEOLOGIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

Findings:

☐ No PRC 5024 necessary (provide justification) ☐ PRC 5024 attached; project approved as written

☐ PRC 5024 attached, conditions necessary ☐ PRC 5024 attached; mitigations and/or potential significant impacts

Explanation/Comments: No archaeological resources are known or expected at the well sites or within path of travel to the well sites. No archaeological resources will be disturbed by well-monitoring

SIGNATURE Rae Schwaderer	PRINTED NAME RAE SCHWADERER
TITLE ASSOCIATE ARCHAEOLOGIST	DATE 8/04/2020

TRIBAL LIAISON COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

☒ Reviewer is Designated District/Service Center/Division Tribal Liaison of Designee

☐ NAHC Listed Tribe(s) contacted (attach correspondence record for contact and findings) No tribes contacted.
- ☐ DN 2007-05 Tribal Consultation Only
- ☐ AB52 Consultation Initiated

FINDINGS:

☒ Project action does not have potential to affect "tribal cultural" resources (explain). No tribal cultural resources will be affected by this ROE permit to monitor wells.

Check more than 1 box if tribes offering differing responses, and describe all consultation below.

☐ Tribe(s) did not respond.

☐ Tribe(s) approved project as written.

☐ Tribe(s) approved project with treatment or conditions.

☐ Tribe(s) and DPR unable to reach mutual agreement on treatment or conditions.

SIGNATURE Rae Schwaderer	PRINTED NAME RAE SCHWADERER
TITLE ASSOCIATE ARCHAEOLOGIST	DATE 8/04/2020

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

COMMENTS:

I have no comments.

SIGNATURE	PRINTED NAME MIKE ZUCCARO
TITLE ASSOCIATE ARCHITECT	DATE AUGUST 3, 2020

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name ROE - Monitoring Wells

PROJECT EVALUATION (PEF)

ENVIRONMENTAL COORDINATOR REVIEW

YES	MAYBE	NO	CUMULATIVE IMPACTS
☐	☐	☑	1. Will the project be conducted in conjunction with or at the same time as other projects at the park?
☐	☐	☑	2. Will the project be part of a series of inter-related projects?
☐	☐	☑	3. Are there any other projects that must be completed for any part of this project to become operational?
☐	☐	☑	4. Are there any other projects (including deferred maintenance) that have been completed or any probable future projects that could contribute to the cumulative impacts of this project?
☐	☐	☑	5. Are any of the projects that relate to work outside of the General Plan?

COMMENTS:

RECOMMENDATION:

- ☐ Not a project for the purposes of CEQA compliance.
- ☐ Project is covered activity under DOM 0600 (Figure F) that does not require Notice of Exemption.
- ☐ Project is covered activity under previously prepared CEQA document; SCH # _____
- ☑ Project is exempt. Notice of exemption will be prepared.
- ☐ A Negative Declaration should be prepared.
- ☐ A Mitigated Negative Declaration should be prepared.
- ☐ An EIR should be prepared.
- ☐ AB52 Consulation Initiated. See Tribal Liaison Section.

SIGNATURE Jill Poudrette
PRINTED NAME Jill Poudrette
TITLE DISTRICT ENVIRONMENTAL COORDINATOR
DATE 9/1/2020

DISTRICT SUPERINTENDENT REVIEW

I acknowledge any constraints placed on the project as a result of the specialists' comments above and recommend the project proceed.

DISTRICT SUPERINTENDENT APPROVAL SIGNATURE	TITLE	DATE

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2022

RFS NO. 2022-02
(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, 2022.

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.

Providing these services will likely 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 $200/hour. Related other direct costs (such as travel costs) will be billed at actual cost. Services under this RFS No. 2022-02 will only be provided when specifically requested by WATERMASTER.

The total cost authorized by this RFS No. 2022-02 is $4,000.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2022

RFS NO. 2022-01
(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, 2022.

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 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. 2022-01, including attending meetings either remotely or in-person as requested by WATERMASTER, will be billed at PROFESSIONAL's standard hourly rates for calendar year 2022, including all markups and other direct costs.

The total cost authorized by this RFS No. 2022-01 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), dated xxxx.

DATE: January 1, 2022

SOW NO. 2022-01
(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 2022 (M&MP) (See detailed Scope of Work in Attachment 1).

Schedule:
The work of this SOW No. 2022-01 shall be completed in accordance with the column titled "Schedule" in Table 1 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:
$ 68,876.00 (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. 2022-01

Background:

This SOW No. 2022-01 authorizes DISTRICT to perform certain work on certain of the Tasks described in the WATERMASTER's 2022 M&MP. The Task numbers listed in the first column of Table 1 below correspond to the Task numbers in the 2021 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.

The hourly rates for the personnel who will be performing the work of this SOW No. 2022-01 are listed below in Table 3.

Table 1. Scope of Work and Costs							
WATERMASTER M&MP Task No.	DISTRICT Task No.	Description	Time	Rate	Cost	Comments	Schedule
I.2.b.2	1	**Collect Monthly Water Levels**					
		Collect Monthly Water levels at 20 wells	96	136	$13,056		Ongoing
I.2.b.2	2	**Collect Quarterly Water Levels**					
		Collect Quarterly Water levels at 8 wells	32	136	$4,352		Ongoing
I.2.b.3	3	**Collect Quarterly Water Quality Samples**					
		Collect 7 Water Quality Samples Quarterly (28 total Samples)	48	136	$6,528		Ongoing
		Order bottles and COC to Labratory	4	136	$544		
I.2.b.3	4	**Collect Annual Water Quality Samples**					
		Collect 12 Water Quality Samples Annually	16	136	$2,176		Ongoing
		Order bottles and COC to Labratory	1.5	136	$204		
		RMA/Proqure Replacement pump and Deploy (replaces one pump)	8	136	$1,088	Only if necessary	
I.2.a.1	5	**Enter Water Level Data QA/QC**					
		Enter Qa/QC 272 Water Level Measurments Collected by MPWMD	20	196	$3,920		Ongoing
		Enter Qa/QC 264 Water Level Measurments Reported to Watermaster	20	196	$3,920		Ongoing
I.2.a.1	6	**Enter Water Quality Data QA/QC**					
		Enter Qa/QC 40 Water Quality Samples Collected by MPWMD	40	196	$7,840		Ongoing
		Enter Qa/QC 12 Water Quality Samples Reported to Watermaster	16	196	$3,136		Ongoing
I.2.b.7	7	**Upload Water Level Data to CASGEM**					
		Upload 536 Water Level Measurements to DWR Database	24	196	$4,704		Ongoing
I.2.b.6	8	**Provide Data Tabulation for SIAR Appendix**					
		Tabulate and Transfer Water Level and Quality Data to Watermaster Consultant	16	196	$3,136		March-22
N/A	9	**Respond to Data Requests**					
		Produce Data Requests as Necessary	10	196	$1,960	Only if necessary	
I.2.b.2	10	**Annual Data Logger Downloads and Data Transfer**					
		Download Loggers Field Work	12	136	$1,632		
		Transfer data	2	196	$392		October-22
		Exchange logger if not working RMS process (replaces one logger)	4	136	$544	Only if necessary	
		Answer questions re transferred logs	2	196	$392	Only if necessary	
		Program and Deploy New Data Logger	2	136	$272	Only if necessary	
N/A	N/A	**Administrative Staff**					
		Create Billings and Cut Checks to Water Quality Laboratory	8	63	$504		Ongoing

Table 1. Summary						
WATERMASTER M&MP Task No.	DISTRICT Task No.	Item	Quantity	Rate	Subtotal	
		Labor (Hours)	381.5		$60,300	
I.2.b.2 and I.2.b.3	1, 2, 3, 4, and 10	Estimated Fleet Support (Mileage)	850	0.56	$476	
I.2.b.3	3 and 4	Watermaster Standard Panel Laboratory Analysis (Number of Analyses)	40	155	$6,200	
I.2.b.3	3 and 4	Fuel (CO_2 Bottle) to run sample pump (Bottles)	6	25	$150	
I.2.b.3	3 and 4	Replacement Low Flow Pump	1	900	$900	Only if necessary
I.2.b.2	1, 2, and 10	Replacement Data Logger	1	850	$850	Only if necessary
		TOTAL			**$68,876**	

Table 2. Wells to be Monitored

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 Design Center
17 DBO - Target
18 MMP - MM Production
19 PCA West (S)
20 PCA West (D)

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)

Annual Water Quality Sampling

1 PCA E (S)
2 PCA E (D)
3 Ord Terrace (S)
4 FO 10 (D)
5 CAW Del Monte Test
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

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

Water Level Data Reported to Watermaster

1 SNG
2 LSCP
3 Nicolas
4 City of Seaside

Table 3. Hourly Rates

Monterey Peninsula Water Management District

Schedule of Reimbursement Rates as of July 1, 2020

Employee	Job Title	Hourly Wage	Labor Overhead Percentage	Labor Overhead Amount	Hourly Benefits Amount	P/R Tax & W/C Ins Hourly Cost	Total Employee Cost Per Hour	Indirect Overhead Percentage	Indirect Overhead Amount	Total Calculated Hourly Rate	Rounded Billable Rate
ITM	Information Technology Mgr.	0.00	0.1731	0.00	0.00	0.00	0.00	0.4773	0.00	0.00	0.00
Bennett	Accountant	37.74	0.1731	6.53	10.27	0.75	55.29	0.4773	26.39	81.68	81.00
Prasad	Admin. Services Manager/CFO	89.40	0.1731	15.47	37.57	1.78	144.23	0.4773	68.84	213.07	213.00
Reyes	Senior Office Specialist	34.13	0.1731	5.91	19.24	0.68	59.96	0.4773	28.62	88.58	88.00
GIS Contract	GIS Contract	0.00	0.1731	0.00	0.00	0.00	0.00	0.4773	0.00	0.00	0.00
HR Contract	HR Contract	0.00	0.1731	0.00	0.00	0.00	0.00	0.4773	0.00	0.00	0.00
Mossbacher	Accounting/Office Specialist	28.08	0.1731	4.86	9.47	0.56	42.97	0.4773	20.51	63.48	63.00
Stoldt	General Manager	118.28	0.1731	20.47	47.18	2.36	188.29	0.4773	89.87	278.16	278.00
Pablo	Executive Assistant	33.37	0.1731	5.78	10.04	0.69	49.88	0.4773	23.81	73.69	73.00
Atkins	Enviromental Program Specialist	35.00	0.1731	6.06	10.04	2.39	53.49	0.4773	25.53	79.02	79.00
Christensen	Enviromental Resources Manager	68.13	0.1731	11.79	31.17	4.66	115.76	0.4773	55.25	171.01	171.00
Hampson	Interim/Temp District Eng.	78.03	0.1731	13.51	0.00	10.18	101.71	0.4773	48.55	150.26	150.00
Lumas	Resources Maintenance Specialist	32.52	0.1731	5.63	9.84	0.65	48.64	0.4773	23.22	71.86	71.00
PM	Project Manager	0.00	0.1731	0.00	0.00	0.00	0.00	0.4773	0.00	0.00	0.00
Hamilton, M	Water Resources Engineer	63.27	0.1731	10.95	12.34	4.33	90.89	0.4773	43.38	134.27	134.00
Bravo	Conservation Analyst	50.66	0.1731	8.77	25.08	1.01	85.52	0.4773	40.82	126.34	126.00
Timmer	Conservation Rep I	40.57	0.1731	7.02	10.51	0.84	58.94	0.4773	28.13	87.07	87.00
Kister	Conservation Analyst	50.66	0.1731	8.77	25.05	1.05	85.53	0.4773	40.83	126.36	126.00
Smith	Conservation Rep II	42.67	0.1731	7.39	10.69	0.85	61.60	0.4773	29.40	91.00	90.00
Jakic	Conservation Technician I	37.69	0.1731	6.52	10.41	0.78	55.41	0.4773	26.45	81.85	81.00
Locke	Water Demand Manager	69.84	0.1731	12.09	31.79	1.45	115.16	0.4773	54.97	170.12	170.00
Chaney	Associate Fisheries Biologist	48.22	0.1731	8.35	24.25	3.30	84.12	0.4773	40.15	124.27	124.00
Fish Crew Leader	Fish Crew Leader	44.00	0.1731	7.62	0.00	5.74	57.35	0.4773	27.38	84.73	84.00
Gallagher	Assistant Fisheries Biologist	16.25	0.1731	2.81	7.36	2.12	28.54	0.4773	13.62	42.17	42.00
Hamilton, C	Associate Fisheries Biologist	48.22	0.1731	8.35	24.22	3.30	84.08	0.4773	40.14	124.22	124.00
James	Hyrdography Programs Coord.	54.56	0.1731	9.44	26.50	3.73	94.23	0.4773	44.98	139.21	139.00
Lear	Water Resources Manager	79.01	0.1731	13.68	34.95	5.41	133.04	0.4773	63.51	196.55	196.00
Lindberg	Associate Hydrologist	53.23	0.1731	9.21	26.09	3.64	92.17	0.4773	43.99	136.16	136.00
HT	Hydrology Technician	0.00	0.1731	0.00	0.00	0.00	0.00	0.4773	0.00	0.00	0.00
SFB	Senior Fisheries Biologist	0.00	0.1731	0.00	0.00	0.00	0.00	0.4773	0.00	0.00	0.00
Wtr Resouces Asst.	Water Resources Assistant	14.75	0.1731	2.55	0.00	1.92	19.23	0.4773	9.18	28.40	28.00

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	8
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

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

Attached is the updated schedule for 2021 activities.

This schedule shows the flow velocity/flow direction modeling and the replenishment water modeling both starting this fall. Completion of the flow velocity/flow direction modeling is projected to occur in time for a report on this work to be made to both the TAC and the Board in late 2021. If the Board elects to perform the replenishment water modeling work in 2021, that report is not shown to be made to the TAC and Board until early 2022.

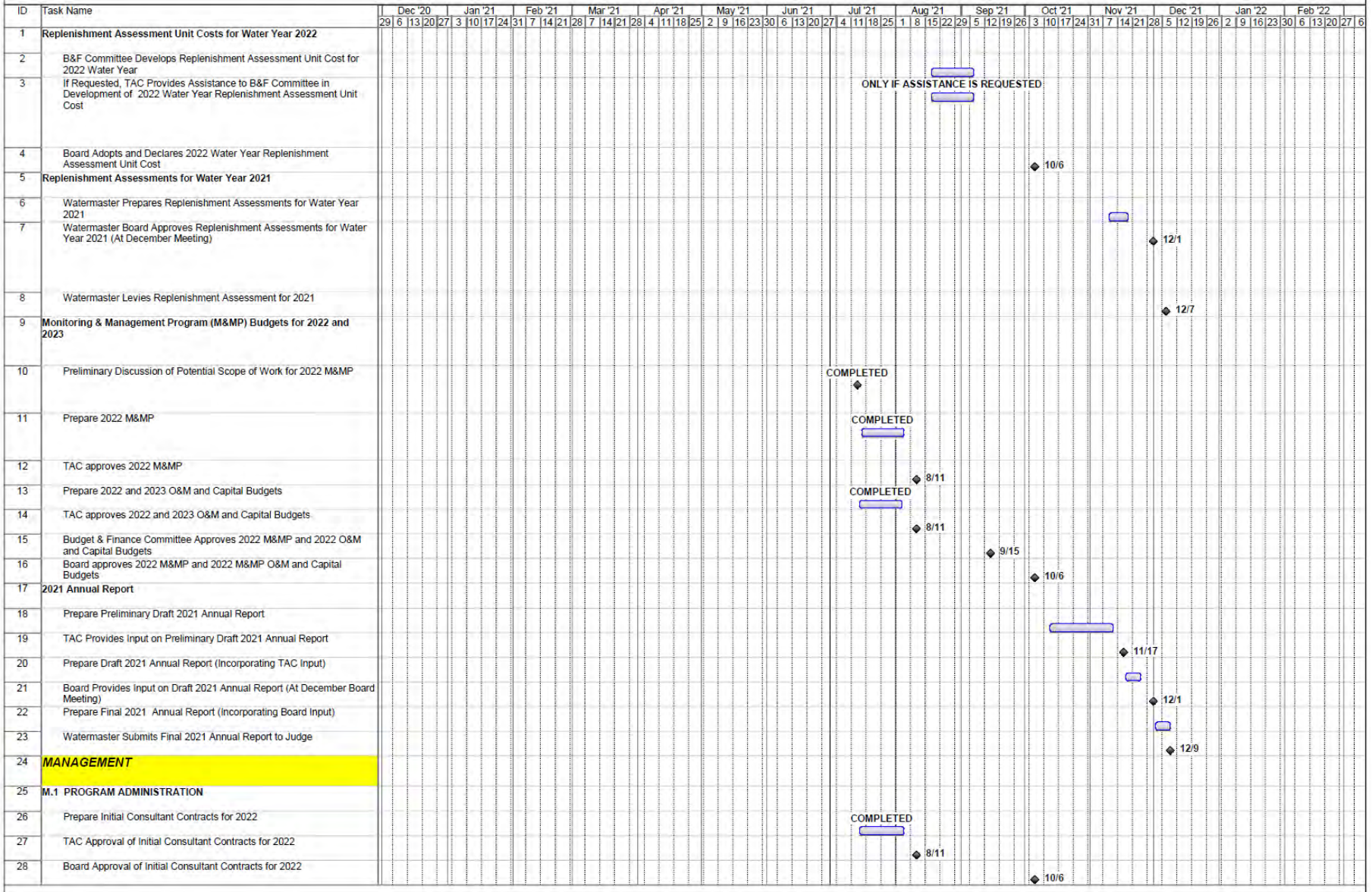
If the Board elects to defer doing the replenishment water modeling until FY 2022, the schedule will be revised to reflect that.

At this point I do not aware of any business that the TAC would need to conduct in September. The TAC does not normally need to meet in October. Therefore it is likely that there will not be a need for a TAC meeting in September, and that the next TAC meeting will be on the 3rd, not the 2nd, Wednesday of November – November 17, 2021.

Confirming or updated emails regarding TAC meetings will be sent out prior to the normal meeting dates in September and October.

ATTACHMENTS:	Schedule of Work Activities for FY 2021
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedules

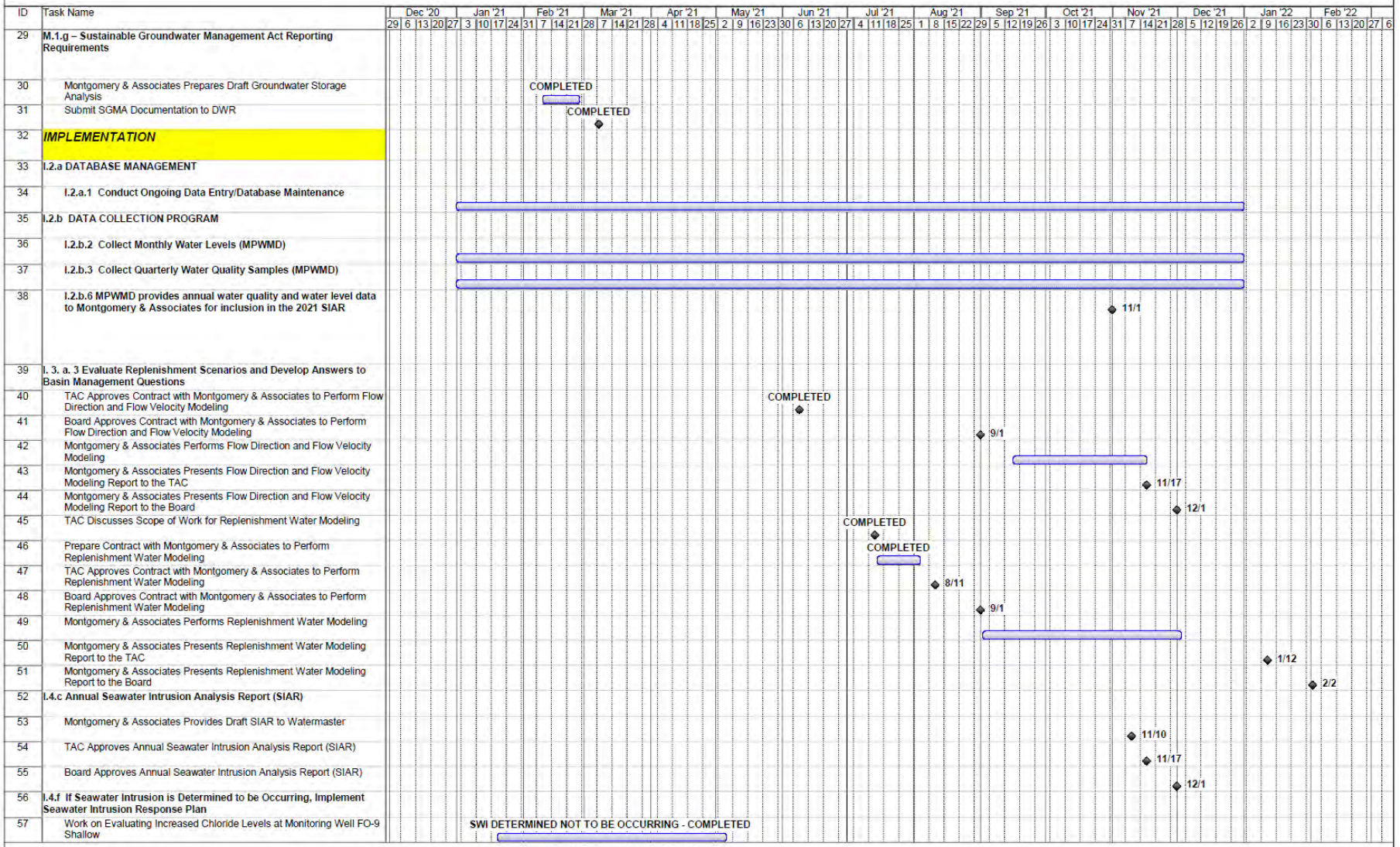
Seaside Basin Watermaster
2021 Monitoring and Management Program
Work Schedule



2021 Consultants Work Schedule 8-11-21.mpp

Page 1

Seaside Basin Watermaster
2021 Monitoring and Management Program
Work Schedule



SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	August 11, 2021
AGENDA ITEM:	9
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