SEASIDE GROUNDWATER BASIN WATERMASTER
REGULAR MEETING OF THE BOARD OF DIRECTORS

Wednesday, May 5, 2021 – 2:00pm
Draft Agenda

IN KEEPING WITH GOVERNOR NEWSOM'S EXECUTIVE ORDERS N-29-20 AND N-35-20, THE WATERMASTER REGULAR BOARD MEETING WILL NOT BE HELD IN PERSON. YOU MAY ATTEND AND PARTICIPATE IN THE MEETING BY JOINING 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) AT THIS WEB ADDRESS:

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Meeting ID: 726 583 0564 **Password:** 926321

Watermaster Board

Coastal Subarea Landowner – Director Paul Bruno
City of Seaside – Mayor Ian Oglesby
California American Water – Director Christopher Cook
City of Sand City – Mayor Mary Ann Carbone
Monterey Peninsula Water Management District – Director George Riley
Laguna Seca Subarea Landowner – Director Wesley Leith
City of Monterey – Councilmember Dan Albert
City of Del Rey Oaks – Councilmember John Gaglioti
Monterey County/Monterey County Water Resources Agency – Supervisor Mary Adams, District 5

I. CALL TO ORDER

II. ROLL CALL

III. PUBLIC COMMUNICATIONS

Oral communications are on each meeting agenda in order to provide members of the public an opportunity to address the Watermaster on matters within its jurisdiction. Matters not appearing on the agenda will not receive action at this meeting but may be referred to the Watermaster Administrator or may be set for a future meeting. Presentations will be limited to three minutes or as otherwise established by the Watermaster. In order that the speaker may be identified in the minutes of the meeting, it is helpful if speakers state their names.

IV. REVIEW OF AGENDA

A vote may be taken to add to the agenda an item that arose after the 72-hour posting deadline pursuant to the requirements of Government Code Section 54954.2(b). (A 2/3-majority vote is required).

V. MINUTES - Approve Minutes of Regular Board meeting held February 3, 2021 3

VI. CONSENT CALENDAR

A. Consider Approving Summary of Payments made January through March 2021 totaling **$91,921.65**..... 9

This agenda was forwarded via e-mail to the City Clerks of Seaside, Monterey, Sand City and Del Rey Oaks; the Clerk of the Monterey Board of Supervisors, the Clerk to the Monterey Peninsula Water Management District; the Clerk at the Monterey County Water Resources Agency, Monterey One Water and the California American Water Company for posting on April 29, 2021 per the Ralph M. Brown Act, Government Code Section 54954.2(a).

SEASIDE GROUNDWATER BASIN WATERMASTER (Watermaster)
REGULAR MEETING MINUTES

Via Zoom Teleconference
February 3, 2021

IX. CALL TO ORDER – The meeting was called to order at 2:00 p.m.

X. ROLL CALL

Coastal Subarea Landowner – Director Paul Bruno – Chair
Laguna Seca Subarea Landowner – Director Wesley Leith
City of Sand City – Mayor Mary Ann Carbone
City of Del Rey Oaks – Council Member John Gaglioti
California American Water (CAW) – Director Christopher Cook
City of Monterey – Council Member Dan Albert – Vice Chair
Monterey Peninsula Water Management District (MPWMD) – Director George Riley
Monterey County/Monterey County Water Resources Agency – Supervisor Mary Adams

Absent: City of Seaside – Mayor Ian Oglesby

Others Present

Robert Jaques, Watermaster Technical Program Manager (TPM)
Laura Paxton, Watermaster Administrative Officer (AO)
Sarah Hardgrave, Policy Analyst, Office of Supervisor Adams
Alvin Edwards, MPWMD
Jonathan Lear, Water Resources Manager, MPWMD
Maureen Hamilton, Water Resources Engineer, MPWMD
Tim O'Halloran, Engineering Manager, CAW
Catherine Stedman, CAW
Aiko Yamakawa, Attorney, CAW
Susan Schiavone

XI. SCHEDULE OF 2021-2022 WATERMASTER BOARD MEMBER REPRESENTATIVES AND ALTERNATES: No action required - informational

XII. ELECTION AND APPOINTMENT OF OFFICERS FOR CALENDAR YEAR 2021:

It was moved by Council Member Gaglioti and seconded by Council Member Albert to appoint Director Bruno as Board Chairperson. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

It was moved by Director Riley and seconded by Director Cook to appoint Council Member Albert as Board Vice Chairperson. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

It was moved by Supervisor Adams and seconded by Council Member Gaglioti to appoint Administrative Officer Paxton as Secretary. Director Cook – Aye; Council

Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

It was moved by Mayor Carbone and seconded by Director Bruno to appoint Council Member Gaglioti as Board Treasurer. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

XIII. PUBLIC COMMUNICATIONS: None

XIV. REVIEW OF AGENDA: There were no requested changes to the agenda.

XV. APPROVAL OF MINUTES: It was moved by Council Member Albert and seconded by Council Member Gaglioti to approve as presented the minutes of the Regular Board meeting held December 2, 2020. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

XVI. CONSENT CALENDAR

C. Consider Approving Summary of Payments made November 2020 through December 2020 totaling **$47,838.35**

It was moved by Council Member Gaglioti and seconded by Mayor Carbone to approve the consent calendar as presented. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

XVII. ORAL PRESENTATION: None

VII. NEW BUSINESS: None

IX. OLD BUSINESS:

A. Update on water quality issues and background information about the Watermaster's Seawater Intrusion Response Plan (SIRP)

B. Discuss Potential Installation of a New Monitoring Well Between Monitoring Well FO-9 and the Pumping Depression in the Northern Coastal Subarea, and Other Alternatives

The board concurred to take up the two agenda items in one discussion.

Mr. Jaques read the SIRP seawater intrusion response trigger levels aloud:

1. Chloride concentrations must be higher than the chloride threshold value shown on Table 1 of the SIRP (titled "Chloride Threshold Values and Trend Analysis").
2. Sodium/chloride molar ratios must show a rapid drop, and be below the 0.86 molar ratio.
3. At least one of the following four trends or qualitative indicators must be apparent:
   a. The Mann-Kendall statistical trend for chloride concentrations is increasing.
   b. Evolution of seawater mixing is observed in Piper diagram(s).

c. Change of Stiff diagram(s) shape from baseline conditions featuring prominent high chloride spike.
d. Concentration maps indicate increasing chloride concentrations near the coast.

Mr. Jaques stated that 67 mg/L is the threshold value shown on Table 1 of the SIRP for well FO-09, and the well recently sampled at 90 mg/L. The sodium/chloride molar ratio had a somewhat rapid drop however consultants could not determine without more data if this was an ongoing trend or just part of a fluctuation and so could not state that this trigger had clearly been met. The Mann-Kendall statistical trend for chloride concentrations is clearly increasing so one of the four trends or qualitative indicators is apparent. The other of the four indicators of item 3 are not apparent or cannot be determined.

Director Riley inquired whether the fourth indicator of item 3 would ever be helpful since chloride concentration maps cannot be contoured due to the data being too scattered from well to well. Mr. Jaques did not know if future data would allow useful contouring.

Section 4.2 of the SIRP lists actions to be taken to address seawater intrusion. Director Cook felt that even though response is not triggered, there still could be actions for Watermaster to proceed with; it would be prudent to better understand the four criteria and how they were developed.

Mr. Jaques gave highlights from his report on potential installation of a monitoring well between Monitoring Well FO-09 and the pumping depression in the Northern Coastal Subarea. Mr. Jaques reported on the meeting held yesterday with hydrogeologists Martin Feeney and Gus Yates, Derrick Williams and Georgina King of Montgomery and Associates, Monterey County Water Resources Agency hydrologist Tamara Voss and Water Resources Technician Nicole Koerth, MPWMD Water Resources Manager Jon Lear, and CAW Engineering Manager Tim O'Halloran. Consensus from that meeting of experts was that the rising chloride levels in FO-09 and FO-10 are most likely caused by salt water that has intruded the shallow sand layers along the coastline. This intrusion is a known fact and has existed for a long time. The wells are not used for production so the intrusion has not been an issue. They surmised the intrusion is coming downward from the Dune Sands and is gradually penetrating into the underlying Paso Robles aquifer where it is now being seen in the FO wells. Rather than installing new monitoring wells, they recommended two courses of action to confirm their hypothesis. The first is to perform induction logging of both wells and compare the current results of the logging data with the electrical logging done when the wells were installed to see if there has been an increase in salinity over time to help determine the source. Induction logging continues quarterly at the wells however the comparison would be a one-time effort. The second course of action would be to perform geophysical transects involving making subsurface resistivity measurements to determine various subsurface water qualities. This method is not quantitative however it gives a conductivity picture, and would need to be done over multiple years to identify trends.

Director Gaglioti inquired if the percolation of seawater from the dunes sands into the Paso Robles formation would be termed a manmade or natural process. Mr. Jaques responded that it appears to be a collective over-pumping result. Director Gaglioti pointed out that qualitative data would give indication of trends whereas quantitative data would give the degree of harm done; he felt collection of both was important, to be performed as a testing regime. Supervisor Adams inquired whether if the monitoring well was installed, could it be collaborative and a cost share with Marina Coast Water District (MCWD). Mr. Jaques responded that during development of the

MCWD Groundwater Sustainability Plan for the Marina Ord area of the Monterey Subbasin, Mr. Jaques with Watermaster consultants have repeatedly pointed out the need for installation of more monitoring wells north of the Seaside Basin boundary in the southern part of the Monterey Subbasin boundary where few wells exist. Cost sharing has not been discussed. As it now stands, well installation would be funded by Watermaster Standard Producer assessments. Location of the well could be in the City of Seaside golf course area where permitting restrictions and interference with the monitoring equipment by pipe and power lines would be minimal.

Director Riley inquired whether the induction logs in the coastal wells are helpful or could they be modified to be more useful. Mr. Jaques responded that although design of the wells due to cost limitations precludes taking water samples for quality data, it is useful to monitor induction log readings for indications of increasing conductivity and thus seawater intrusion.

Director Cook noted that modeling results could be subject to interpretation for political maneuvering—he would want a firm objective level of confidence in modeling results and data integrity from the modeling consultants.

Director Bruno felt the TAC needed to coordinate with hydrogeologists to gather more data and perform various sensitivity analyses such as what if certain water supply projects, if any, do not come to pass. Is the SIRP adequate now that the difficulty is known in bringing a water supply project on line? Are the triggers sensitive enough with that in mind? Mr. Jaques stated he could have the consultants review the SIRP to determine if it needs to be updated in terms of triggers, responses, and any other aspect considering accumulated years of data. Mr. Jaques suggested the hydrogeologist that authored the SIRP review and comment on it to the TAC to incorporate into a TAC-recommended board presentation. Mr. Jaques gave a rough timeline range of one to two months until board presentation.

It was moved by Director Riley and seconded by Director Cook to direct staff to 1.) perform induction logging comparison of wells FO-09 and FO-10 and, 2.) have Watermaster consultants Montgomery and Associates use groundwater level data already obtained to map groundwater flow in the area of concern. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

C. Direct Staff regarding obtaining additional water to recharge the Basin in order to raise groundwater levels.

Director Riley noted that Watermaster was tasked with funding the filling of the over-drafted basin to protective groundwater elevations. The Replenishment Fund established for that purpose as currently structured he felt presented an imaginary calculation, and the data used to establish it may be incorrect. He called for a group of perhaps local agency representatives, staff, or policymakers to be appointed to "reimagine" the fund. Chair Bruno agreed that an ad hoc committee or a Watermaster Budget and Finance Committee meeting with guests be scheduled to discuss the matter. Supervisor Adams felt the Pure Water Monterey Expansion Project (PWMX) could address any of the CDO shortfalls in the near-term while an expanded regional desalination approach is developed. If a more regional project is developed for meeting water supply needs, PWMX could be considered as the source for long-term replenishment of the basin which would be far less expensive and more cost effective than CAW desalination would be.

Director Riley suggested the board consider broader concepts, that long-term planning consider a water supply that does not make use of or depend on the basin. Current projects use the basin more and more. Perhaps the basin has a life expectancy, maybe only 10 years. If so, a short time is left to find a water supply option. Director Riley and Director Cook agreed that focus should be on how best to manage the basin now: review Natural Safe Yield, consider alternatives, determine best pumping redistribution, layout a timeline, etc. and then look to the future once near-term steps are addressed. Director Cook cautioned engaging in water supply project discussion, a politically divided topic, when addressing this issue, and hoped instead for the board to concur on immediate steps to take.

Legal Counsel Campbell summed up the board's obligation to maintain the basin in a viable state in perpetuity – responsibility does not end and cannot be transferred elsewhere.

Moved by Director Cook and seconded by Director Riley to have staff present a timeline of actions to be taken now based on the four criteria in Section 4.2 of the 2009 Seawater Intrusion Response Plan for mitigating seawater intrusion (i.e., lowering Natural Safe Yield, consider alternatives, determine best pumping redistribution) and further explore base protection options. Director Cook – Aye; Council Member Albert – Aye; Council Member Gaglioti; Mayor Carbone – Aye; Supervisor Adams – Aye; Director Riley – Aye; Director Bruno – Aye; Director Leith – Aye. Motion carried.

IX. INFORMATIONAL REPORTS:

A. Watermaster report of production of the Seaside Basin first quarter Water Year 2021 (October 1, 2020 – December 31, 2020)

XI. DIRECTOR'S REPORTS: Director Riley arranged for General Manager Stoldt to give a presentation to the League of Women Voters on February 10, 2021 the topic being future water supply and the CAW buy out. Chair Bruno thanked the board for re-electing him chair.

XII. STAFF COMMENTS: None

XIII. NEXT MEETING DATE: The board consented to canceling the March 3, 2021 board meeting. The next meeting of the Watermaster board is scheduled for Wednesday, April 7, 2021.

XIV. There being no further business, Chair Bruno adjourned the meeting at 3:43p.m.

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TO: Board of Directors
FROM: Laura Paxton, AO
DATE: May 5, 2021
SUBJECT: Summary of Payments made from January through March 2021

RECOMMENDATIONS:

Consider approving payment of bills submitted and authorized to be paid January - March 2021

Summary of Payments Made January 2021

Christopher Campbell, Baker Manock & Jensen (WM Legal Counsel)	17.4	300	**$**	**5,220.00**
January 1, 2021 through January 31, 2021	Courtesy discount			**(1,620.00)**
				3,600.00

Review correspondence re: appellate rulings. Review 12/2 board meeting agenda & attend partially. Email correspondence from CAW legal counsel. Issues briefing w/WM AO (no charge). Review 2020 Annual Report. Review of adjudication (no charge). Prepare legal opinion of WM responsibilities per Jaques request.

Paxton Associates (Administrative Officer (AO))

December 26, 2020 through January 25, 2021 46.5 **4,650.00**

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Process 2021 Assessment payments & deposit at City of Seaside. Review WM founding documents, Water Code Appendix 118, CA Constitution Article X ss2 & 5, and post judgement documents; coordinate & review legal opion on Watermaster duties. Complete minutes of WM 12/2/20 board meeting. Prepare for/attend 1/15/21 water financing meeting. Draft agenda and prepare reports for 2/3/21 board meeting. Coordinate signatures on substitution of attorney court document for new legal counsel. Meeting w/MCWRA & Jaques re: supporting WM. Update Parties' rep/legal counsel service list. Review SIRP & SIARs re: potential SWI. Review TPM transmital re: basin recharge to protective levels. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted

Robert Jaques (Technical Program Manager)

January 1, 2021 through January 31, 2021 84.5 **12,675.00**

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare recharge water issue paper. Meeting and teleconferences with legal counsel re: WM duties with regard to basin recharge. Prepare and send comments on Draft Chapter 5 of Monterey Subbasin GSP to SVBGSA & MCWD GSA; Zoom meeting w/MCWDGSA, SVBGSA, and hydrogeologic consultants to discuss Watermaster's comments on Draft Chapter 5 of Monterey Subbasin GSP. Zoom meeting w/Montgomery & Assoc. on recharge issues; review Datalogger Tech Memo from GKing; review response from GKing re: FO-10 chloride issues and use of Model to estimate flow paths. Meeting 1/20/21 w/MCWRA & Paxton re: supporting WM. Prepare for/attend SVBGSA Advisory/TAC meetings & webinar 1/6, 1/7, & 1/21. Prepare for/attend PWM Quality/Ops meeting 1/20/21. Zoom meeting w/Montgomery re: use of Model to estimate impacts of groundwater replenishment. Review SIRP. Perform Mann-Kendall statistical test on chloride data from FO-9. Zoom meeting 1/27/21 w/Montgomery & Paxton re: chloride issues. Review Induction Logging technical paper from M. Feeney. Preparation of background materials and list of topics to discuss during 2/2/21 Zoom meeting re: monitoring wells and water quality issues. Prepare summary memos re: PWM and GSA meetings. Prepare 2020 Annual Report to

Montgomery & Associates (Technical Consultant)

January 1, 2021 - January 31, 2021

RFS 2020-01 General Hydrogeologic Consulting	0.5	260	**130.00**
	14.0	215	**3,010.00**
	2.0	195	**390.00**
			3,530.00

Review Jaques questions on using model to show velocities and flow directions, and opinion on Draft Chapter 5 of the Monterey Subbasin GSP; datalogger tech memo; J. Lear call on dataloggers and update on FO-9 and FO10 sampling; update database with all historic groundwater level data to prepare hydrographs for FO-9, FO-10, FO-11, Camp Huffman, and City of Seaside golf course wells; prepare for/participate in meeting with B. Jaques on future modeling for replenishment repayment; review recent chloride data and plot up FO-9 shallow chemograph; review Mann-Kendall calculation for FO-9 shallow; prepare for Monterey Subbasin meeting on Watermaster comments on Chapter 5 of draft GSP; prepare slides for meeting with EKI; participate in pre-meeting with L. Paxton, B. Jaques, and D. Williams; and participate in meeting with B. Jaques, M&A staff, and EKI on Watermaster comments on draft Chapter 5 of Monterey Subbasin GSP.

Paxton Imaging (Website Administrator)	30.0	75	**2,250.00**
January 1, 2020 through December 31, 2020	12.0	12.5	**150.00**
Annual Watermaster web site hosting and maintenance.			**2,400.00**

Total for January 2021	**$**	**26,855.00**

Summary of Payments Made February 2021

Christopher Campbell, Baker Manock & Jensen PC (WM Legal Counsel)

February 1, 2021 through February 28, 2021	4.2	300	**$ 1,260.00**

Review 2/3 board meeting agenda & attend. Draft Watermaster recharge responsibilites

Paxton Associates (Administrative Officer (AO))

January 26, 2021 through February 28, 2021	44.5		**4,450.00**

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Review TPM transmital re: basin recharge to protective levels. Deposit 2021 assessment payments to City of Seaside. Montgomery/Jaques high chloride discussion 1/27. WM change of address filing w/Court. PWM reserve amounts inquiry. Prepare board packet for 2/3 board meeting and distribute. Attend 2/3 board meeting and prepare minutes. Review packet for 2/10 TAC meeting and attend. Calculation corrections to Operations Fund budget. Solicit/confirm 2021-2022 board appointments. Provide WM budgets to Damiani for entry into WM fund at City of Seaside. Request SNG quality sample its well. Director Riley RA Fund discussion points and arrange B/F Com mtg. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

February 1, 2021 through February 28, 2021	50.0			**7,500.00**

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Zoom meeting 2/2 with consultants re:FO-9 chloride levels; prep. Notes from this meeting to brief Board and TAC. Follow-up actions from 2/3 Board meeting on FO-9 issues.Telecon 2/11 w/Leon Gomez re: his questions about Sand City stormwater project. Telecon w/ L. Paxton re: budget issues & research M&MP budget and consultant contracts. Review SIRP for possible updates. Review geophysical website info from contacts submitted by consultants. Review 2007 M&MP to see if any rationale was provided to not include FO-11 for water quality sampling. Prepare summary memos re: PWM and GSA meetings. Review Electrical Resistance Tomography Tech Paper about ERT work along the Monterey Bay coastline in the Seaside Basin. Telecon 2/24 w/G. King re: SIRP issues. SVBGSA Model and Water Budget Zoom workshop. Telecon w/ D. Williams re: G. King's workload. Review Airborne Electromagnetic surveying info from DWR.

Montgomery & Associates (Technical Consultant)	1.5	260		**390.00**
February 1, 2021 through February 28, 2021	6.0	215		**1,290.00**
RFS 2020-01 General Hydrogeologic Consulting	0.5	195		**97.50**
				1,777.50

Review and share results regarding FO-10 shallow confirmation sample; email J. Lear regarding dataloggers; review potential datalogger sites; research background information regarding dedicated monitor well dataloggers for possible redeployment; calls with J. Lear and B. Jaques on history of dataloggers in Seaside Basin; prepare technical memorandum on dataloggers; and discuss datalogger technical memorandum with B. Jaques.

Total for February 2021	**$**	**14,987.50**

Summary of Payments Made March 2021

Christopher Campbell, Baker Manock & Jensen (WM Legal Counsel)	9.0	300	**$**	**2,700.00**
March 1, 2021 through March 31, 2021	Telepone & Postage			**27.00**
				2,727.00

Review judgement with regard to MPWMD takeover of CAW & discuss w/WM staff. Review MPWMD application to LAFCO for activation of water distribrution latent powers/annexation of CAW-served parcels. Extended discussion of goals/objectives of MPWMD w/District legal counsel. Draft comment letter to LAFCO re: MPWMD application.

Paxton Associates (Administrative Officer (AO))

February 26, 2021 through March 25, 2021	43			**4,300.00**

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Arrange/prep for/attend 3/16 Budget & Finance Committee meeting. MPWMD invoice backup docs request. Complete minutes of WM 2/3/21 board meeting. Fulfill document request from CAW. Prepare 2021 collection services contracts for four producers/email & mail distribution. Basin recharge discussion w/Jaques. Prepare for/attend 3/10 TAC meeting. Cancel 4/7 board meeting. Memo & SGMA summary to board members. Review Management Committee of the Monterey Stormwater agenda. Review MPWMD application to LAFCO & speak w/LAFCO rep re: application process, coordinate comment letter w/WM legal counsel. MPWMD contracting/billing issues & Lear letter ot WM. Draft a revised Replenishment Assessment Fund report reflecting AF accumulated over production per water year w/total for SS & CAW. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)			
March 1, 2021 through March 31, 2021	47		**7,050.00**
Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Review seawater intrusion indicator data from M. Feeney. RFS amendent to M. Feeney for induction logging of FO-9 & -10. SGMA annual report to DWR. Reveiw Pasadera Golf Course recycled water project background & related docs for TAC agenda item at the request of Director Leith. Prep/send comments on SVBGSA Monterey Subbasin Committee meeting agenda items to E. Gardner. Prepare for/attend SVBGSA Advisory/TAC meetings & webinar 3/5, 3/18, 3/22, & 3/25. Prepare for/attend MCWDGSA Monterey Subbasin GSP Stakeholder meeting 3/11. Telecon w/Scuito of M1W re: PWM Expansion Project capability for increased capacity. Review electrical resistance tomography documents. Attend DWR Airborne Electromagnet surveyingn workshop. Edits to discussion paper on seawater intrusion issues. Prepare progress report to WM board on seawater intrusion issues. Prepare requests for information to consultants to prepare RFSs for TAC agenda item on SWI followup work. Prepare summary memos re: PWM and GSA meetings. Prepare 2020 Annual Report to Court. Review/respond to Lear letter re: contracting issues w/MPWMD. Research monitoring well isues re: WM obligations for repairs to/maintenance of well FO-9.			
Montgomery & Associates (Technical Consultant)	11.5	215	**2,472.50**
March 1, 2021 - March 31, 2021	8.5	195	**1,657.50**
RFS 2020-01 General Hydrogeologic Consulting	2.5	100	**250.00**
Prepare WY2020 change in storage technical memorandum for DWR; create surfaces from WY2020 contours and run script to calculate change in storage for both deep and shallow aquifers; review available data sets and previous/ongoing modeling work and develop approach and scope of work for sea water intrusion travel time analysis; respond to questions from B. Jaques regarding seawater intrusion travel time analysis approach; participate in March TAC meeting; review SNG chloride concentrations and prepare email to B. Jaques on comparison to PCA-W deep and shallow; call with M. Feeney regarding possible break in FO-9 casing; emails with J. Lear regarding status of FO-9; and call with B. Jaques on plan forward for FO-9.			**4,380.00**
Martin B. Feeney, PG, CHg - Consulting Hydrogeologist	18.5	150	**2,775.00**
March 2021	10.5	195	**2,047.50**
RFS 2021-01 Amendment No. 1	Reimbursements		**5,475.40**
Induction/Resistivity Logging of Fort Ord MW-09 and 10. Analysis, Preparation of Tech Memo, Participation in TAC meeting.			**10,297.90**
Todd Groundwater (Hydrogeological Peer Review)	4.0	240	**960.00**
February 1, 2021 through February 28, 2021	0.3	125	**31.25**
Professional services in connection with groundwater modeling peer review.			**991.25**
Monterey Peninsula Water Management District	93.0	149	**13,857.00**
July through December 2020 RFS 2020-01	40.0	62	**2,480.00**
	Direct costs		**3,500.00**
Database entry/maint; water level collection; WQ sample & datalogger collection; CASGEM data reporting; direct costs			**19,837.00**
October thru December 2020 RFS 2020-02: Water level collection	8	62	**496.00**
			20,333.00
Total for March 2021		**$**	**50,079.15**
Grand Total January - March 2021		**$**	**91,921.65**

SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: May 5, 2021

SUBJECT: Discuss/Approve Amendment No. 1 to Martin Feeney RFS No. 2021-01, and transfer of $10,338.50 from the Monitoring and Management Program Contingency line-item to Collect Quarterly Water Quality Samples and Perform Sentinel Well Induction Logging Subtask I.2.b.3 to cover the cost.

- -

RECOMMENDATIONS:
Approve Amendment No. 1 to Martin Feeney RFS No. 2021-01, and transfer $10,338.50 from the Monitoring and Management Program Contingency line-item to Subtask I.2.b.3 to cover the cost of this Amendment.

BACKGROUND:
At its February 3, 2021 meeting the Board asked the TAC to have the Watermaster's contractor perform induction logging of Monitoring Wells FO-9 and FO-10 so that data could be compared to the E-logs when the wells were constructed to see what information that may provide regarding seawater intrusion in those wells

DISCUSSION:
The attached amendment to the current contract with Martin Feeney added scope and cost authorizations to accomplish this work. Because the Board already directed that this work be performed, the time-sensitive nature of this work, and because there was a cost savings by having Mr. Feeney perform this work in March, I authorized him to proceed without first coming back to the Board for pre-approval of this contract amendment. It is being provided to the Board for retroactive approval at today's meeting.

The Budget and Finance Committee, at its April 27, 2021 meeting, recommended that the board authorize the amendment and approve the budget transfer.

FISCAL IMPACT:
The amount authorized by this Amendment was not included as a line-item in the 2021 Monitoring and Management Program Operations Budget, since the work was not contemplated when that budget was adopted. The Contingency line-item in that budget of $20,370 has thus far not been utilized. A budget transfer in the amount of $10,338.50 from the Contingency line-item to Subtask I.2.b.3 (Collect Quarterly Water Quality Samples and Perform Sentinel Well Induction Logging) is recommended.

ATTACHMENTS:
Amendment No. 1 to Martin Feeney RFS No. 2021-01

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: March 10, 2021

RFS NO. 2021-01 Amendment No. 1
(To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Perform additional induction logging as described herein.

Completion Date: All work of this RFS as amended shall be completed not later than December 31, 2021.

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 $10,338.50 by this Amendment No. 1, and the Total Price for RFS No. 2021-01 is therefore increased to $28,839.06.

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

Requested by: Robert Jaques Date: 3/04/21.
WATERMASTER Technical Program Manager

Agreed to by: Date: 3/8/21.
PROFESSIONAL

ATTACHMENT 1

PROFESSIONAL was authorized by RFS No. 2021-01 to perform induction logging on WATERMASTER's Sentinel Wells. WATERMASTER wishes to also have induction logging performed on Monitoring Wells FO-9 and FO-10, and to have the induction logging results on those wells compared to the E-logs for those wells when they were constructed to identify possible changes in water quality surrounding those wells. This Amendment No. 1 to RFS No. 2021-01 authorizes the performance of the work described in Attachment 2 hereto.

ATTACHMENT 2

Martin B. Feeney
Consulting Hydrogeologist

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

March 1, 2021

Seaside Basin Watermaster
PO Box 51502
Pacific Grove CA.
93950

Attention: Bob Jaques, PE

Subject: Geophysical Investigation Fort Ord Monitoring Wells FO-9 and FO-10 – Proposal for Hydrogeologic Services

Dear Bob:

Two monitoring wells in the Seaside Basin monitoring program, FO-9 Shallow and FO-10 Shallow, have recently displayed increasing concentrations of chloride ions raising the possibility that these data are indicative of advancement of seawater into the basin. However, these data are difficult to reconcile with other data from the more seaward Sentinel Wells that have seen no changes. The ad-hoc advisory team discussed this and generally believed that the data from the monitoring wells would benefit from further confirmation. It was suggested that the monitoring wells be induction logged and the data from the induction logs be compared to the original electric logs to see if there have been conductivity changes in the formation since the time of the wells installation. Following up on these discussions, I'm pleased to provide this proposal to assist the Seaside Basin Watermaster the induction logging of these wells, the processing of the data, and the comparison with the original logs. Presented in this proposal are an outline of the data collection plan and an estimate of associated costs.

Background.
Monitoring Wells Clusters FO-9 and FO-10 were drilled in 1994 and 1996, respectively. The wells are nested completions with multiple casings of varying lengths in the same borehole. FO-9 has two completions a shallow completion in the Paso Robles Formation and a deeper completion in the Santa Margarita Sandstone. FO-10 has 3 completions - one in the Paso Robles Formation, one in the Santa Margarita Sandstone and a third completion in an intermediate depth. Schematics of the wells are attached.

Scope of Work

The work to be performed is presented below broken down in to tasks. Costs for the tasks are presented on the table below.

Task 1 – Backgrounding – This task will include confirming access for logging equipment, review of the reports documenting the construction of the well nests, acquisition of the original electric logs, and digitizing the original analog electrical logs to simplify comparison with the new logs.

Task 2 – Field Work – This task will include the induction logging of the deeper well in each cluster. The deeper well is selected because the original elog was performed for the entire depth of the borehole. At the same time and as part of the same service charge, the shallow well at each completion will be conductivity/temperature logged. These data can confirm the collected samples. Prior to logging, it is understood the MPWMD will remove the dedicated sampling pumps.

It should be noted that the induction logging tool is 1.7 inches in diameter and the inside diameter of Schedule 40 is 2.067 inches. Typically the tool can be used in nominal 2-inch PVC, but occasionally due to curvature in the casing the tool will not advance. If this happens, the next deepest well at each nest will be logged. The conductivity temperature tool is 1.5 inches in diameter and seldom has a problem descending.

Task 3 – Analysis and Reporting – After collection of the field data, data collected will be compared to previous data to identify locations where conductivity has changed. The collected data and interpretations will be summarized in a brief technical memorandum.

Costs for the logging program are estimated at $ 10,338.50 inclusive of outside services. A breakdown of costs is presented in the table below.

FO-9 and FO-10 - Induction Logging

Pacific Surveys	Unit Cost	Number		Cost
Service Charge	1006	1	$	1,006.00
Induction Logging FO-9 (minimum charge)	750	1	$	750.00
Induction Logging FO10 (per ft charge)	0.75	1410	$	1,057.50
Conductivity/Temperture Logging	715	2	$	1,430.00
per diem	195	1	$	195.00
			$	4,438.50
Professional Services (hrs)				
Backgrounding	175	8	$	1,400.00
Supervise Logging	175	12	$	2,100.00
Analysis/Reporting	200	8	$	1,600.00
Travel	100	8	$	800.00
			$	5,900.00
TOTAL			**$**	**10,338.50**

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

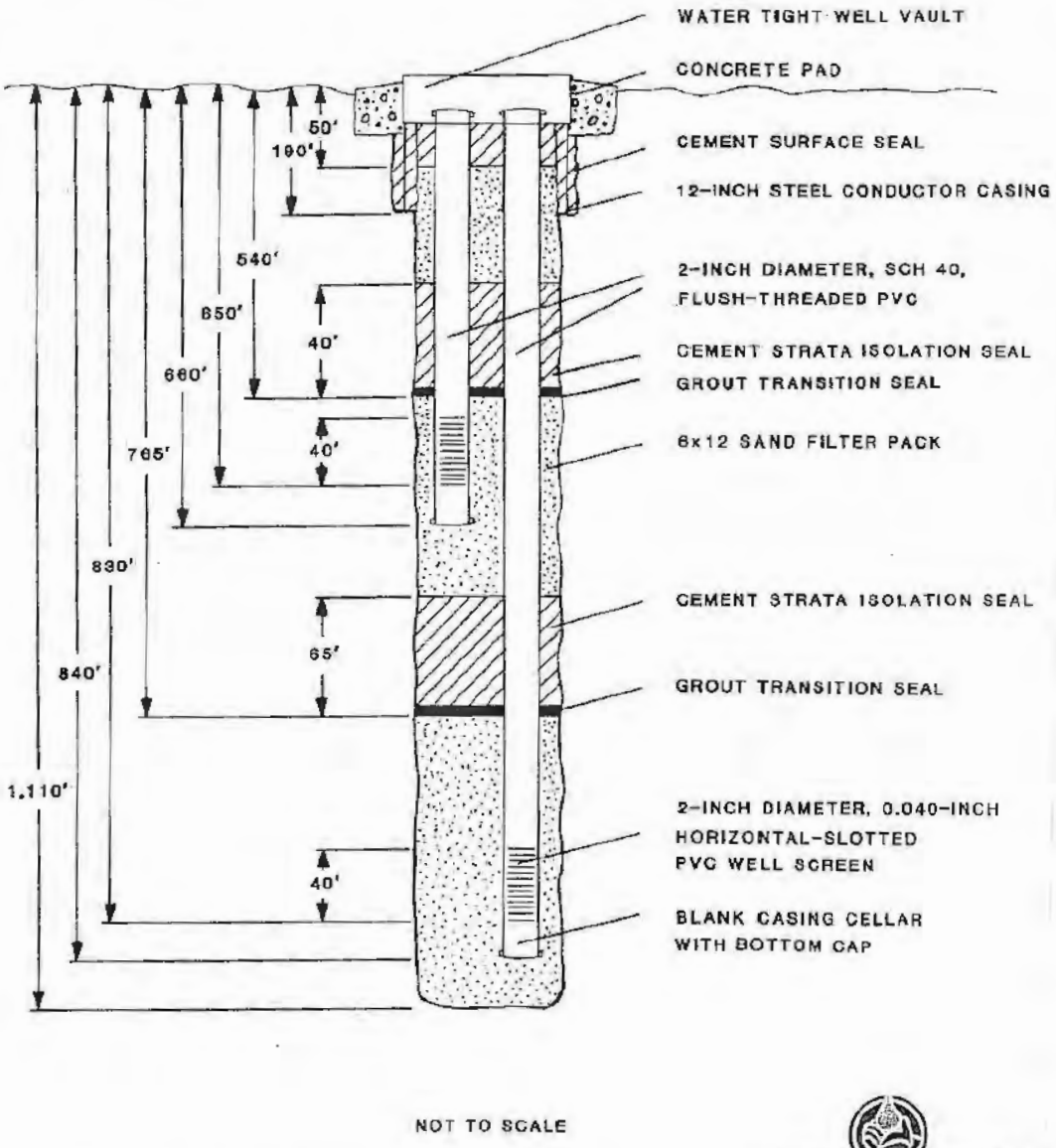
Sincerely,

Martin B. Feeney

FORT ORD COASTAL SUBBASIN GROUND WATER MONITORING PROJECT

MONITOR WELL CONSTRUCTION

MPWMD #FO-09



NOT TO SCALE

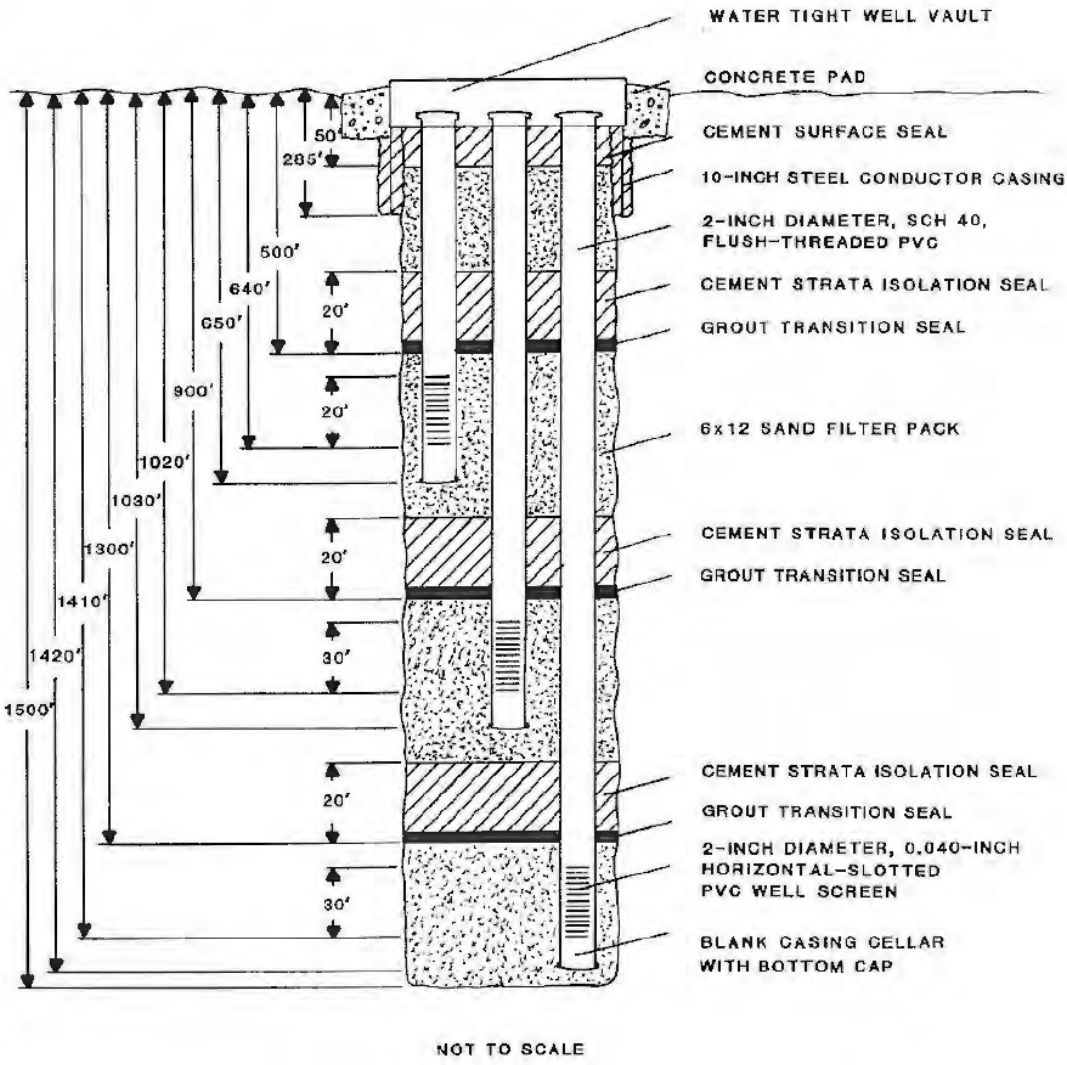
Figure 6. FO-09 Completion.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

1996 SEASIDE BASIN GROUND WATER MONITORING PROJECT

MONITOR WELL CONSTRUCTION

MPWMD #FO-10



NOT TO SCALE

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

Figure 3. MPWMD Site FO-10 Well Completion.

TO: Board of Directors

FROM: Laura Paxton, Administrative Officer (AO)

DATE: May 5, 2021

SUBJECT: Budget Transfer from Monitoring and Management—Operations Fund Basin Management line-item to Technical Program Manager line-item

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RECOMMENDATION: Approve transferring $35,000 of the $70,000 from Monitoring and Management Program Operations Fund – Basin Management Task I.3.a.3. line item to Technical Program Manager line item.

BACKGROUND: The Watermaster Technical Program Manager (TPM) is paid $150 per hour, and the 2021 budgeted amount for TPM is $60,000. The TPM expensed amount through March 31, 2021 is $27,225.00. In comparison, last year for the same quarter the TPM expensed amount was $9,375.

DISCUSSION: Increased TPM workload in 2021 included board direction to promptly address potential seawater intrusion in wells FO-09 & FO-10 and pursue in earnest recharge options to achieve protective groundwater levels. Moreover, the TPM coordinates the Watermaster Technical Advisory Committee (TAC) meetings and prepares the content of those meetings and, due to the potential seawater intrusion identified in late 2020, issues coming before the TAC in 2021 intensified. As a result, the TPM expense for January 2021 services alone was $12,675; February and March expenses were $7,500 and $7,050 respectively.

The Watermaster Board directed the TPM to represent Watermaster at meetings of agencies in which Watermaster is a stakeholder. The TPM followed the suggestion of the Budget & Finance Committee its April 27th meeting and reconfigured meeting attendance as listed below:

1. Pure Water Monterey Project Quality and Operations Committee (monthly/1 hour)
2. MCWD GSA Monterey Subbasin Stakeholders (Every other month/1.5 hours)
3. SVBGSA Monterey Subbasin Committee (monthly/2 hours)
4. Department of Water Resources Annual Adjudicated Basins Sustainable Groundwater Management Act (SGMA) Workshop (annually/1.5 hours)
5. SVBGSA Modeling Workshop (1 time, no further workshops anticipated)
6. GSP Web Map Workshop – Eastside, Forebay, Langley, Monterey, and Upper Valley Subbasin Committees (1 time, no further workshops anticipated)
7. SVBGSA Advisory Committee (1 to 2-times monthly/2 hours – delegated to AO Paxton)
8. Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) Seawater Intrusion Work Group (opted out until/if Watermaster items of interest arise in the future)

The TPM time spent representing Watermaster at the above meetings now constitutes roughly 20% of TPM time billed. TPM skips meetings of no potential import to the Watermaster, and only participates in attended meetings when an item of potential import to the Watermaster is being discussed, or when a vote of the members is required to approve an item. When not actively participating, TPM does other Watermaster work, and does not charge time to the meeting. Time is also spent preparing Watermaster presentations to other agency committees.

At the current workload, TPM cost is estimated at $7,000 per month for the remaining 3 quarters of 2021, necessitating a budget adjustment of $35,000, recommended to be covered by transferring from the Operations Fund Basin Management *Task I.3.a.3. Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions* budget line to the Operations Fund Technical Program Manager budget line since modeling of replenishment scenarios under Task I.3.a.3., if done at all, is not foreseen to commence until 2022. The Budget & Finance Committee, at its April 27, 2021 meeting, recommended the board approve the budget transfer.

FISCAL IMPACTS: The balance of $35,000 Operations Fund Task I.3.a.3. is carried over to 2022, and parties will be assessed in 2022 for the balance of the true cost ($70,000 is a low-end guesstimate) if the task is performed.

ATTACHMENTS: None

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Seaside Groundwater Basin Watermaster

Budget vs. Actual Administrative Fund

Fiscal Year (January 1 - December 31, 2020)
Balance through December 31, 2020

	2020 Adopted Revised Budget	Contract Amount	Year to Date Revenue / Expenses
Available Balances & Assessments			
Dedicated Reserve	-		-
FY (Rollover)	37,000.00		37,097.87
Admin Assessments	63,000.00		63,000.00
Available	**100,000.00**		**100,097.87**
Expenses			
Contract Staff	50,000.00	50,000.00	44,850.00
Legal counsel	25,000.00		1,116.70
Filing fees and postage			-
Total Expenses	**75,000.00**	**50,000.00**	**45,966.70**
Total Available	25,000.00		
Dedicated Reserve	25,000.00		25,000.00
Net Available	**-**		**29,131.17**

Seaside Groundwater Basin Watermaster 5/5/21

Budget vs. Actual Monitoring & Management - Operations Fund

Fiscal Year (January 1 - December 31, 2020)

Balance through December 31, 2020

	2020 Amended Budget	Contract Encumbrance	Year to Date Revenue/Expenses
Available Balances & Assessments			
Operations Fund Assessment	$ 164,000.00	$ -	$ 163,966.99
Pass Through	-	3,915.00	1,024.50
Cost Share Reimbursement	-	-	-
FY 2019 Rollover	51,967.00	-	168,250.62
Total Available	**$ 215,967.00**	**$ 3,915.00**	**$ 333,242.11**
Appropriations & Expenses			
GENERAL			
Technical Project Manager*	$ 60,000.00	$ 60,000.00	$ 54,675.00
Contingency @ 10% (not including TPM)	5,088.00	-	-
Total General	**$ 65,088.00**	**$ 60,000.00**	**$ 54,675.00**
CONSULTANTS (Montgomery; Web Site Database)			
Program Administration	$ 13,000.00	$ 20,400.00	$ 16,890.00
Production/Lvl/Qlty Monitoring	2,400.00		
Basin Management	30,000.00		
Seawater Intrusion Analysis Report	24,130.00	24,130.00	21,625.00
Total Consultants	**$ 69,530.00**	**$ 44,530.00**	**$ 38,515.00**
MPWMD			
Production/Lvl/Qlty Monitoring	$ 52,906.00	52,906.00	35,323.00
Pass Through 2018	-	3,915.00	3,285.50
Basin Management	-		-
Seawater Intrusion	1,192.00	1,192.00	-
Direct Costs	-	-	-
Total MPWMD	**$ 54,098.00**	**$ 58,013.00**	**$ 38,608.50**
CONTRACTOR (Martin Feeney)			
Hydrogeologic Consulting Services	$ 4,000.00	4,000.00	1,200.00
Production/Lvl/Qlty Monitoring	19,251.00	19,250.56	19,279.01
	$ 23,251.00	**$ 23,250.56**	**$ 20,479.01**
CONTRACTOR (Todd Groundwater)			
Hydrogeologic Consulting Services	**$ 4,000.00**	**$ 4,000.00**	-
Total Appropriations & Expenses	**$ 215,967.00**	**$ 189,793.56**	**$ 152,277.51**
Total Available	**-**		**180,964.60**

*As amended 9/2/20 $10,000 budget transfer from Contingency to Technical Program Manager

Seaside Groundwater Basin Watermaster

Budget vs. Actual Administrative Fund

Fiscal Year (January 1 - December 31, 2021)
Balance through March 31, 2021

	2021 Adopted Budget	Contract Amount	Year to Date Revenue / Expenses
Available Balances & Assessments			
Dedicated Reserve	-		-
FY (Rollover)	38,000.00		54,000.00
Admin Assessments	62,000.00		62,000.00
Available	**100,000.00**		**116,000.00**
Expenses			
Contract Staff	50,000.00	50,000.00	13,400.00
Legal counsel	25,000.00	25,000.00	7,587.00
Filing fees and postage			-
Total Expenses	**75,000.00**	**75,000.00**	**20,987.00**
Total Available	25,000.00		
Dedicated Reserve	25,000.00		25,000.00
Net Available	**-**		**70,013.00**

Seaside Groundwater Basin Watermaster

Budget vs. Actual Monitoring & Management - Operations Fund

Fiscal Year (January 1 - December 31, 2021)

Balance through March 31, 2021

	2021 Adopted Budget		2021 Adopted Budget Amended 05/05/21*		Contract Encumbrance	Year to Date Revenue/Expenses
Available Balances & Assessments						
Operations Fund Assessment	$ 220,000.00		$ 220,000.00		$ -	$ 220,000.00
Pass Through					3,915.00	-
FY 2020 Rollover	64,047.00		64,047.00		-	180,964.60
Total Available	**$ 284,047.00**		**$ 284,047.00**		**$ 3,915.00**	**$ 400,964.60**
Appropriations & Expenses						
GENERAL						
Technical Project Manager*	$ 60,000.00	*	$ 95,000.00	*	$ 95,000.00	$ 27,225.00
Contingency @ 10% (not including TPM)	16,368.00	*	6,029.50		-	
Total General	**$ 76,368.00**		**$ 101,029.50**		**$ 95,000.00**	**$ 27,225.00**
CONSULTANTS (Montgomery; Web Site Database)						
Program Administration	$ 25,320.00		$ 25,320.00		$ 19,720.00	$ 9,687.50
Production/Lvl/Qlty Monitoring	2,400.00		2,400.00			
Basin Management	76,000.00	*	41,000.00			
Seawater Intrusion Analysis Report	26,310.00		26,310.00		26,310.00	-
Total Consultants	**$ 130,030.00**		**$ 95,030.00**		**$ 46,030.00**	**$ 9,687.50**
MPWMD						
Production/Lvl/Qlty Monitoring	$ 49,906.00		$ 49,906.00		49,926.00	-
Pass Through 2021					3,915.00	-
Basin Management	-		-			-
Seawater Intrusion	1,192.00		1,192.00		1,192.00	-
Direct Costs	-		-		-	-
Total MPWMD	**$ 51,098.00**		**$ 51,098.00**		**$ 55,033.00**	**$ -**
CONTRACTOR (Martin Feeney)						
Hydrogeologic Consulting Services	$ -		$ -		4,000.00	-
Production/Lvl/Qlty Monitoring	22,551.00	*	32,889.50	*	28,839.00	10,297.90
	$ 22,551.00		**$ 32,889.50**		**$ 32,839.00**	**$ 10,297.90**
CONTRACTOR (Todd Groundwater)						
Hydrogeologic Consulting Services	**$ 4,000.00**		**$ 4,000.00**		**$ 4,000.00**	991.25
Total Appropriations & Expenses	**$ 284,047.00**		**$ 284,047.00**		**$ 232,902.00**	**$ 48,201.65**
Total Available	**-**		**-**			**352,762.95**

Seaside Groundwater Basin Watermaster — **ITEM VI.D.**

Replenishment Fund — 5/5/21

Water Year 2021 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2021) — **PAGE ONE**

Proposed 2021 Budget

Replenishment Fund	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Assessments:	WY 05/06	WY 06/07	WY 07/08	WY 08/09	WY 09/10	WY 10/11	WY 11/12	WY 12/13	WY 13/14
Unit Cost:	$1,132 / $283	$1,132 / $283	$2,485 / 621.25	$3,040 / $760	$2,780 / $695	$2,780 / $695	$2,780 / $695	$2,780 / $695	$2,702 / $675.50
Cal-Am Water Balance Forward	**$ -**	**$ 1,641,004**	**$ 4,226,710**	**$ (2,871,690)**	**$ (2,839,939)**	**$ (3,822,219)**	**$ (6,060,164)**	**$ (8,735,671)**	**$ (6,173,771)**
Cal-Am Water Production	*3,710.00*	*4,059.90*	*3,862.90*	*2,966.02*	*3,713.52*	*3,416.04*	*3,070.90*	*3,076.61*	*3,232.10*
Cal-Am Water NSY Over-Production (AF)	*1,862.69*	*2,266.32*	*2,092.16*	*1,241.27*	*1,479.47*	*1,146.71*	*820.48*	*856.42*	*1,032.77*
Exceeding Natural Safe Yield Considering Alternative Producers	2,106,652	2,565,471	5,199,014	3,773,464	4,112,933	3,187,854	2,280,943	2,380,842	2,790,539
Cal-Am Water OY Over-Production (AF)	-	*71.50*	*13.70*	-	-	-	*222.97*	*260.51*	*416.01*
Operating Yield Overproduction Replenishment	-	20,235	8,511	-	-	-	154,963	181,057	281,012
Total California American	**$ 2,106,652**	**$ 2,585,706**	**$ 5,207,525**	**$ 3,773,464**	**$ 4,112,933**	**$ 3,187,854**	**$ 2,435,907**	**$ 2,561,899**	**$ 3,071,550**
CAW Credit Against Assessment	(465,648)		(12,305,924)	$ (3,741,714)	(5,095,213)	(5,425,799)	(5,111,413)	-	-
CAW Unpaid Balance	***$ 1,641,004***	***$ 4,226,710***	***(2,871,690)***	***$ (2,839,939)***	***$ (3,822,219)***	***$ (6,060,164)***	***$ (8,735,671)***	***$ (6,173,771)***	***$ (3,102,221)***
City of Seaside Balance Forward	**$ -**	**$ 243,294**	**$ 426,165**	**$ 1,024,272**	**$ 1,619,973**	**$ 891,509**	**$ (110,014)**	**$ (773,813)**	**$ (1,575,876)**
City of Seaside Municipal Production	*332.00*	*287.70*	*294.20*	*293.44*	*282.87*	*240.68*	*233.72*	*257.73*	*223.64*
City of Seaside NSY Over-Production (AF)	*194.07*	*153.78*	*161.99*	*153.06*	*113.21*	*50.84*	*58.82*	*85.17*	*52.71*
Exceeding Natural Safe Yield Considering Alternative Producers	219,689	174,082	402,540	465,300	314,721	141,335	163,509	236,782	142,410
City of Seaside OY Over-Production (AF)	*44.60*	*0.30*	*6.80*	*21.47*	*29.77*	*0.00*	*222.97*	*38.86*	*4.77*
Operating Yield Overproduction Replenishment	12,622	85	4,225	16,522	20,690	-	1,689	27,007	3,222
Total Municipal	232,310	174,167	406,764	481,823	335,412	141,335	165,198	263,788	145,631
City of Seaside - Golf Courses	*464.70*		*593.00*	*562.93*	*100.61*	*0.01*	*0.13*	*0.05*	*0.57*
City of Seaside NSY Over-Production (AF)	-	-	*53.00*	*22.93*	-	-	-	-	-
Exceeding Natural Safe Yield - Alternative Producer	-	-	131,705	69,701	-	-	-	-	-
City of Seaside OY Over-Production (AF)			*53.00*	*22.93*	-	-	-	-	-
Operating Yield Overproduction Replenishment	-	-	32,926	17,427	-	-	-	-	-
Total Golf Courses	-	-	164,631	87,128	-	-	-	-	-
Total City of Seaside*	**$ 232,310**	**$ 174,167**	**$ 571,395**	**$ 568,951**	**$ 335,412**	**$ 141,335**	**$ 165,198**	**$ 263,788**	**$ 145,631**
City of Seaside Late Payment 5%	10,984	8,704	26,712	26,750	15,737				
In-lieu Credit Against Assessment	-		-	$ -	(1,079,613)	(1,142,858)	(828,996)	(1,065,852)	(1,459,080)
City of Seaside Unpaid Balance	***$ 243,294***	***$ 426,165***	***$ 1,024,272***	***$ 1,619,973***	***$ 891,509***	***$ (110,014)***	***$ (773,813)***	***$ (1,575,876)***	***$ (2,889,325)***
Total Replenishment Fund Balance	**$ 1,884,298**	**$ 4,652,874**	**$ (1,847,417)**	**$ (1,219,966)**	**$ (2,930,710)**	**$ (6,170,178)**	**$ (9,509,483)**	**$ (7,749,648)**	**$ (5,991,546)**
Replenishment Fund Balance Forward	-	**$ 1,884,298**	**$ 4,652,874**	**$ (1,847,417)**	**$ (1,219,966)**	**$ (2,930,710)**	**$ (6,170,178)**	**$ (9,509,483)**	**$ (7,749,648)**
Total Replenishment Assessments	2,349,946	2,768,576	5,805,632	4,369,165	4,464,082	3,329,189	2,601,104	2,825,688	3,217,182
Total Paid and/or Credited	(465,648)	-	(12,305,924)	(3,741,714)	(6,174,826)	(6,568,657)	(5,940,409)	(1,065,852)	(1,459,080)
Grand Total Fund Balance	**$ 1,884,298**	**$ 4,652,874**	**$ (1,847,417)**	**$ (1,219,966)**	**$ (2,930,710)**	**$ (6,170,178)**	**$ (9,509,483)**	**$ (7,749,648)**	**$ (5,991,546)**

Seaside Groundwater Basin Watermaster

Replenishment Fund

Water Year 2021 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2021)

Proposed 2021 Budget

Replenishment Fund	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**Totals WY 2006 Through 2020**	**Budget WY 2021**	**Projected Totals Through WY 2021**
Assessments:	WY 14/15	WY 15/16	WY 16/17	WY 17/18	WY 18/19	WY 19/20		WY 20/21	
Unit Cost:	$2,702 / $675.50	$2,702 / $675.50	$2,872 / $718	$2,872 / $718	$2,872 / $718	$2,872 / $718		$2,947 / $737	
Cal-Am Water Balance Forward	**$ (3,102,221)**	**$ (676,704)**	**$ (676,704)**	**$ (491,747)**	**$ (48,797,949)**	**$ (47,979,851)**		**$ (46,855,120)**	
Cal-Am Water Production	*2,764.73*	*1,879.21*	*2,029.51*	*2,229.45*	*2,120.22*	*2,245.88*	*44,376.99*		
Cal-Am Water NSY Over-Production (AF)	*782.17*	-	*64.40*	*374.65*	*284.85*	*334.21*	*14,638.57*		
Exceeding Natural Safe Yield Considering Alternative Producers	**2,113,414**	-	184,957	1,075,995	818,097	959,859	$ 33,550,034	100,000	$ 33,650,034
Cal-Am Water OY Over-Production (AF)	*462.03*	-	-	-	-	*229.63*	*1,676.35*		
Operating Yield Overproduction Replenishment	**312,103**	-	-	-	-	164,872	1,122,753	20,000	1,142,753
Total California American	**$ 2,425,516**	**$ -**	**$ 184,957**	**$ 1,075,995**	**$ 818,097**	**$ 1,124,731**	**$ 34,672,787**	**$ 120,000**	**$ 34,792,787**
CAW Credit Against Assessment	-	-		(49,382,196)	-		(81,527,907)		(81,527,907)
CAW Unpaid Balance	**$ (676,704)**	**$ (676,704)**	**$ (491,747)**	**$ (48,797,949)**	**$ (47,979,851)**	**$ (46,855,120)**	***$ (46,855,120)***	***$ (46,735,120)***	***$ (46,735,120)***
City of Seaside Balance Forward	**$ (2,889,325)**	**$ (3,346,548)**	**$ (3,232,420)**	**$ (3,142,500)**	**$ (3,022,249)**	**$ (2,919,806)**		**$ (2,802,831)**	
City of Seaside Municipal Production	*185.01*	*195.16*	*188.31*	*184.63*	*178.40*	*181.65*	*3,559.14*		
City of Seaside NSY Over-Production (AF)	*25.77*	*37.87*	*30.47*	*32.46*	*27.82*	*32.06*	*1,210.10*		
Exceeding Natural Safe Yield Considering Alternative Producers	69,630	102,330	87,512	93,225	79,893	92,089	$ 2,785,045	100,000	$ 2,885,045
City of Seaside OY Over-Production (AF)	*0.06*	*17.70*	*3.35*	*37.64*	*31.41*	*34.66*	*494.36*		
Operating Yield Overproduction Replenishment	38	11,959	2,409	27,026	22,550	24,886	174,929	10,000	184,929
Total Municipal	69,667	114,290	89,920	120,251	102,443	116,975	2,959,974	110,000	3,069,974
City of Seaside - Golf Courses	*311.73*	*458.44*	*439.36*	*511.90*	*490.42*	*537.00*	*4,470.85*		
City of Seaside NSY Over-Production (AF)	-	-	-	-	-	-	*75.93*		
Exceeding Natural Safe Yield - Alternative Producer	-	-	-	-	-	-	201,406	-	201,406
City of Seaside OY Over-Production (AF)	-	-	-	-	-	-	*75.93*		
Operating Yield Overproduction Replenishment	-	-	-	-	-	-	50,353	-	50,353
Total Golf Courses	-	-	-	-	-	-	251,759	-	251,759
Total City of Seaside*	**$ 69,667**	**$ 114,290**	**$ 89,920**	**$ 120,251**	**$ 102,443**	**$ 116,975**	**$ 3,211,733**	**$ 110,000**	**$ 3,321,733**
City of Seaside Late Payment 5%							88,887		88,887
In-lieu Credit Against Assessment	(526,890)	(162)	-	-	-	-	(6,103,451)	-	(6,103,451)
City of Seaside Unpaid Balance	***$ (3,346,548)***	***$ (3,232,420)***	***$ (3,142,500)***	***$ (3,022,249)***	***$ (2,919,806)***	***$ (2,802,831)***	***$ (2,802,831)***	***$ (2,692,831)***	***$ (2,692,831)***
Total Replenishment Fund Balance	**$ (4,023,252)**	**$ (3,909,125)**	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,657)**	**$ (49,657,951)**	**$ (49,657,951)**	**$ (49,427,951)**	**$ (49,427,951)**
Replenishment Fund Balance Forward	**$ (5,991,546)**	**$ (4,023,252)**	**$ (3,909,125)**	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,657)**		**$ (49,657,951)**	
Total Replenishment Assessments	2,495,183	114,290	274,877	1,196,246	920,540	1,241,707	37,973,408	230,000	**38,203,408**
Total Paid and/or Credited	(526,890)	(162)	-	(49,382,196)	-	-	(87,631,358)	-	**(87,631,358)**
Grand Total Fund Balance	**$ (4,023,252)**	**$ (3,909,125)**	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,657)**	**$ (49,657,951)**	**(49,657,951)**	**$ (49,427,951)**	**$ (49,427,951)**

SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: May 5, 2021

SUBJECT: MPWMD Water Supply Committee Meeting Agenda Items

RECOMMENDATIONS:
Consider having the Watermaster Board Chair send a letter to MPWMD (1) asking them to either repair FO-9 if it is confirmed that it is leaking, or to replace it if it needs to be destroyed, and (2) to begin Board-level discussions about obtaining replenishment water from the Pure Water Monterey Expansion Project, if that project moves forward into implementation.

BACKGROUND:
On April 5, 2021 MPWMD's Water Supply Committee met and discussed two items that pertain to the Seaside Basin. These two items from the agenda packet for that meeting are attached. Watermaster Board members Riley and Adams are members of that Committee and may be able to provide further information on those items.

DISCUSSION:
The first agenda item discusses the topic of replenishment water to help the Seaside Basin achieve protective water levels. It concludes that the Pure Water Monterey Expansion project could provide all of the replenishment water that is estimated to be needed to achieve protective water levels. This differs from the conclusion of the Watermaster's analysis and comparison of the MPWSP with the Pure Water Monterey Expansion Project in terms of providing the needed replenishment water. Since the MPWMD and Watermaster analyses both used the same set of supply and demand figures for each year, the difference apparently is because the MPWMD projection of "Excess Available Water" in Exhibit 2A of the agenda item assumes that the Pure Water Monterey Expansion Project is already in operation (current demand of 9,825 AFY was for 2019), whereas the Watermaster's analysis estimates the Pure Water Monterey Expansion Project would not become operational until 2023 following completion of design, permitting, and funding. MPWMD General Manager Stoldt confirmed this orally during the TAC's April 14, 2021 meeting, at which this topic was discussed.

With a 2023 startup date for the Pure Water Monterey Expansion Project and a 2024 startup date for the MPWSP Desalination Plant, Figure 1 in previous Item VIII.B. of today's Board meeting agenda packet (on page 50) provides a visual comparison of the two projects' replenishment water production capabilities. Figure 1 indicates that the Pure Water Monterey Expansion Project would provide slightly less replenishment water than is currently estimated to be needed, and that it would take many years for it to provide all of the replenishment water that it can provide. Figure 1 shows that the MPWSP's Desalination Plant would be able to provide all of the replenishment water that is currently estimated to be needed in the matter of just a few years. The principal finding is that while the Pure Water Monterey Expansion Project could provide a good portion of the currently-estimated amount of replenishment water that will be needed, it will take many years to do so, during which the Basin would remain vulnerable to seawater intrusion. The MPWSP Desalination Plant could greatly reduce this risk by providing the replenishment water in a much shorter period of time.

The second agenda item discusses the findings of investigation into the rising chloride levels in monitoring well FO-9 Shallow. It indicates MPWMD staff is recommending that this monitoring well be destroyed, and that MPWMD does not need it for its monitoring purposes. Thus, if a monitoring well in that location were needed, a new well would need to be installed which MPWMD estimates would cost over $100K. (Note: This cost is considerably lower than the estimate provided in the recent past by Martin Feeney to install a new monitoring well between FO-9 and the Seaside Golf Course wells.) It is interesting to note that Table 2 in the contract between the Watermaster and MPWMD to perform monitoring work lists the wells to be monitored, and identifies which wells are part of which party's monitoring network. Table 2, and Footnote 1 in that table, shows FO-9 Shallow to be a well that is in MPWMD's Monitoring Well Network, and is a well that MPWMD monitors monthly for water level as part of its own monitoring program. That information was provided by MPWMD when Table 2 was created some years ago, and that assignment of monitoring responsibilities has not changed over the years. Other than to avoid the cost of installing a shallow aquifer monitoring well to replace the existing damaged well, there is no explanation in the agenda about why MPWMD feels it no longer needs to monitor groundwater levels in this well. At the Watermaster TAC's April 14, 2021 meeting MPWMD representatives elaborated that MPWMD did not want to have the liability for a well that could be allowing seawater to intrude into a lower aquifer (the Paso Robles) and therefore intended to destroy the well if internal video inspection confirmed it was leaking, and if it could not be repaired.

The second attachment to this Agenda Transmittal is a map showing the locations of all of the monitoring and production wells that are within or adjacent to the Seaside Basin (taken from the 2019 Basin Management Action Plan Update). As that map shows, if FO-9 Shallow was destroyed there would be no source of water level or water quality data in that part of the Basin. The data obtained from the recent induction logging of FO-9 indicates that the dune sand deposits overlying the Paso Robles aquifer have already been seawater intruded this far inland. This means that there is a risk for intrusion into the Paso Robles aquifer to occur in this area, either through openings (gaps) in the clay layer that separates the dune sands from the Paso Robles, or through other wells that might have leaks. A properly operating monitoring well at the location of FO-9 could provide an early alert to such an occurrence.

ATTACHMENTS:

1. Agenda items from MPWMD Water Supply Committee meeting of April 5, 2021
2. Map showing location of monitoring wells

WATER SUPPLY PLANNING COMMITTEE

ITEM: DISCUSSION ITEM

2. ABILITY OF PURE WATER MONTEREY TO PROVIDE PROTECTIVE WELL LEVELS IN THE SEASIDE BASIN

Meeting Date:	**April 5, 2021**	**Budgeted:**	**N/A**
From:	**David J. Stoldt General Manager**	**Program/ Line Item:**	**N/A**
Prepared By:	**David Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Review: N/A
Committee Recommendation: N/A
CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines section 15378.

SUMMARY: There has been much discussion about protective water levels being achieved in the Seaside Groundwater Basis through the addition of water to the ground, beyond the perceived overdraft. This was raised in a letter from the Watermaster to the California Coastal Commission in August 2020. This is not a new issue, rather it has been known and talked about since 2009.

Protective groundwater elevations were determined in 2009 using the Seaside Groundwater Basin groundwater flow model and cross-sectional modeling (HydroMetrics LLC, 2009). A subsequent study in 2013 to revisit and update the protective groundwater elevations concluded that the calibrated parameters in the basin-wide model do not indicate that protective elevations should be lowered (HydroMetrics WRI, 2013).

Both Pure Water Monterey expansion and the MPWSP desalination plant were sized taking into consideration Cal-Am's 700 AFY in-lieu recharge, but never has either project been approached by the Watermaster until recently or sized to meet replenishment needs of the Seaside Basin, despite the known need for protective water levels (PWLs). In fact, at the Watermaster Technical Advisory Committee meeting which preceded the Watermaster Board meeting August 7, 2013 where the second presentation was made, the Cal-Am representative stated that replenishment to meet protective water levels is not the company's responsibility.

Further, until the past few months there has been no discussion as to how the Watermaster could afford to purchase water to achieve protective levels, especially desalination supply at over $5,000 - 6,000 per acre-foot. Likewise, there has to date been no initiative by the Watermaster to develop the infrastructure to distribute and inject water for such a purpose.

To make a connection between the proposed desalination plant and Seaside Basin protective levels was a red herring for the Coastal Commission hearing. For the Watermaster to state that "The MPWSP is the only possible supplemental water project before us that is capable of supplying the

additional water needed to allow Watermaster to sustain PWL in the Basin" is actually an admission that the desalination plant is sized grossly over the needed capacity as a replacement supply for consumers on the Peninsula, further underscoring that the demand forecast used was inflated. Further, it ignores that a Pure Water Monterey expansion of 2,250 AFY could also provide the needed water for such a purpose, as shown in **Exhibit 2-A** attached. The Watermaster has simplified the annual requirements for PWLs which would be 1,000 AFY if at inland wells, but only 850 AFY if at coastal wells. The new 2022 AMBAG growth forecast indicates even more water available from Pure Water Monterey Expansion that could be made available for protective levels, drought reserve, or unexpected growth.

Assuming available supplies of 11,294 AF each year with Pure Water Monterey (PWM) expansion, as shown below, then over 30 years there would be additional water available of 27,931 AF or an average of 931 AF per year.

Supply Source	w/ PWM Expansion
Pure Water Monterey	3,500
PWM Expansion	2,250
Carmel River	3,376
Seaside Basin	774
Aquifer Storage & Recovery (ASR)	1,300
Sand City Desalination Plant	94
Total Available Supply	**11,294**

If there was concern over the viability of ASR to provide 1,300 AF per year – even though studies show that over time ASR builds up a drought reserve in average-to-wet years sufficient to handle an extended drought – then PWM expansion could first be used to build up a 5-year ASR reserve of 6,500 AF. Since there already exists 1,290 AF of ASR water in the ground another 5,210 would be required – almost the first 4 years of PWM expansion excess. The 30 years after that would yield 24,131 AF or 804 AF per year on average.

Both of these scenarios ignore that 700 AF per year becomes available in year 26 after the Cal-Am in-lieu recharge program is concluded.

EXHIBIT

2-A Calculation of Excess Water Availability under Pure Water Monterey Expansion

EXHIBIT 2-A

Calculation of Excess Water Availability
under Pure Water Monterey Expansion

Year	Water Supply Available w PWMexp	Water Demand Assuming AMBAG Growth	Excess Available
1	11,294	9,825	1,469
2	11,294	9,862	1,432
3	11,294	9,899	1,395
4	11,294	9,936	1,358
5	11,294	9,973	1,321
6	11,294	10,011	1,284
7	11,294	10,048	1,246
8	11,294	10,085	1,209
9	11,294	10,122	1,172
10	11,294	10,159	1,135
11	11,294	10,196	1,098
12	11,294	10,233	1,061
13	11,294	10,270	1,024
14	11,294	10,307	987
15	11,294	10,344	950
16	11,294	10,382	912
17	11,294	10,419	875
18	11,294	10,456	838
19	11,294	10,493	801
20	11,294	10,530	764
21	11,294	10,567	727
22	11,294	10,604	690
23	11,294	10,641	653
24	11,294	10,678	616
25	11,294	10,715	579
26	11,294	10,753	541
27	11,294	10,790	504
28	11,294	10,827	467
29	11,294	10,864	430
30	11,294	10,901	393
			27,931

WATER SUPPLY PLANNING COMMITTEE

ITEM: DISCUSSION ITEM

3. UPDATE ON SEASIDE WELL FO-09 AND SEAWATER INTRUSION

Meeting Date:	**April 5, 2021**	**Budgeted:**	**N/A**
From:	**David J. Stoldt General Manager**	**Program/ Line Item:**	**N/A**
Prepared By:	**David Stoldt**	**Cost Estimate:**	**N/A**

General Counsel Review: N/A
Committee Recommendation: N/A
CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines section 15378.

SUMMARY: At the December 2, 2020 Board meeting of the Seaside Groundwater Basin Watermaster, Georgina King of Montgomery & Associates made a presentation on the annual Seawater Intrusion Analysis Report. The consultants concluded that what may he a precursor to seawater intrusion was detected in two monitoring wells experiencing increasing chloride concentrations. One of these is north of and outside of the Seaside Basin (monitoring well FO-10 Shallow), and the other is just inside the northern boundary of the Seaside Basin in the Northern Coastal Subarea (monitoring well FO-09 Shallow). However, none of the Watermaster's Sentinel Wells, located closer to the coastline than monitoring wells FO-09 and FO-10, detected seawater intrusion in the shallow aquifer in their induction logs. This was reported to the Water Supply Planning Committee at its February meeting.

The consultants concluded that the sampling frequency for monitoring wells FO-09 Shallow and FO-10 Shallow should be increased to quarterly to establish if their chloride concentrations are true trends, or anomalous. Following the December 2, 2020 report to the Watermaster board, FO-09 shallow was sampled on January 5th and its chloride concentration was 92.2 mg/L. That was up from 90.4 mg/L from the last Sept 28, 2020 sample, and above the well's Chloride Threshold Level of 67 mg/L. The last 4 samples have increased above each previous sample.

On March 23rd, District staff pulled the pump at FO-09 Shallow and consultant Martin Feeney ran an induction and fluid conductivity log of the well. At 185' below grade, the conductivity greatly spiked and was high all the way down the well. The likely cause of this is a crack in the casing or a separated joint. This is problematic because it means the shallow seawater intrusion in the dune sands has found a pathway to the Paso Robles. However, this is a good discovery because it is the source of the rising chlorides in the well. The sample pump was deployed at 130 feet with a drop tube down to the screens. A seal in the pump had failed and instead of pulling water from the screens, which would have detected the high conductivity water, the pump was pulling from its

base at 130 feet above the crack in the casing leaving it undetected. Good news: no seawater intrusion. Bad news: as the owner of the well, the District will need to destroy the well.

The consultant (Feeney) wants to video the well to see the problem, which District staff thinks is a good idea to get an idea of the damage and inform us how to move forward. However, even if the damage is slight and it appears as if a slip seal could be slid and placed in the well, Monterey County Health Department only allows casing down to 2 inches, and in this case when installed would be on the order of 1 inch, which would not likely be approved by the County. Instead, we would be instructed to destroy the well. It is staff's recommendation that we should not make a repair to this well outside of spec. We would use the video to write the specifications for destruction. After the video, we should let the Health Department know what we have found and that we plan to take care of the issue.

The District needs to destroy this well because it is allowing seawater intrusion to short circuit the Paso Robles strata. However, the District does not use data from this well for any of its programs. FO-09 Deep is in the ASR permits, but not the shallow completion. We can destroy the shallow completion and retain the deep (we will also video the deep so we can prove it is not damaged), so this borehole will still provide the data we need. These FO wells were drilled by Joe Oliver in the early 1990s as exploratory bores to help define the hydrogeology of the Northern Coastal Sub Area and prior to the formation of the Watermaster these wells were infrequently sampled. Upon formation of the Watermaster, quarterly sampling of FO-09S was incorporated into the Court adopted Monitoring and Maintenance plan. Many of the completions from the early 1990 FO effort are not monitored and are nearing the end of life expectancy. If they were found damaged they would be destroyed and not replaced. FO-09S is one of those completions.

The Watermaster and Marina Coast will likely want this well replaced, as it is in their official monitoring plans for the MMP and GSP respectively. The District does not need this well replaced. A replacement well is on the order of $100K. The District will have to decide what, if any, financial contribution it would make to a replacement, since a replacement is not needed for District purposes. The District has not informed either of those entities that the outcome of the cracked casing we he to destroy the well.

Here are some approximate costs for the proposed options for FO-9S:

Video Survey - Pacific Surveys and Supervision - $3K

Well repair – Will depends on survey, use as estimate - $15K

Well destruction - including permits, contractor time, concrete, concrete pumper, supervision, - $15K cheaper if done at time of new construction.

Well replacement – Est. $140/foot ($84K) and $30K supervision - $114K

EXHIBITS
None

Map of Monitoring and Production Well Locations

EXPLANATION

- Adjudicated Seaside Groundwater Basin Boundary
- Basin Boundary
- Subarea Boundary
- Monitoring Well
- Production Well
- ASR Well
- Laguna Seca Anticline
- Faults

N

0 0.5 1 1.5 2

Miles

Figure 2. Seaside Basin Well Locations

SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: May 5, 2021

SUBJECT: Consider Board Actions Concerning Possible Detection of Seawater Intrusion (SWI) in Monitoring Wells FO-9 and FO-10 Shallow

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RECOMMENDATIONS:

1. Start Board-level negotiations with both California American Water (Cal Am) and MPWMD/M1W to establish terms and conditions under which replenishment water could be provided by the Desalination Project or the PWM Expansion Project, respectively.
2. Direct Staff to:
    a. Determine how the cost to install a new monitoring well to replace the existing Monitoring Well FO-9 Shallow can be funded.
    b. Obtain scope-of-work and cost proposals from Montgomery & Associates to:
        i. Update the 2013 groundwater modeling to provide a more accurate indication of current replenishment water needs.
        ii. Update the SIRP to provide site-specific indicators of SWI (e.g., chloride threshold levels) for additional wells.
        iii. Develop flow direction and flow velocity maps.
    c. Research financial consultants that could develop a plan to finance the cost of obtaining such replenishment water for the Basin and provide recommendations to the Board.

BACKGROUND:

At its February 3, 2021 meeting the Board asked the TAC to undertake a number of actions regarding the possible detection of seawater intrusion in Monitoring Wells FO-9 and FO-10 Shallow, including:

1. Informing the Board what the TAC envisions if:
- No Basin replenishment projects are constructed
- The Cal Am Desalination Project is constructed
- The Pure Water Monterey (PWM) Expansion Project is constructed

2. Recommending what the Watermaster should do right now if it is determined that SWI is occurring

3. Reviewing the Seawater Intrusion Response Plan (SIRP) to determine if it is up-to-date and adequate
- Clarifying why the four criteria were selected in the SIRP to make the determination as to whether or not SWI is occurring
- Providing more detail on SIRP response actions (listed only in general terms in the SIRP) e.g., specific steps to take, timelines for taking them, etc.

4. Performing induction logging of Monitoring Wells FO-9 and FO-10 so that data can be compared to the electrical logs when the wells were constructed to see what information that may provide regarding SWI in those wells

5. Having Montgomery & Associates perform an analysis of groundwater flow directions and velocities to determine where groundwater in the vicinity of Monitoring Well FO-9 Shallow is moving and at what speed

6. Revisiting the previously discussed topics of (1) lowering the Natural Safe Yield (NSY) to match the lower NSY value in the Basin Management Action Plan (BMAP) Update of July 2019, and (2) changing from using NSY to using Sustainable Yield for Basin management purposes
7. Preparing a Gantt Chart showing the timing for actions that should be taken if it is determined that SWI is occurring

Attached is a Discussion Paper which responds to the Board's requests. It reflects comments and suggested edits made by the TAC at its March 10 and April 14, 2021 meetings.

DISCUSSION:
The Discussion Paper provides a wide range of information regarding actions that have already been taken, future actions the Board could take, and what is involved in implementing the Watermaster's Seawater SIRP if the Board determines that SWI has in fact been detected within the Basin. The principal findings and conclusions from the Discussion Paper are:

- Replenishing the Basin in order to raise groundwater levels to protective elevations is necessary in order to prevent SWI from occurring.
- If no potential replenishment projects such as the MPWSP Desalination Plant or the PWM Expansion Project are constructed, there will be no way of achieving protective groundwater levels, short of drastically reducing pumping from the Basin and waiting for natural recharge from rainfall to begin to raise groundwater levels.
- Both the PWM Expansion Project and the MPWSP Desalination Plant could provide a good deal of replenishment water. The MPWSP Desalination Plant would be able to provide the full amount of replenishment water that is currently estimated to be needed in just a few years.
  However, it would take the PWM Expansion Project many years to provide the full amount of replenishment water that it could provide, and that amount would fall short of the current estimate of the amount that will be needed. Compared to the Desalination Plant, the PWM Expansion Project would leave the Seaside Basin vulnerable to seawater intrusion for a substantially longer period of time.
- Groundwater modeling performed in 2013 found that it would take approximately 1,000 acre-feet-per-year (AFY) of replenishment water, injected for a period of 25 years, in order to achieve protective elevations in all six of the protective elevation wells. This would be a total replenishment water volume of approximately 25,000 AF. This modeling needs to be updated to reflect the impacts of changes in ASR injection quantities, injection of water through the Pure Water Monterey Project, changes in groundwater levels that have occurred since 2013, and other factors, so that it will provide a more accurate indication of current replenishment water needs.
- Implementing the SIRP would be a complex, time consuming, and costly undertaking and should only be undertaken in the event that it is certain that SWI has been detected.
- Mapping could be prepared that would show flow directions and flow velocities in the Basin's aquifers. This would enable the Watermaster to estimate when seawater intruded water would move toward production wells.

Based on the information provided in the Discussion Paper, Watermaster staff makes the following recommendations to the Board:

1. The Watermaster should right now:
    a. Start negotiating with both Cal Am and MPWMD/M1W to establish terms and conditions under which replenishment water could be provided by the Desalination Project or the PWM Expansion Project, respectively. Because of the highly political nature of local water issues, staff believes this process should be conducted at the Board level, not at the staff level, and that this could best be done by forming a committee comprised of Board representatives of each of these entities.

b. Determine if a new monitoring well should be installed to replace Monitoring Well FO-9 Shallow, and if so, how the cost to do that would be funded. Because Monitoring Well FO-9 is part of the Watermaster's monitoring well network, is a well that Marina Coast Water District intends to use as part of the monitoring well network for the Monterey Subbasin Groundwater Sustainability Plan, and is a well that has historically been used by MPWMD for monitoring purposes, a cost-sharing agreement among these parties may be possible.

2. In the near future the Watermaster should:
    a. Update the 2013 groundwater modeling to provide a more accurate indication of current replenishment water needs.
    b. Start developing a plan to finance the cost of obtaining such replenishment water for the Basin.
    c. Update the SIRP to provide site-specific indicators of SWI (e.g., chloride threshold levels) for additional wells.
    d. Consider developing flow direction and flow velocity maps

ATTACHMENTS:
Discussion Paper on Board-Requested Actions Regarding the Possible Detection of Seawater Intrusion (SWI) in Monitoring Wells FO-9 and FO-10 Shallow

DISCUSSION PAPER
ON BOARD-REQUESTED ACTIONS
REGARDING THE POSSIBLE DETECTION OF SEAWATER INTRUSION (SWI)
IN MONITORING WELLS FO-9 AND FO-10 SHALLOW

What is envisioned if:

a. No Basin replenishment projects are constructed.

If no replenishment projects are constructed there will be no way of achieving protective groundwater levels, short of drastically reducing pumping from the Basin and waiting for natural recharge from rainfall to begin to raise groundwater levels. Because the Basin is recharged mainly from inland areas, and since groundwater flows very slowly in the horizontal direction, it would be many years before natural recharge water could adequately raise groundwater levels near the coast. Modeling performed for the Watermaster by HydroMetrics in 2013 is described in the Technical Memorandum titled *Groundwater Modeling Results of Replenishment Repayment in the Seaside Basin*, dated April 5, 2013. This Technical Memorandum can be viewed in Attachment 10 of the Watermaster's 2013 Annual Report, which starts on page 143 of that document, and at this link: http://www.seasidebasinwatermaster.org/Other/Final%20Annual%20Report%202013%20A%2012-5-13-1.pdf.

This modeling found that in order to achieve protective groundwater elevations in all six of the wells for which protective elevations have been established, all pumping from the Basin by both Standard and Alternate Producers would have to cease for a period of 25 years, with the exception of recovery of ASR injected water. Some of the wells achieved protective elevations sooner than 25 years, but these were wells in the shallow aquifers, not the deep aquifers where the majority of the production pumping occurs. The 2013 modeling needs to be updated to reflect the impacts of changes in ASR injection quantities, injection of water through the Pure Water Monterey Project, changes in groundwater levels that have occurred since 2013, and other factors, so that it will provide a more accurate indication of current replenishment water needs. Because of the continued overpumping of the Basin since the 2013 report was prepared, the amount of replenishment water needed may now be greater.

Clearly, unless a new water source becomes available to completely replace the Seaside Basin as a water supply source, it would be infeasible to discontinue all pumping from it. This means the Basin will continue to be vulnerable to SWI. Our consultants have told us that if protective groundwater elevations are not achieved, there is no doubt that seawater will eventually enter the Basin's aquifers. This may be a slow process, but it would accelerate if groundwater levels continue to fall. It was initially thought that SWI might be starting to occur in Monitoring Well FO-9, but as discussed in more detail below recently completed investigative work on that well indicates that SWI is not occurring there. However, it may already be occurring in other areas of the Basin where there are no monitoring wells that would detect this. Because of the pumping depression in the Northern Coastal Subarea, intruded seawater will flow toward that due to the downward hydraulic gradient. Unless wells in that part of the Northern Coastal Subarea are relocated elsewhere, they would eventually begin to pump intruded seawater.

b. The Cal Am Desalination Project is constructed.

If the Desalination Project is constructed, it would offer the potential to produce water that could be used to replenish the Basin. Replenishment means water would be injected into the Basin and not pumped back out, so that it would raise groundwater levels. The 2013 HydroMetrics modeling report referred to above found that it would take approximately 1,000 acre-feet-per-year (AFY) of replenishment water, injected for a period of 25 years, in order to achieve protective elevations in all six of the protective elevation wells. This would be a total replenishment water volume of approximately 25,000 AF.

Because the Desalination Project would be designed to provide an adequate water supply to support expected growth in demand in future years, in its initial years of operation its production capacity would exceed the levels of demand, thus enabling the plant to produce replenishment water. An evaluation of the Desalination Project's

replenishment water production potential was provided to the Board at its February 3, 2021 meeting, under Agenda Item XI.C, the subject of which was *Direct Staff Regarding Obtaining Additional Water to Recharge the Basin to Raise Groundwater Levels.* The attachment included with that Agenda Item, titled *Information on Issues Associated with Obtaining Additional Water to Recharge the Basin in Order to Raise Groundwater Levels* contained a Figure showing the potential amounts of replenishment water that the Desalination Project could provide out to the year 2050 under five growth scenarios, and assuming the Desalination Project began operation in 2020. A revised copy of that figure, reflecting an updated start-of-operation date of 2024 (as used in Gantt Chart 2), is shown below in Figure 1. Figure 1 shows that the Desalination Project could provide 25,000 AF of water for replenishment by 2028 under the average growth rate of the five growth scenarios.

c. The Pure Water Monterey (PWM) Expansion Project is constructed.

Similarly, the PWM Expansion Project would be designed to support expected growth in demand in future years. Therefore, just like the Desalination Project, in its initial years of operation its production capacity would exceed the levels of demand, thus enabling it to produce replenishment water. Under an updated start-of-operation date of 2023 (as used in Gantt Chart 2), the PWM Expansion Project would not be able to provide more than a maximum of 22,062 AF of water for replenishment, and that would not occur until 2058. After that date all of the Pure Water Monterey Project's water would be needed to meet projected water demands, and it would not be able to provide replenishment water. By the end of 2050 the total potential amount of replenishment water the PWM Expansion Project could provide would be approximately 21,200 AF under the average growth rate of the five growth scenarios.

What should the Watermaster do right now if it is determined that SWI is determined to be occurring?

If it is determined, using the criteria contained in the Watermaster's Seawater Intrusion Response Plan (SIRP), that SWI is occurring, then the Seawater Intrusion Contingency Actions contained in Section 4 of the SIRP should be implemented. These consist of:

Action 1: Verification
Action 2: Declaration of Seawater Intrusion
Action 3: Notification
Action 4: Pumping Redistribution Plan
Action 5: Focus Supplemental Supplies to Halt and Reverse Seawater Intrusion

Each of these actions is described in more detail in the SIRP.

Under Action 4 the pumping redistribution plan is designed to contain observed seawater intrusion, and to protect production wells until a supplemental water supply is obtained. The pumping redistribution plan consists of a series of activities including relocating and reducing pumping in order to prevent intruded seawater from reaching production wells. It includes evaluating the potential benefit of installing additional monitoring wells.

Under Action 5 when a supplemental water supply becomes available for Basin replenishment, the Watermaster is to have the supplemental water used strategically to protect the Basin from further seawater intrusion, and to restore the Basin to pre-seawater intruded conditions. Supplemental supplies are to be used to both offset pumping that causes the observed seawater intrusion, and to raise groundwater levels to reverse seawater intrusion, i.e., to achieve protective groundwater levels.

Regarding supplemental water supplies, the 2019 update of the Watermaster's Basin Management Plan includes a recommendation to develop a long-term financing plan for replenishment water, which reads as follows:

> *The Adjudication Decision identifies three separate budgets that the Watermaster oversees: (1) the Monitoring and Management Plan budget, (2) an annual Administrative budget, and (3) a Replenishment budget. These budgets are set every year by the Watermaster.*
>
> *The replenishment assessments are only intended to offset overproduction that has occurred after the Decision was issued. The current replenishment assessments are not sufficient to buy water that offsets over-pumping that occurred prior to the Adjudication Decision. The over-pumping prior to the Adjudication Decision added to the*

Basin's deficit. Offsetting only the over-production that occurred after the Adjudication Decision may not be sufficient to raise groundwater levels in the Basin sufficiently to prevent seawater intrusion.

The Watermaster should develop a plan to address this issue.

Based on cost information provided by Cal Am, the currently projected cost of water from the Desalination Project is on the order of $5,500/AF, and from the PWM Expansion Project is on the order of $2,500/AF. Regardless of which project moves forward, acquiring 1,000 AFY of replenishment water will cost several million dollars per year.

The Watermaster should right now (1) start negotiating with both Cal Am and MPWMD/M1W to establish terms and conditions under which replenishment water can be provided by the Desalination Project or the PWM Expansion Project, respectively, (2) update the 2013 modeling to provide a more accurate indication of current replenishment water needs, and (3) start developing a plan to finance the cost of obtaining such replenishment water for the Basin.

Is the Seawater Intrusion Response Plan (SIRP) up-to-date and adequate at this time?

After thoroughly reviewing the Watermaster's 2009 SIRP, it was found that only a few things would benefit from being updated:

1. Page 7 in the SIRP includes this paragraph: *Some production wells in the Seaside Groundwater Basin are screened across multiple depth zones, and the water qualities of these wells reflect a blend from multiple sources. These wells cannot be used for assessing water quality of individual aquifers. Water quality data are, however, collected at these wells; and seawater intrusion indicators should be established for these wells after sufficient data are acquired. Seawater intrusion indicators for wells completed across multiple depth zones should be the least restrictive indicators of all the screened zones. As additional geochemical data are collected through future groundwater monitoring, groundwater quality in these wells should be evaluated to determine site-specific indicators.*

We now have additional water level and water quality data since the SIRP was prepared. It would be beneficial to develop site-specific indicators (e.g., chloride threshold values) for these wells.

2. Page A-15 in the SIRP includes this paragraph: *Hem (1989) suggested several other indicators for seawater intrusion, including the concentration ratio of calcium to magnesium (approximately 0.3 in seawater and greater in fresh water); the percentage of sulfate among all ions (approximately 8 percent in seawater and larger in fresh water); and the concentrations of minor constituents such as iodide, bromide, boron, and barium.*

These other indicators have thus far not been used when preparing the annual Seawater Intrusion Analysis Reports, but data to analyze these anions and cations has been collected in many wells since the SIRP was prepared. In addition to these, Martin Feeney suggested other anion/cation analyses that might also be helpful, specifically:

- *Ca to HCO3+SO4 (mg/l) - greater than 1 can be indicative of SWI*
- *Ratio of Chloride to Bromide (mg/l) – Seawater~297, Pajaro GW ~*
- *Simpson Ratio (Todd 1959) – Ratio of Cl/HCO3 + CO3 (mg/l) => good quality (< 0.5), slightly contaminated (0.5-1.3), moderately contaminated (1.3-2.8), injuriously contaminated (2.8-6.6), highly contaminated (6.6 – 15.5)*
- *Base Exchange Index (BEX) – BEX= Na +K + Mg – 1.0716 Cl (all units in meg/l[1][2]); positive value indicates freshening, negative value indicates salinization.*

It would be beneficial to perform these analyses on any well where significant increases in chloride levels are being observed. This information could be helpful in determining whether or not the increased chloride levels are being caused by intruding seawater, and thus what actions the Watermaster should take.

Comments not involving updating of the SIRP:

- Page A-6 in the SIRP contains this paragraph: *No single analysis definitively identifies seawater intrusion, however by looking at various analyses we can ascertain when fresh groundwater mixes with seawater. At low chloride concentrations, it is often difficult to identify incipient seawater intrusion. Mixing trends between groundwater and seawater are more easily defined when chloride concentrations exceed 1,000 milligrams per liter (mg/L). This is due to the dominance of natural variation in fresh water chemistry at chloride concentrations below 1,000 mg/L (Richter and Kreitler, 1993). Chloride concentrations greater than 1,000 mg/L are clearly indicative of seawater intrusion in the local aquifers.*

It is interesting to know that it takes higher chloride levels than we are seeing in any of our wells before it is likely that mixing trends between freshwater and seawater will be easily seen.

- Page A-11 in the SIRP contains this paragraph: *Example graphs showing historical chloride concentration increases indicative of seawater intrusion are shown in Figure 8 and Figure 9. Figure 8 graphs steadily increasing chloride concentrations in a shallow well in the Salinas Valley. Figure 9 graphs increasing chloride concentrations in a well in the Pajaro Valley. Both of these graphs show that the rise in chlorides is a lengthy and persistent process; chloride concentrations began to increase in the representative Salinas Valley well in 1982, and took six years before exceeding the Safe Drinking Water Act secondary drinking water standard of 250 mg/L. This long-term and relatively slow increase in chlorides suggests that while chloride concentrations are strongly indicative of seawater intrusion, it often takes time for the increasing chloride trend to be recognizable.*

It is interesting to know that it may take a trend of increasing chloride levels a long time to be easily recognized. The Safe Drinking Water Act secondary drinking water standard is 250 mg/L. This is much higher than the current chloride levels in any of the monitoring or production wells within the Seaside Basin.

- Page A-14 in the SIRP contains this paragraph: *In addition to plotting increasing chloride concentrations, decreasing sodium/chloride ratios are plotted on Figure 8 and Figure 9. The strong correlation between the two indicators of seawater intrusion can be observed on these two figures. The potential utility of sodium/chloride ratios as an early indicator of seawater intrusion is shown on Figure 9. This figure shows that by August 1988, chloride concentrations in the Pajaro Valley well had remained relatively constant, yet sodium/chloride ratios were beginning to drop, suggesting incipient seawater intrusion. By September 1990, the rising chloride levels can be clearly correlated to dropping sodium/chloride ratios; definitively associating the high chlorides with seawater intrusion.*

It is interesting to know that a decrease in the sodium/chloride ratio may be an earlier indicator of SWI than is an increasing trend in chloride levels.

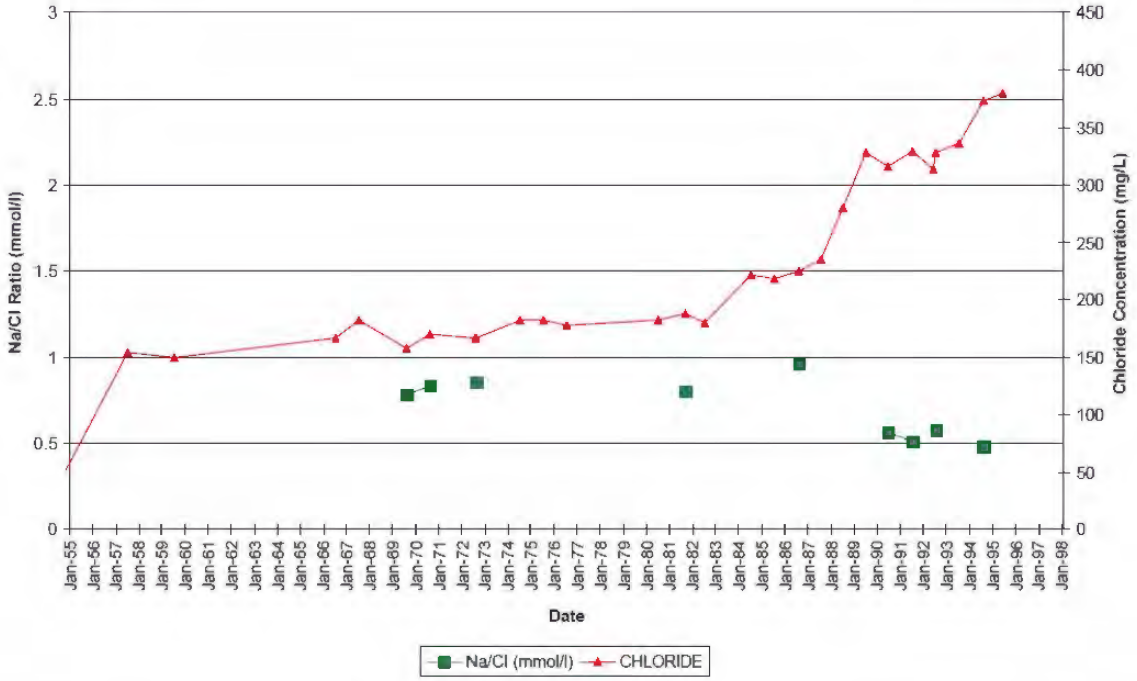


Figure 8: Historical Chloride Concentrations and Sodium/Chloride Ratios for a Well in Salinas Valley Showing Incipient Intrusion
(Source: MCWRA)

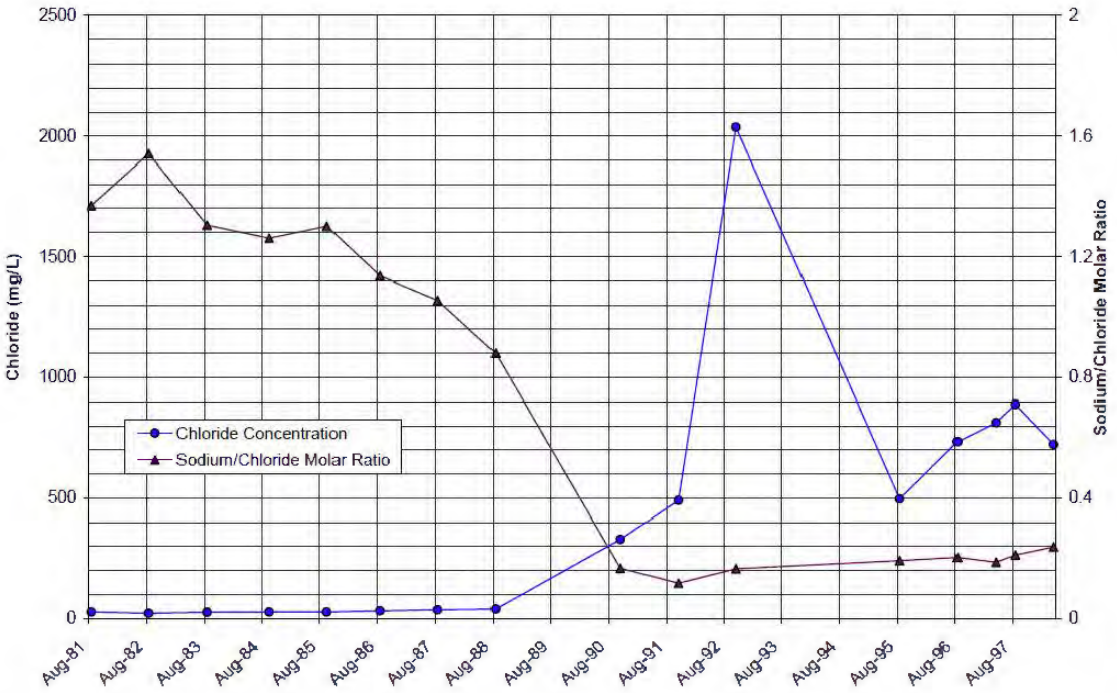


Figure 9: Historical Chloride Concentrations and Sodium/Chloride Ratios for a Well in Pajaro Valley Showing Incipient Intrusion
(Data source: PVWMA)

Why were the four criteria listed in the SIRP selected in order to make the determination as to whether or not SWI is occurring?

The following four indicators of SWI are used in the SIRP. A brief explanation of why each of these indicators were selected is provided below.

Indicator 1: Increasing Chloride Concentrations

Unusually high or steadily increasing chloride concentrations are one of the most commonly used indicators of seawater intrusion. At low chloride concentrations, trends are often as important as absolute concentrations because of natural variations in groundwater chemistry. While chloride concentrations are strongly indicative of seawater intrusion, it often takes time for the increasing chloride trend to be recognizable due to the long-term and relatively slow increase in chlorides during seawater intrusion.

Indicator 2: Decreasing Sodium/Chloride Molar Ratios

A rapid decline in the molar ratio of sodium to chloride may indicate seawater intrusion. In the early stages of seawater intrusion, sodium often replaces calcium on the aquifer's clay particles through ion exchange before significant chloride increases are observed. This effectively removes sodium from the water, and sodium/chloride molar ratios drop. The ratio of sodium to chloride in groundwater can therefore sometimes be used as an early indicator of seawater intrusion. Sodium/chloride molar ratios can also be used to differentiate between seawater intrusion and other sources of salinity. The literature suggests that sodium/chloride molar ratios in advance of a seawater intrusion front will be below 0.86 molar ratio.

Indicator 3: Visual Inspection of Cation/Anion Ratios

Seawater intrusion is often indicated by graphically analyzing shifts in groundwater quality. Two common graphical techniques for these analyses are Piper diagrams and Stiff diagrams.

Indicator 4: Chloride Concentration Maps

In basins experiencing seawater intrusion, chloride concentrations will be highest at the coast. If chloride concentrations have a distribution that can be contoured, annual chloride iso-concentration maps can be generated. This would show whether seawater is migrating in from the coast. Chloride data compiled in the annual Seawater Intrusion Analysis Reports for the shallow aquifer has not shown a distribution that could be contoured. Therefore, the data were simply plotted on the maps but not contoured.

Provide more detail on SIRP response actions (listed only in general terms in the SIRP) e.g., specific steps to take, timelines for taking them, etc.

As noted above, these are the response actions listed in the SIRP:

Action 1: Verification
Action 2: Declaration of Seawater Intrusion
Action 3: Notification
Action 4: Pumping Redistribution Plan
Action 5: Focus Supplemental Supplies to Halt and Reverse Seawater Intrusion

The first three Actions are administratively straightforward and are clearly described in the SIRP.

Action 4 involves the following eight steps, some of which should be applied iteratively:

• ***Discontinue or substantially reduce pumping the Impacted Well(s).*** *If seawater intrusion has been declared for a production well, pumping at this well shall be discontinued or substantially reduced as soon as possible, but no longer than 30 calendar days after the Declaration of Seawater Intrusion. If seawater intrusion has been declared for only monitoring wells, this activity is unnecessary.*

Note that Monitoring Well FO-9 Shallow, which was of recent concern, is a monitoring well, not a production well, so for that well this step would not be applicable.

• ***Identify At Risk Well(s) where seawater intrusion might occur.*** *At Risk Wells are production wells that have the potential to become impacted by seawater intrusion based on their proximity to the Impacted Well(s), local groundwater gradients, and other conditions.*

Using either the Seaside Basin Groundwater Model, or by performing manual analyses of groundwater level data, the direction (and potentially the speed of movement) of groundwater containing the increasing chloride levels from the location of a well of concern could be estimated. This would enable the identification of the production well(s) that would be at the greatest risk of experiencing increased chloride levels. From a discussion with Montgomery & Associates (Georgina King) it will be quicker and considerably less expensive to do this manually than it will be to use the Groundwater Model. As time goes on and the Basin reacts to the impacts of injection and extraction of water from the Pure Water Monterey Project, it might be necessary to use the Groundwater Model. However, the results from the manual analysis should be adequate to make decisions at this time.

• ***Identify and/or install additional monitoring wells.*** *The Watermaster will evaluate the benefit of installing additional groundwater monitoring wells to evaluate the movement of seawater intrusion towards the At Risk Well(s). If this evaluation concludes that monitoring wells should be installed, the Watermaster will pursue installation of these wells with due diligence.*

As reported to the Board at its February 3, 2021 meeting, installing a new monitoring well will be quite costly and will only provide data from the location where the well is installed. However, a new monitoring well would be useful in seeing how water quality in its location is changing over time. As discussed above, using the groundwater model, or manually estimating groundwater flow patterns using available groundwater level data, would provide information on how groundwater is moving in a larger area, but would only be as accurate as the model or the manual plotting can predict. The model is currently not capable of predicting changes in water quality, only the movement of groundwater. A supplemental software would need to be added to the model to predict water quality changes. In the Zoom meeting with the Watermaster's hydrogeologic consultants held on February 2, 2021 there was general consensus that performing a geophysical survey would be a better and more cost-effective means of determining if seawater is moving inland in the shallow sand formations near the coastline and posing a risk that it could gradually work its way downward into the Paso Robles aquifer, than it would be to put in one or more monitoring wells at this time. This information could also be helpful in finding the best location for new monitoring well(s), if it was ultimately decided that it would be beneficial to install one or more new monitoring wells.

• ***Estimate the groundwater conditions that protect production wells.*** *The Watermaster shall estimate the maximum acceptable groundwater gradient between the Impacted Well(s) and the At Risk Well(s) that prevents seawater intrusion from reaching the At Risk Wells before a supplemental supply is obtained, currently estimated to be 2015. The Watermaster should further estimate the expected total dissolved solids (TDS) and chloride concentrations over time that might be observed at existing or new monitoring wells under this maximum groundwater gradient.*

We now know that no supplemental supply will be available to the Basin by 2015. In fact, there is currently no estimated date for which a new supplemental supply, to augment the existing Pure Water Monterey Project, will become available. The two potential supplemental supply sources are the Cal Am Desalination Plant and the Pure Water Monterey Expansion Project. Consequently, it would be impossible at this time to estimate the maximum acceptable groundwater gradient required under this Action. Once a date is known upon which a supplemental supply will be available to the Basin, this Action could be carried out using the groundwater model, or manually estimating groundwater flow patterns using available groundwater level data, to estimate the maximum acceptable groundwater gradient.

• ***Identify and evaluate production wells' influence on observed seawater intrusion.*** *All production wells in the Seaside Groundwater Basin shall be evaluated and ranked for their influence on the groundwater gradients that are causing seawater intrusion and migration. The Watermaster shall estimate one or more recommended pumping scenarios that will achieve the maximum acceptable gradient between Impacted and At Risk well(s).*

As noted above, it is currently not possible to estimate the maximum acceptable groundwater gradient. Therefore, it is not currently possible to evaluate and rank production wells for their influence on those gradients. However, it may be possible using the groundwater model to draw some conclusions, based on locations and production quantities, that would enable estimating which wells will likely have the greatest effect on the movement of SWI into the Basin.

• ***Increase monitoring frequency.*** *The Watermaster should increase the monitoring frequency of the Impacted Well(s), monitoring wells, and At Risk Well(s) to evaluate the progress of the seawater intrusion. Groundwater elevations at these wells should be measured monthly, and groundwater samples should be collected from these wells and analyzed monthly for major cations and anions. The groundwater gradient should be analyzed every month to confirm that the pumping reduction is having the planned effect.*

Because of the initial concern that SWI might be starting to occur, the water quality monitoring frequency in FO-9 Shallow was recently increased from twice a year to quarterly, and the monitoring frequency of FO-10 Shallow was increased from annually to quarterly. If this more frequent monitoring indicates the onset of SWI at well FO-9 Shallow, then it would be appropriate to increase this frequency to monthly. These wells are already being monitored monthly for groundwater level, so that requirement is already being fulfilled. If SWI is detected in a monitoring well, pumping from it cannot be reduced. However, as described above, if it is possible to estimate which production well(s) will likely have the greatest effect on the movement of SWI, then efforts to reduce pumping from those well(s) could be undertaken as an early proactive step to control the movement of SWI, if it is occurring.

• ***Re-evaluate the Operating Yield.*** *In accordance with the Amended Decision, the Watermaster should re-evaluate the Operating Yield to prevent further Material Injury.*

The *Seaside Groundwater Basin 2018 Basin Management Action Plan* (BMAP) dated July 19, 2019 estimated the Natural Safe Yield (NSY) for the Basin as a whole to be 2,370 AFY. This is lower than the 3,000 AFY Decision-established NSY. At its June 5, 2019 meeting the Board received a presentation on this BMAP and determined to ramp-down the Operating Yield to match the 3,000 AFY NSY for the time being while awaiting completion of the Groundwater Sustainability Plan (GSP) for the Monterey Subbasin. The Seaside Basin groundwater level impacts that would result from implementation of the Monterey Subbasin GSP could then be evaluated. At this same meeting the Board also determined that after that evaluation was made, it would be appropriate to reevaluate the NSY and also to consider changing from the NSY approach to a Sustainable Yield (SY) approach for Basin management purposes. If the determination is made that SWI is starting to occur in any well (monitoring or production), then it would be appropriate to consider both (1) lowering the NSY from 3,000 AFY to 2,370 AFY and/or (2) changing to the SY approach.

The following activity shall be initiated within 90 calendar days of the Water master Board adopting recommendations from the previous activities:

• ***Modify pumping to achieve the desired groundwater gradient.*** *Groundwater pumping at the most influential production wells should be modified to achieve the groundwater gradient calculated above.*

This Action could be undertaken after it becomes possible to calculate the maximum acceptable groundwater gradient.

Action 5 pertains to the use of a supplemental water supply for Basin replenishment. Action 5 reads as follows: *When a supplemental water supply becomes available for Seaside Groundwater Basin replenishment, the Watermaster will seek to have the supplemental water used strategically to protect the Seaside Groundwater Basin from further seawater intrusion, and to restore the Basin to pre-seawater intruded conditions. Supplemental supplies should be used to both offset pumping that causes the observed seawater intrusion, and to raise groundwater levels to reverse seawater intrusion.*

Since no supplemental water supply is currently available, it is not currently possible to carry out this Action. Further, simply having a supplemental supply become available would not immediately halt the advance of seawater intrusion. The advance would only be sufficiently halted by raising groundwater levels such that there was no downward gradient between the seawater intruded area(s) and the production wells that are At Risk. As the groundwater levels rise, the rate of advance would slow. However, it would be a complicated analysis requiring the use of the Groundwater Model, and making a number of assumptions, to determine how best to use the supplemental water to protect production wells against seawater intrusion.

Perform induction logging of Monitoring Wells FO-9 and FO-10 so that data can be compared to the E-logs when the wells were constructed to see what information that may provide regarding SWI in those wells.

At its February 3, 2021 meeting the Board provided direction to staff to perform this work. A scope of work and cost proposal to perform this work was provided by Martin Feeney, and the work was authorized by the issuance of a contract

amendment to him. On March 24, 2021 he performed induction logging of Monitoring Wells FO-9 and FO-10. The purpose of doing this was to have the induction logging results on those wells compared to the E-logs for those wells when they were constructed to identify possible changes in water quality surrounding those wells.

Mr. Feeney's report providing the findings and conclusions from this work is attached. As his report concludes, the increase in chloride in FO-9 is apparently being caused by leakage in the casing of that well, allowing saltier water from the shallow strata to flow into the well. Video inspection of this well is being planned by MPWMD to gain a better understanding of that problem. At FO-10 the induction logging indicates highly conductive strata for nearly the entire length of the mid-depth casing, and this differs significantly from the E-log from the original construction of that well. However, what might be causing that is not clear. Unless an explanation for the findings in FO-10 is found, I am considering having another Zoom meeting with our consultants, and TAC members who have expertise in this subject matter, to get their thoughts and opinions regarding this work.

Perform an analysis of groundwater flow directions and velocities to determine where groundwater in the vicinity of Monitoring Well FO-9 Shallow is moving and at what speed.

At its February 3, 2021 meeting the Board provided direction to staff to perform this work. A scope of work and cost proposal to perform this work was requested from Montgomery & Associates, and this was used to prepare a proposed contract amendment with them, which was approved by the TAC at its February meeting. The proposal is specific to FO-9, and the cost of the work is $21,690. Due to the cost of this work, and since it no longer appears that SWI is occurring at FO-9, the Board may not wish to have this work performed, at least not at this time.

However, Montgomery & Associates explained that they could prepare flow vector maps which would provide a visual representation of flow directions and velocities for current conditions in the basin. The proposal they provided for FO-9 focused only on the Paso Robles aquifer and did not include a similar analysis for the Santa Margarita aquifer. They could also create a map showing flow directions and velocities under current conditions in the Santa Margarita aquifer, if the Board felt that would also be useful.

Mapping such as this would enable the Watermaster to make order of magnitude estimates for how much time it might take for water to travel from different parts of the coastline to the production wells. This would be like a road map that includes the approximate travel times between cities. This information could be used to understand what type of "response time" Basin stakeholders would have from the time seawater intrusion is be detected at some point along the coastline to when the intruded water could reach the production wells.

If the Board is interested in pursuing this, I can have Montgomery & Associates prepare a revised proposal for that purpose.

Revisit the previously discussed topics of (1) lowering the Natural Safe Yield (NSY) to match the lower NSY value in the Basin Management Action Plan (BMAP) Update of July 2019, and (2) changing from using NSY to using Sustainable Yield for Basin management purposes.

As noted above it would be appropriate to revisit the Board's previous decision on this <u>if</u> a determination is made that SWI is occurring at any location within the Seaside Basin.

Prepare a Gantt Chart showing the timing for actions that could be taken in response to determining that SWI is occurring.

Two Gantt Charts were prepared, Gant Chart 1 showing activities to carry out the SIRP itself, and Gant Chart 2 showing the supplemental supply projects and their use in replenishing the Basin.

Preparing these charts required making a number of assumptions, as follows:

1. Since it is not currently known when or if the Cal Am Desalination Plant or the Pure Water Monterey Expansion Project will be constructed, the Gantt Chart 2 shows both of these projects. Construction of the Desalination Plant

was assumed to start on October 1, 2021, following an assumed Coastal Commission permit approval sometime in the summer of 2021, and to have a 27-month construction period. Construction of the Pure Water Monterey Expansion Project was assumed to start on January 1, 2022, following an assumed approval of the Supplemental EIR in the summer of 2021 and completion of design and permitting by the end of 2021, and to have an 18-month construction period. These assumptions resulted in the Desalination Plant starting up in 2024, and the Pure Water Monterey Expansion Project starting up in 2023.

2. Although the SIRP calls for the Watermaster to initiate all of the activities under Action 4 – Pumping Redistribution Plan within 90 days after the Declaration of Seawater Intrusion, I assumed that the Board would want to start those activities as soon as practically possible, rather than waiting 90 days. Gantt Chart 1 was prepared based on the initial belief that SWI had been detected in FO-9, which now appears to have been a false alarm. However, it provides an idea of the timeline that would be associated with the detection of SWI in any well at some future date.

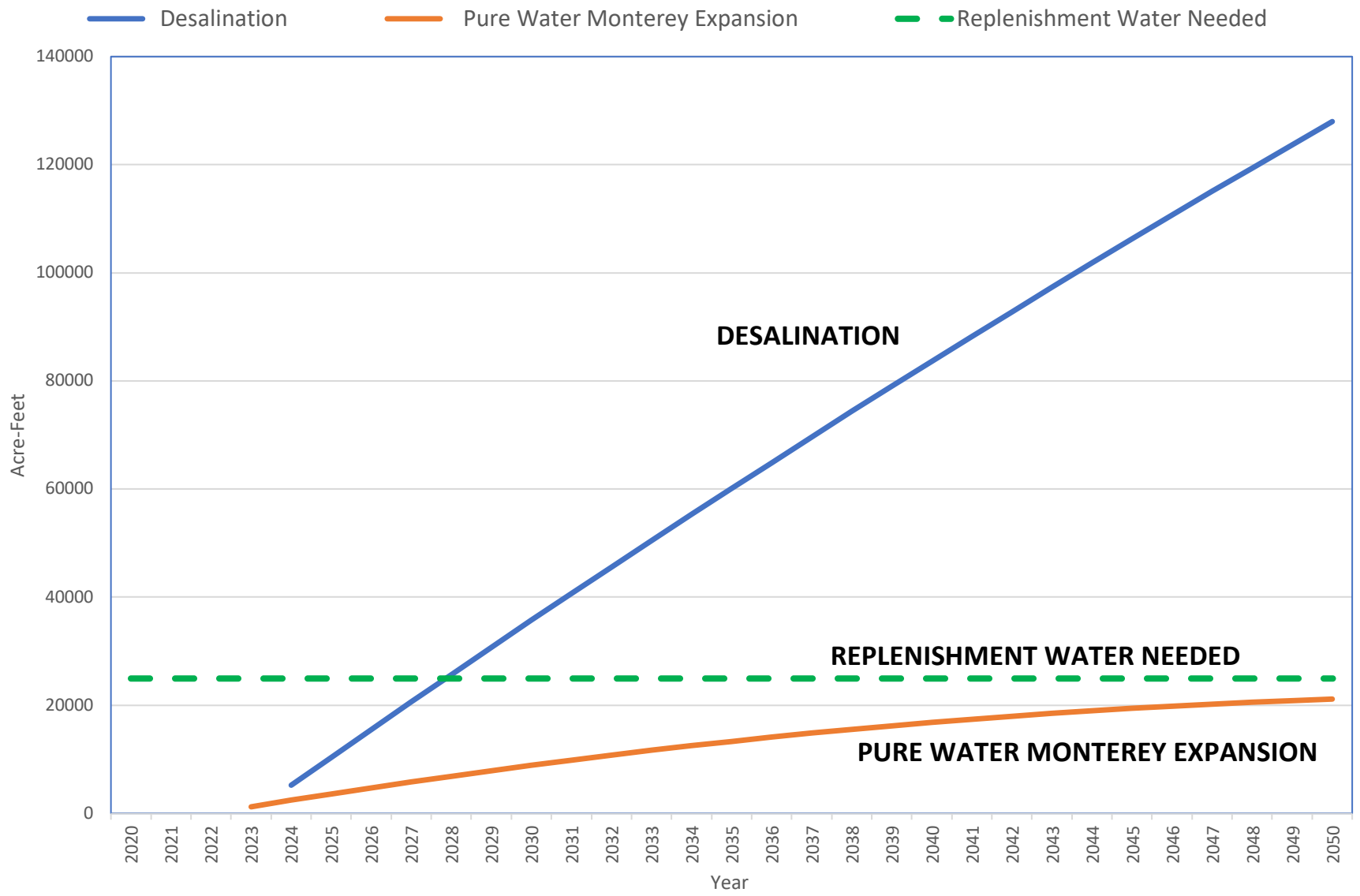
3. The durations of many of the activities are very preliminary and are based on past experience in carrying out similar types of activities. They will likely to need to be revised based on input from the consultants and contractors that will be performing certain of the activities, the amount of TAC and Board deliberation on certain of the activities, and other factors.

4. Construction of new monitoring well(s) under Task 12 in Gantt Chart 1 will be dependent on how long it takes to obtain permits and right-of-way for them, and the availability of the well drilling contractor to perform the work.

5. The 8-month duration of Task 20-Determine Sustainable Yield in Gantt Chart 1 is based on the proposal received from Montgomery & Associates dated February 1, 2019

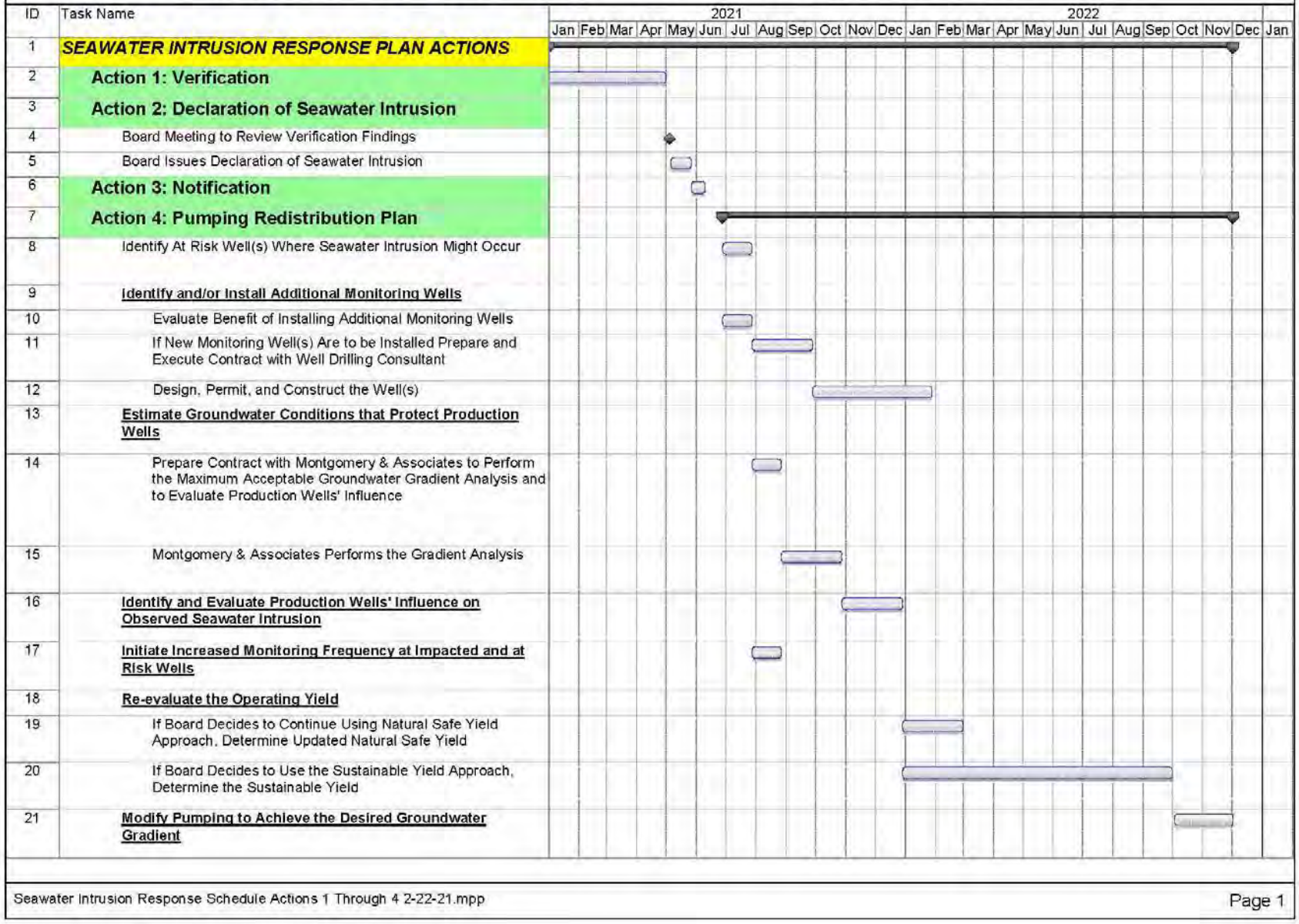
6. The duration of Task 21-Modify Pumping will be dependent on the ability of producers (mainly Cal Am and the City of Seaside) to relocate their pumping to other wells, or to install replacement wells for the ones that are At Risk.

Figure 1. Comparison of Cumulative Excess Capacity Available with Pure Water Monterey Expansion and Desalination Under the Average of All 5 Growth Rate Scenarios



GANTT CHART 1

Seawater Intrusion Response Schedule for Actions 1 Through 4

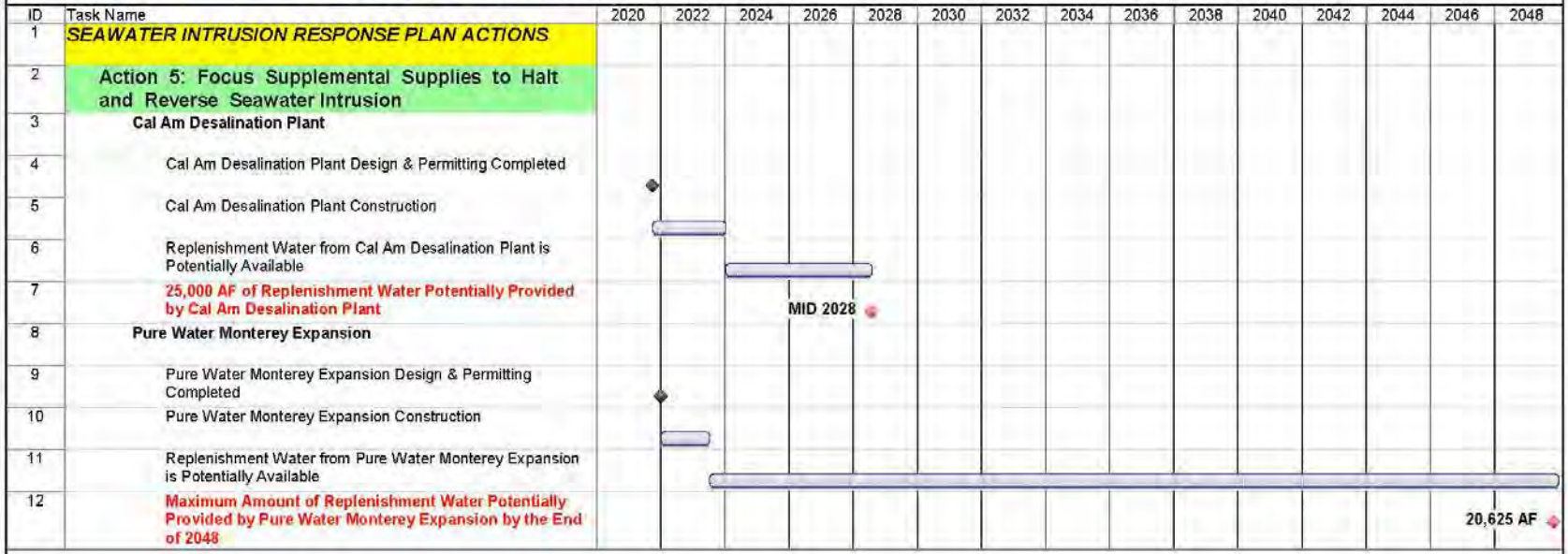


Seawater Intrusion Response Schedule Actions 1 Through 4 2-22-21.mpp

Page 1

GANTT CHART 2

Seawater Intrusion Response Schedule for Action 5 Only



Seawater Intrusion Response Schedule Action 5 Only 2-24-21.mpp

Page 1

Martin B. Feeney
Consulting Hydrogeologist

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

April 5, 2021

Seaside Basin Watermaster
PO Box 51502
Pacific Grove, CA
93950

Attention: Bob Jaques, PE

Subject: Geophysical Investigation Fort Ord Monitoring Wells FO-9 and FO-10 – Preliminary Findings

Dear Bob:

Two monitoring wells in the Seaside Basin monitoring program, FO-9 Shallow and FO-10 Shallow, have recently displayed increasing concentrations of chloride ions; raising the possibility that these data are indicative of advancement of seawater into the basin. However, these data are difficult to reconcile with other data from the more seaward Sentinel Wells that have seen no changes. The ad-hoc advisory team discussed this and generally believed that the data from the monitoring wells would benefit from further confirmation. It was suggested that the monitoring wells be induction logged and the data from the induction logs be compared to the original electric logs to assist in evaluating if there have been conductivity changes in the formation since the time of the well installations. This work has been completed and I'm pleased to provide the initial data and preliminary interpretations.

Background.
Monitoring Wells Clusters FO-9 and FO-10 were drilled in 1994 and 1996, respectively. The wells are nested completions with multiple casings of varying lengths in the same borehole. FO-9 has two completions - a shallow completion in the Paso Robles Formation and a deeper completion in the Santa Margarita Sandstone. FO-10 has 3 completions - one in the Paso Robles Formation, one in the Santa Margarita Sandstone and a third completion in an intermediate depth. The details of well construction are shown on Figures 1 and 2.

Findings

Prior to the recent field work, the original elogs from both of the borings were digitized so the original elogs could be easily compared to the inverse of the induction logs (elog measures resistivity, induction log measures the inverse, i.e., conductivity). After acquiring digital versions of the elogs, the wells were geophysically logged on March 23, 2021. Both induction logs and temperature/fluid resistivity logs were performed. The induction logging measures the bulk conductivity of a sphere of earth materials (including the borehole contents - gravel envelope and casings) of approximately 6 feet in diameter. The temperature/fluid resistivity measures temperature/resistivity of the fluid in the casing. The temperature data allows for the resistivity data to be corrected for temperature. At each location, the deepest accessible well was induction logged while the shallow well was temperature/fluid resistivity logged. The data from the logging and the well construction are attached as Figure 1 and 2.

FO-09

- Both of the completions (shallow and deep) at this site have debris (airlift pipe, suction pipe?) in the bottom of the wells so we were not able to get to bottom or even into perforations.

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

- As can be seen in the Fluid Resistivity log for this well, FO-09 Shallow is leaking poor quality water into the well at about 185 feet bgs (about -40 ft msl). The data suggest the well has a structural flaw (crack, open joint?) at this depth.
- Below this depth, water quality is impacted but as the log approaches the perforations, the quality improves.
- The induction logging matches the original elog reasonably well. Although the magnitude of the recent trace appears higher than the original, no area looks more conductive than it was in 1994. The higher magnitude of the recent trace is likely a function relating to the legacy elog to which it is compared, which reflects the higher conductivity fluid in the borehole at the time of original logging. The drilling mud had a conductivity (EC) of about 625 µS at time of drilling whereas now the water (where not impacted by the leak) in the well (and formation) is closer to 400 µS.
- The elevated chloride values in the water quality samples from this well are the result of the entry of water from higher in the casing, not recently advancing SWI.

FO-10

- The induction tool was not able descend in the deep well as the upper section has a bend in the casing that is too tight for passage. The intermediate and shallow wells were successfully logged to bottom.
- The induction log is severely muted when compared with the original elog. At first glance it looks like seawater intrusion, but on further reflection the shift is along the entire profile, which is considered unlikely. The reason for the muted response is unclear. Discussions with the geophysical contractor suggest that all the intermediate well seals are leaking and allowing poor quality water from above. Whereas that theory would explain the data, it again is consider highly unlikely because water level data from these wells consistently show significant differences between shallow and deep completions.
- The fluid resistivity logs show elevated EC in the screen section relative to the standing water in the casing, suggesting the quality in the screen section may be changing and the water quality samples from this well maybe valid.

The two shallow wells were displaying elevated chloride values. The new data confirms that the water quality samples from FO-09 Shallow are impacted by a structural flaw in the casing that is allowing poor quality water to enter the casing and contaminate the perforated area from which samples are taken. The recent samples are not representative of the in-situ aquifer water from the screened interval at this location. It is recommended that this well be video surveyed to assess the nature of the flaw. After confirmation of the nature of the structural flaw, the well should be repaired or destroyed to prevent continued contamination of the Paso Robles Formation at this location.

The data also confirms that the recent increase in chlorides in FO-10 Shallow is representative of the water in the perforations. The reason for the increase is not known. Ongoing routine sampling may assist in better determining water quality trends and any additional well investigative recommendations at this location.

The opportunity to perform this work is appreciated. Please call if you have any questions.

Sincerely,

Figure 1

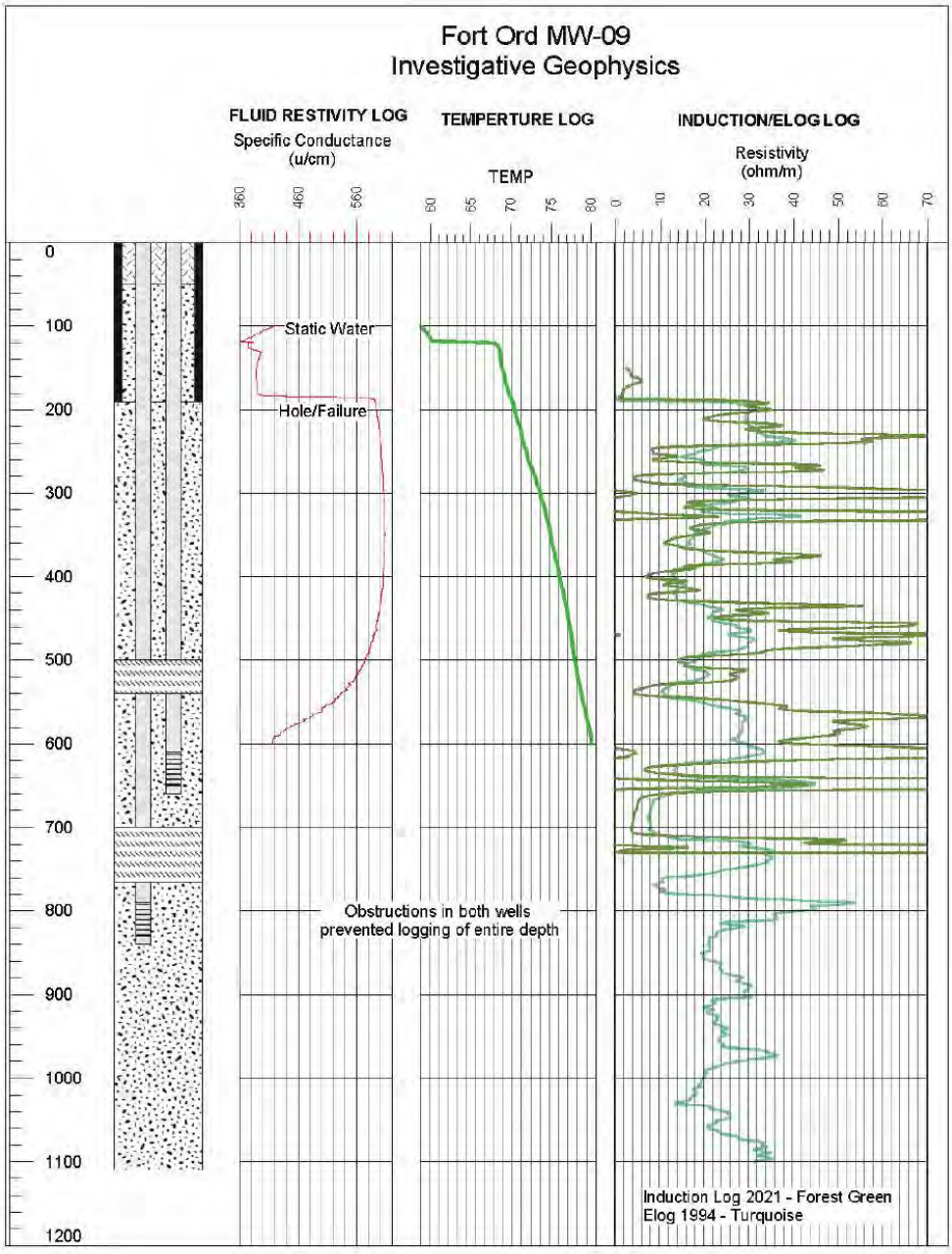
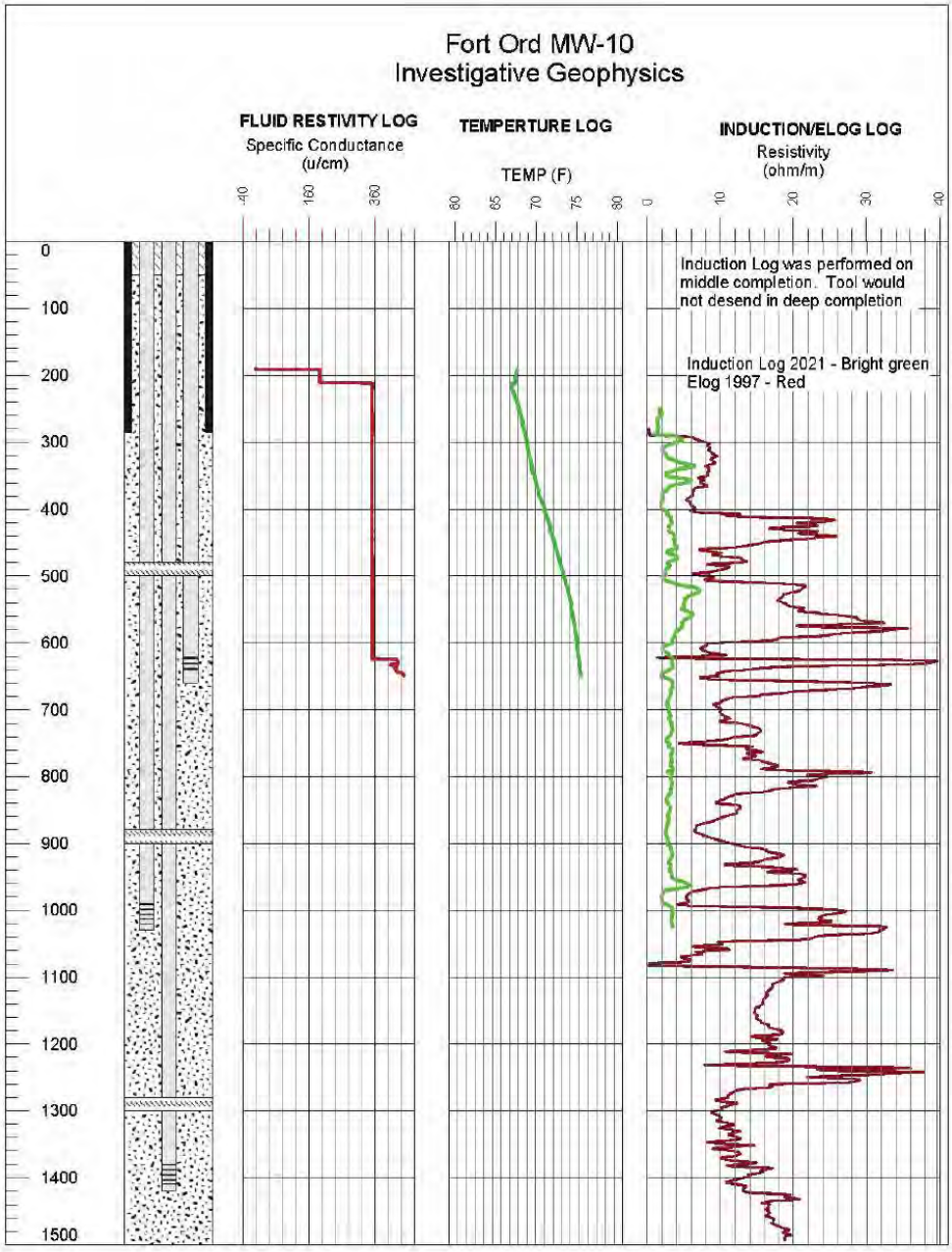

Fort Ord MW-09
Investigative Geophysics
FLUID RESTIVITY LOG
Specific Conductance (u/cm)
TEMPERTURE LOG
TEMP
INDUCTION/ELOG LOG
Resistivity (ohm/m)
Static Water
Hole/Failure
Obstructions in both wells prevented logging of entire depth
Induction Log 2021 - Forest Green
Elog 1994 - Turquoise

Figure 2


Fort Ord MW-10
Investigative Geophysics
FLUID RESTIVITY LOG
Specific Conductance
(u/cm)
TEMPERTURE LOG
TEMP (F)
INDUCTION/ELOG LOG
Resistivity
(ohm/m)
Induction Log was performed on middle completion. Tool would not desend in deep completion
Induction Log 2021 - Bright green
Elog 1997 - Red

ITEM IX.A.

SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: May 5, 2021

SUBJECT: Consider Action in Response to Water Quality Sampling Results from Security National Guarantee (SNG) Well

- -

RECOMMENDATIONS:
Send a letter to the owner of the SNG well requesting that this well either (1) be video inspected to determine whether or not it is leaking and allowing overlying seawater intruded water to go into the lower Paso Robles aquifer, in which case the well should be properly destroyed, or (2) simply be assumed to be leaking based on the high chloride level found from water quality sampling and due to corrosion based on its age, and that it should be properly destroyed.

BACKGROUND:
The SNG well, which is owned by Ed Ghandour and is located in the dunes area in the northern portion of Sand City, was recently sampled for the first time for water quality. Attached are the analytical results from that sample. The very high chloride level (8,660 mg/L) is a strong indicator that this well is sea water intruded.

DISCUSSION:
The TAC discussed this matter at its April 14, 2021 meeting. During that meeting Georgina King of Montgomery & Associates provided this info: Apparently this is the first water quality sample taken from this well [Note: Up until recently this was an inactive well and therefore not required to collect water quality samples; only recently has it started to be pumped thus making it an active well from which water quality samples are to be collected]. Since the well is screened from 200 – 630 ft below ground it is likely screened though most of the Paso Robles and the Purisima. This assumption is made based on the depths of the different formations Martin Feeney logged for nearby Sentinel Well #4 (see table below from his Sentinel Well report). The PCA-W shallow and deep wells are also near the SNG well. The PCA-W shallow well (525 – 575 ft below ground) is screened in the Purisima Formation and deeper than the majority of the SNG well's screens. This is reflected in the water quality from the PCA-W shallow well (chloride = 50 mg/L) clearly not being the same as water quality in the SNG well (chloride = 8,660 mg/L). The PCA-W deep well is screened 195 ft deeper than the SNG well (825-875 ft below ground) and has a chloride concentration around 150 mg/L.

This suggests that the high chloride level in the SNG well is either (1) caused by seawater that has already intruded the Paso Robles aquifer in this location or (2) caused by the intruded Beach Sands and Aromas Sands (which overlie the Paso Robles aquifer) recharging the underlying Paso Robles with saline water by traveling downward through this well. This is not totally unexpected, because as Martin Feeney reported in his Sentinel Well construction report in 2007: "Geophysical data reveal significant seawater intrusion in the upper portions of Sentinel Well #1 borehole to depths of approximately 350 feet. The existence of seawater intrusion in the shallow Dune Sands/Aromas Sands units in this area has been known for decades." The problem pertaining to the SNG well is that it appears either the Paso Robles aquifer is intruded at that location, or that leakage of intruded water from the shallow beach sands it is now leaking into and impacting water quality in the underlying Paso Robles aquifer.

The Well Completion Report from the construction of this well (in 1966, some 55 years ago) shows that the casing is made of welded steel with a wall thickness of 0.25". The following information was provided by Martin Feeney

regarding corrosion of steel well casings: *Average service life for a well constructed of carbon steel casing is 30 years. The corrosion rate of carbon steel has been found to be between 0.1 and 0.2 mm/year.* This is an average corrosion rate, with some portions of the steel corroding faster, some slower, due to other contributing factors. Given the 55-year age of this well and the cited average corrosion rate of 0.15 mm/year, the blank sections of the well's casing, in some locations, may have lost most or even all of its total thickness (55 years x 0.15mm/year = 8.25 mm of estimated corrosion loss; the casing thickness is only 6.35 mm).

At its April 14 meeting the TAC recommended that a letter be sent to the well owner requesting that this well either be (1) video inspected to determine whether or not it is in fact leaking and allowing overlying intruded water to go into the lower Paso Robles aquifer, in which case it should be properly destroyed, or (2) simply assumed to be leaking based on the high chloride level found from water quality sampling and due to corrosion based on its age, and that it should be properly destroyed.

There will be a cost to the well owner to carry out either of these options, and he would lose the use of the well for producing water to meet his needs. Nonetheless, if contamination of the Paso Robles aquifer is being caused by this well, these actions are necessary.

There does not appear to be any language in the Adjudication Decision that speaks directly to this type of situation. However, the Decision does speak to the need to manage the Basin such that Material Injury (as defined in the following language) does not occur (highlighting added): *"Material Injury" means a substantial adverse physical impact to the Seaside Basin or any particular Producer(s), including but not limited to: seawater intrusion, land subsidence, excessive pump lifts, and water quality degradation. Pursuant to a request by any Producer, or on its own initiative, Watermaster shall determine whether a Material Injury has occurred, subject to review by the Court.* The Decision also contains this language: *Water Quality. The Watermaster will take any action within the Seaside Basin, including, but not limited to, capital expenditures and legal actions, which in the discretion of Watermaster is necessary or desirable to accomplish any of the following:*

- *Prevent contaminants from entering the Groundwater supplies of the Seaside Basin, which present a significant threat to the Groundwater quality of the Seaside Basin, whether or not the threat is immediate;*
- *Remove contaminants from the Groundwater supplies of the Seaside Basin presenting a significant threat to the Groundwater quality of the Seaside Basin;*
- *Determine the existence, extend, and location of contaminants in, or which may enter, the Groundwater supplies of the Seaside Basin;*
- *Determine Persons responsible for those contaminants*

In addition Section 15.8.010 of the Monterey County Code contains this language (highlighting added): *It is the purpose of this Chapter to provide for the construction, repair, and reconstruction of all wells, including cathodic protection wells, test wells, observation wells, and monitoring wells, to the end that the groundwater of this County will not be polluted or contaminated and that water obtained from such wells will be suitable for the purpose for which used and will not jeopardize the health, safety or welfare of the people of this County. It is also the purpose of this Chapter to provide for the destruction of abandoned wells, monitoring wells, observation wells, test wells, and cathodic protection wells found to be public nuisances, or when otherwise appropriate, to the end that all such wells will not cause pollution or contamination of groundwater.*

Therefore, it appears that the Decision gives the Watermaster the authority to make this request of the well owner, and that doing so would be consistent with the applicable sections of the Monterey County Code.

FISCAL IMPACT: No impact to the Watermaster, cost impact to the well owner.

ATTACHMENTS:
Water quality analytical results from sampling of the SNG well.

Monterey Bay Analytical Services
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS (6227)
www.MBASinc.com
ELAP Certification Number: 2385

Wednesday, March 10, 2021

Craig Evans Pump Testing Service
Craig Evans
PO Box 1270
Marina, CA 93933

Lab Number: 210226_07-01 Sample Description: SNG PCA Well

Collection Date/Time: 2/26/2021 12:30 Sample Collector: EVANS C Client Sample #:
Received Date/Time: 2/26/2021 13:32 System ID:

Analyte	Method	Unit	Result	Dilution	Qualifier	PQL	MCL	Analysis Date / Time		Analyst
Anion-Cation Balance	Calculation	%	3	1						
QC Anion Sum x 100	Calculation	%	110	1						
QC Cation Sum x 100	Calculation	%	118	1						
QC Ratio TDS/SEC	Calculation	NA	0.68	1						
Ammonia-N	EPA 350.1	mg/L	ND	1		0.15		3/1/2021	13:02	HC
Turbidity	EPA180.1	NTU	6.0	1		0.1	5	2/26/2021	14:21	IG
Boron	EPA200.7	mg/L	0.59	1		0.1		3/9/2021	13:58	BS
Calcium	EPA200.7	mg/L	2430	1		1		3/9/2021	13:58	BS
Copper, Total	EPA200.7	µg/L	ND	1		20	1300	3/9/2021	13:58	BS
Iron, Total	EPA200.7	µg/L	12400	1		30	300	3/9/2021	13:58	BS
Magnesium	EPA200.7	mg/L	658	1		0.5		3/9/2021	13:58	BS
Manganese, Total	EPA200.7	µg/L	191	1		15	50	3/9/2021	13:58	BS
Potassium	EPA200.7	mg/L	79.0	1		0.5		3/9/2021	13:58	BS
Silica (SiO2), Total	EPA200.7	mg/L	38.2	1		1		3/9/2021	13:58	BS
Sodium	EPA200.7	mg/L	2500	1		1		3/9/2021	13:58	BS
Zinc, Total	EPA200.7	µg/L	61	1		30	5000	3/9/2021	13:58	BS
Barium, Total	EPA200.8	µg/L	237	1	LO	5	1000	3/2/2021	15:07	MW
LO: MS and/or MSD result unavailable. Acceptability based on LCS recovery.										
Bromide	EPA300.0	mg/L	41.7	50		5		3/2/2021	16:58	BS
Chloride	EPA300.0	mg/L	8660	50		50	250	3/2/2021	16:58	BS
Fluoride	EPA300.0	mg/L	ND	1		0.1	2	2/26/2021	22:17	BS
Nitrate as N	EPA300.0	mg/L	0.7	1		0.1	10	2/26/2021	22:17	BS
Nitrate as NO3	EPA300.0	mg/L	3.1	1		0.44	45			
Nitrite as N	EPA300.0	mg/L	ND	10	CL	1	1	3/2/2021	16:43	BS
CL: Initial analysis within holding time but required dilution.										
Orthophosphate as P	EPA300.0	mg/L	55.8	1		0.06		2/26/2021	22:17	BS
Sulfate	EPA300.0	mg/L	1020	50		50	250	3/2/2021	16:43	BS
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	97	1		10		3/2/2021	15:24	OW
Bicarbonate (as HCO3-)	SM2320B	mg/L	118	1		10				
Langelier Index, 15°C	SM2330B	NA	0.37	1						

Abbreviations/Definitions: mg/L: Milligrams per liter (=ppm) µg/L: Micrograms per liter (=ppb) MPN: Most Probable Number
MDL: Method Detection Limit PQL: Practical Quantitation Limit MCL: Maximum Contamination Level ND: Not Detected at the PQL (or MDL, if shown)
E: Analysis performed by External Laboratory; see Report attachments H: Analyzed outside of method hold time QC: Quality Control
J: Result is < PQL but ≥ MDL; the concentration is an approximate value.

Monterey Bay Analytical Services
4 Justin Court Suite D, Monterey, CA 93940
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Wednesday, March 10, 2021

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Collection Date/Time: 2/26/2021 12:30 Sample Collector: EVANS C Client Sample #:
Received Date/Time: 2/26/2021 13:32 System ID:

Analyte	Method	Unit	Result	Dilution	Qualifier	PQL	MCL	Analysis Date / Time		Analyst
Langelier Index, 60°C	SM2330B	NA	1.19	1						
Hardness (as CaCO3)	SM2340B/Calc	mg/L	8790	1		5				
Specific Conductance (EC)	SM2510B	µmhos/cm	24300	1		3	900	3/2/2021	15:24	OW
Total Dissolved Solids	SM2540C	mg/L	16600	1		10	500	3/2/2021	8:19	OW
pH (Laboratory)	SM4500-H+B	pH (H)	6.9	1		0.1	8.5	2/26/2021	16:21	KG
Total Organic Carbon	SM5310C	mg/L	ND	1		0.3		3/3/2021	17:42	BS

Report Approved by: David Holland, Laboratory Director

Abbreviations/Definitions:
mg/L: Milligrams per liter (=ppm)
µg/L: Micrograms per liter (=ppb)
MPN: Most Probable Number
MDL: Method Detection Limit
PQL: Practical Quantitation Limit
MCL: Maximum Contamination Level
ND: Not Detected at the PQL (or MDL, if shown)
E: Analysis performed by External Laboratory; see Report attachments
H: Analyzed outside of method hold time
QC: Quality Control
J: Result is < PQL but ≥ MDL; the concentration is an approximate value.

Sentinel Wells Information

Geologic Formation	Depth to Top of Geologic Unit (feet)			
	SBWM-1	**SBWM-2**	**SBWM-3**	**SBWM-4**
Beach Sand/Dunes Sands Deposits	0	0	0	0
Aromas Sand	140	155	75	68
Paso Robles Formation	380	165	132	100
Upper Purisima Formation	600	490	428	332
Lower Purisima Formation	1,115	944	878	691
Santa Margarita Sandstone	NP	NP	NP	860
Monterey Formation	1,650[1]	1,488	1,308	913

[1] – Although the borehole only extended to a depth of 1,500 feet, the depth to the Monterey Formation can be projected from the geophysical log signature. NP denotes unit is not present.

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ITEM IX.B.

SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors

FROM: Laura Paxton, Administrative Officer
Robert S. Jaques, Technical Program Manager

DATE: May 5, 2021

SUBJECT: MPWMD Contracting Issues

- -

RECOMMENDATIONS:
Concurrently seek to (1) Negotiate a resolution to MPWMD's issues of concern regarding their contract with the Watermaster, and (2) Investigate the potential benefit of having another party take over MPWMD's Monitoring and Management Program work for the Watermaster

BACKGROUND:
On April 26, 2021 the Watermaster received the letter in Attachment 1 from MPWMD describing concerns they have with their current contract with the Watermaster. Prior to that MPWMD sent a letter dated March 22 (Attachment 2) and the Watermaster sent its March 26 response letter (Attachment 3).

DISCUSSION:
The attached letters illustrate recent difficulties the Watermaster is experiencing in its contract dealings with MPWMD. The most recent of those letters (Attachment 1) notifies the Watermaster of MPWMD's intent to no longer provide services unless a new contract is negotiated. Although requested to, MPWMD has not identified any language in the existing contract with which it has concerns, and on March 28 informed the Watermaster that it will prepare its own new contract to replace the existing one, and is unwilling to continue using the existing contract even with edits that would address its concerns. MPWMD has clarified via email that it will carry out the currently-contracted work for 2021, but will not enter into future agreements to perform further work beyond an Amendment No. 1 without first negotiating a new contract. The current contract format has been in use with MPWMD since 2008, and is the same format the Watermaster uses for all of it consultants and contractors, none of whom have had any problems with it.

In addition to these recent contractual difficulties, MPWMD has sometimes informed the Watermaster that it would be unable to perform certain work the Watermaster was considering undertaking, due to a lack of available staff at MPWMD. Currently, the Watermaster has no other resource to perform the type of field work that MPWMD performs for us, so that could leave us unable to carry out new work that the Watermaster may feel needs to be done. Also, MPWMD's billings to the Watermaster for services rendered have been very late, which has made it difficult for the Watermaster's Administrative Officer to prepare annual budgets, since the amount of any remaining carryover from one fiscal year to another could not be calculated until after MPWMD's billings were received. This has sometimes been after the time the Watermaster Board needed to approve the budget for the upcoming fiscal year. These issues were raised in Attachment 3, but were not commented on in either of MPWMD's letters.

While it would be less disruptive in the near-term to have MPWMD continue providing the types of services it has for many years, it may be beneficial both financially and from the standpoint of Watermaster staff workload, to have another party perform this work. This topic was briefly discussed at the Watermaster

Budget and Finance Committee meeting on April 27, 2021 and there was support to have staff investigate this potential, while concurrently seeking to negotiate a resolution of MPWMD's concerns.

FISCAL IMPACTS:
The significant increase in MPWMD's hourly rates (about 30%), and their addition of charges that are not in their current contract with the Watermaster, would significantly increase the Watermaster's cost of having MPWMD perform this work. The exact amount of this increase is not currently known.

ATTACHMENTS:
1. April 26, 2021 letter from MPWMD
2. March 22, 2021 letter from MPWMD
3. March 26, 2021 response letter from the Watermaster

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

5 HARRIS COURT, BLDG. G
POST OFFICE BOX 85
MONTEREY, CA 93942-0085 • (831) 658-5600
FAX (831) 644-9560 • http://www.mpwmd.dst.ca.us

April 26, 2021

Bob Jaques
Technical Program Manager
Seaside Groundwater Basin Watermaster
83 Via Encanto
Monterey, CA 93940

Subject: Contract Amendment No. 1 - Final Contract Under 2008 Watermaster Agreement

Dear Mr. Jaques:

The Watermaster submitted Amendment No. 1 for RFS 2021-1 for $2,000 to sample FO-10S on a quarterly frequency. The District was not able to execute this Amendment as it would not allow the District to recover the cost of completing the tasks in the Amendment. In addition to sampling FO-10S, several more tasks were identified at recent Watermaster TAC meetings for the District to complete related to data loggers, which the Watermaster has asked the District for cost estimates. This letter transmits the revised task list and cost for Amendment No.1 to RFS 2021-1, which will also be the last contract the District will execute under the 2008 Watermaster Agreement. The cost estimate for tasks in Amendment No. 1 are in the amount of $14,369. The estimate also includes a cost of the annual download for the Watermaster owned data loggers. If the Watermaster does not want the District to complete the additional work, please remove the tasks from the estimate. A list of new MPWMD staff billing rates is also included.

The District will close out all open contracts with the Watetrmaster and considers the 2008 Agreement to be sunset. The District has offered to negotiate a new Master Service Agreement with the Watermaster, but the Watermaster has not signaled interest in entering into negotiations. In a letter sent to the District from the Watermaster on March 26, 2021, the Watermaster expressed interest in employing a different contractor than the District to perform work related to the MMP. Therefore prior to beginning work on a new Master Agreement, the District will wait to receive notification of interest from the Watermaster. If the District is notified that the Watermaster is interested in a new agreement, the District will amend the language in the 2008 Agreement and bring it into compliance with the Districts current contracting practices. The Districts Financial Year is offset 6 months from the Watermasters and we are starting budget preparation for FY 2021-2022. We will need to know prior to finishing the budget process if the District should budget for MMP support past December 2021. If the work and cost outlined in this quote are acceptible to the Watermaster, please send the District a revised Contract Amendment No. 1 with the updated tasks and costs for signing.

Bob Jaques
April 26, 2021

Sincerely,

Jonathan Lear
Water Resources Division Manager

CC: Suresh Prasad, Administrative Division Manager, CFO

Attachment I – Amendment No. 1 RFS 2021-1 revised task list and cost estimate.
MPWMD staff billable rates.

MPWMD Price Estimate - Revised Ammendment No. 1 RFS 2021-1

Task	Description	Time/Unit	Billing Rate	Cost Estimate	Comments
1	**Relocate Data Loggers**				
	Determine best depth for deployment Review well Construction, water level data, and logger model	2	196	$392	
	Inspect Wellheads for datalogger deployment, purchase hardware	3	196	$588	
	Collect dataloggers, Construct hanging aparatus and move loggers (Kmart needs retrofit work for security)	8	196	$1,568	
2	**PCA West Work**				
	None to be completed				
3	**Transfer Historical Data Logger Data To Montgomery**				
	Organize files on server for Transfer cross reference download logs (10 years of 10 Loggers, 2 hr per record)	20	196	$3,920	
	Answer questions re transferred Logs (if necessary)	6	196	$1,176	if necessary
4	**Annual Download of Watermaster Data Loggers**				
	Download Loggers Field Work	12	196	$2,352	
	Transfer data	2	196	$392	
	Exchange logger if not working RMS process	6	196	$1,176	If necessary
	Answer questions re transferred logs	2	196	$392	if necessary
5	**Quarterly FO-10 S Water Quality Sampling**				
	Collect water quality samples for CY 2021 (3 remaining samples)	9	196	$1,764	
	Order bottles and COC to Labratory	1.5	196	$294	
	Administrative Staff	4	63	$252	
	Labor Total	75.5		$14,266	
	Estimated Fleet Support	180	0.57	$103	
	Laboratory Analysis	3	155	$465	
	Fuel (CO2 Bottle) to run sample pump	3	25	$75	
				$14,369	

Note: Estimate does not include materials that may be needed to repair well heads or hang equipent in monitor wells

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

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MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

5 HARRIS COURT, BLDG. G
POST OFFICE BOX 85
MONTEREY, CA 93942-0085 • (831) 658-5600
FAX (831) 644-9560 • http://www.mpwmd.dst.ca.us

March 22, 2021

Bob Jaques
Technical Program Manager
Seaside Groundwater Basin Watermaster
83 Via Encanto
Monterey, CA 93940

Subject: Contracting Practices between the District and the Watermaster

Dear: Mr. Jaques

The District recently received a request from Watermaster Staff to provide a cost estimate for support work outlined by the Watermaster's Consultant related to data loggers and archived data files. The Administrative Division took this opportunity to review the RFS practice between the District and the Watermaster as it had not been reviewed by the Administrative Division or CFO for over 10 years. The Administrative Division found that the current RFS structure between the District and the Watermaster does not meet the current District contracting practices and standards because it does not allow the District to recover the all the costs of using its labor force and equipment to perform Watermaster tasks. The District would like to continue to offer this support, however the District cannot spend unallocated funds to subsidize Watermaster work by not fully recovering the cost to the District to complete these tasks. A number of areas require attention so that the District can continue to provide contractual support to the Watermaster.

1. Current employee billing rates are not reflected in the RFS and billing rates for employees no longer employed at the District are used.
2. There are 2 styles of RFS 1) time and expenses for work that MPWMD completes to support data collection and management to comply with the MMP and 2) event driven RFS for the work MPWMD does to monitor producers that do not monitor their own wells. The cost per event in this RFS has not been evaluated for some time and does not reflect the true costs of collecting the data. An event driven RFS is an inefficient way for the District to recover actual costs related to monitoring wells and therefore is not compatible with the Districts current contracting and tracking practices and standards. Under the current contracting practices, the District is can enter into a contract using time and expenses to support the Watermaster data collection. Watermaster staff can provide a table of wells that are to be monitored and the frequency and type of data to be collected from the wells. The District will provide a cost estimate for the work including time and expenses for this component of support work.

3. A non-sequential legacy numbering system exists in the agreement(s). Because the District can no longer enter into event driven contracts, the annual contracts can be combined into one contract. Combining the annual contracts allows ability to establish a sequential numbering convention. Currently, due to multiple annual contracts and billing in different methods with antiquated numbering systems, staff spends more time tracking these contracts than necessary and none of that time is compensated.
4. MPWMD support staff is currently not being compensated for time spend in the procurement, RMA, and payment processes for support of Watermaster owned equipment.
5. Currently if the District agrees to complete additional work in the middle of a financial year, a new RFS is created for that work, creating an additional contract. Billing for multiple agreements containing non-sequential numbering of tasks creates an unnecessary load for District Administrative Staff when compared to combining all work into one contract that would generate one bill.
6. Currently, there is no mechanism for the District to recover wear and tear on its fleet support and monitoring and maintenance equipment it uses to support Watermaster tasks.

In order to bring the RFS up to the current District standards, these additional identified costs must be recovered and to simplify contracting to reduce District administrative time, the annual contracts should be combined into one time and expense contract. Also, it should be noted that the District is not in control of outside vendor costs, so expenses will be a straight pass through to the Watermaster. For budgeting purposes, estimates can be used. Below are changes identified by the Administrative Division necessary meet District standards that will allow the District to continue contracting with the Watermaster.

1. One annual contract for time and expenses capturing all tasks. Watermaster staff can provide a singular table of wells to be monitored and the frequency and type of data to be collected as well as additional database related tasks. The District will provide a cost estimate based on this submittal and current FY employee billing rates.
2. In the annual contract, tasks shall be numbered sequentially replacing the current legacy numbering system to reduce time demands on District support staff.
3. Any additional tasks agreed to be contracted to the District mid-year will be handled through the contract amendment process and will be added as the next sequential task in the annual agreement.
4. Billing rates shall be based on current billing rates for the current FY (June to July) for the employees identified to complete the tasks. If employees of multiple billing rates complete the same task a hybrid rate will be used for budget purposes.
5. A budget line item shall be added to cover District administrative support for work associated with Watermaster work or maintaining Watermaster owned equipment (procurement, RMS process, vendor payment, and contract billing).
6. The Watermaster has purchased and owns some of the monitoring equipment used for data collection (low flow pumps and data loggers), however the District utilizes its own equipment (sounders, data logger interrogation equipment, and well head maintenance tools) to support and collect data for this agreement. The District has supplied and maintained these equipment for over a decade without recovering the some of the cost from the Watermaster even though one third of the total wells visited by District staff (including Carmel Valley) are due the District's agreement with the Watermaster. A one third Watermaster - two thirds District cost share to stock and maintain

these equipment shall be established so that the District can recover the cost of supplying monitoring equipment to support the Watermaster's data network. A line item shall be added to the annual contract so that the Watermaster can cost share in replacement and maintenance of these equipment.

7. Mileage shall be charged at the current IRS rate when District fleet support is used for Watermaster Tasks to recover the cost of using District fleet support for Watermaster work.
8. Quarterly the District shall provide Watermaster with a bill showing an hourly total and billing amount for each employee who completed work under the contract and itemized receipts supporting the expense charges included in the bill.

Pertaining to the scope of the annual agreement, the District would like to remind Watermaster Staff that the District does not have the ability to expand the scope of services past the proposed annual data logger download. The District is set up to run as lean as possible to be a good steward to public funds and does not have support for additional Watermaster work.

The type of services offered to the Watermaster were also reviewed and it was determined that the District can no longer offer hydrogeologic analysis as a service to the Watermaster at the Professional Level that would require Professional Licensing or scientific interpretation. This is because District Directors and District Staff participate as decision makers on the Watermaster's Board and Committees. If the District were to participate in directing the Watermaster to complete a technical analysis and then contract for that technical analysis, the Administrative Division feels a conflict of interest would arise. Due to the politics surrounding future water supplies for the Peninsula, District management feels it is important to keep the technical decision making of the District and the Watermaster separate. For the same reasoning, the District cannot remain the Watermaster's alternate at the Salinas Valley Groundwater Sustainability Agency's TAC. The District will notify the SVGSA Staff of the change to the Watermaster's alternative.

The District looks forward to aligning the current Watermaster RFS process to the current District contracting practices so it can continue to support Watermaster data needs. The District will close out any open contracts under the previous terms, however the District cannot enter into any new contracts without addressing the items raised by the Administrative Division in this letter. Please let us know if these changes to contracting practices are acceptable to the Watermaster. If they are, the District can prepare the estimate for most recent work as requested by the Watermaster.

Sincerely,

Jonathan Lear

Jonathan Lear PG, CHg
Water Resources Division Manager

CC: Suresh Prasad, Administrative Division Manager, CFO

Seaside Basin Watermaster
P.O. Box 51502
Pacific Grove, CA 93950
(831) 641-0113

March 26, 2021

Monterey Peninsula Water Management District
Attention: Jonathan Lear
5 Harris Court, Building G
Monterey, CA 93940

Subject: Contract Issues

Dear Mr. Lear:

This is in response to your letter of March 22, 2021 regarding contracting practices between MPWMD and the Watermaster.

Work contracted by the Watermaster to MPWMD is done under the Professional Services Agreement (the Agreement) executed between these entities on January 1, 2008. In the Agreement MPWMD is referred to as "PROFESSIONAL." Citations in this letter are taken from that agreement. As prescribed in Section III of the Agreement, work is authorized by the Watermaster through the issuance of Requests for Service (RFS). Section III reads as follows:

> *SECTION III: WORK ASSIGNMENTS*
>
> *It is the intent of WATERMASTER and PROFESSIONAL to authorize the performance of work under this Agreement by executing a series of written work assignments setting forth the specific description, scope, and costs of the work to be performed. Such assignments shall be called "Requests For Service" (RFS) and shall be numbered consecutively. Each RFS, upon execution by PROFESSIONAL and by WATERMASTER, shall become and be considered as a part of this Agreement, and all provisions herein shall apply to said RFSs. The RFS form to be used is contained in Attachment A to this Agreement.*

Your letter contains numerous incorrect statements which are discussed below.

The statements in your letter that *"The Administrative Division found that the current RFS structure between the District and the Watermaster does not meet the current District contracting practices and standards because it does not allow the District to recover the all the costs of using its labor force and equipment to perform Watermaster tasks"* and that *"Currently, there is no mechanism for the District to recover wear and tear on its fleet support and monitoring and maintenance equipment it uses to support Watermaster tasks"* are incorrect statements. All work that has been authorized to MPWMD via the issuance of RFSs has used the Time-and-Expense Payment Method of compensation, as prescribed in Section V.E of the Agreement, which reads as follows:

> *Time-and-Expense Payment Method - For tasks for which the scope of work is not readily definable, WATERMASTER may elect to pay PROFESSIONAL on a time-and-expense basis in accordance with the PROFESSIONAL's most current Standard Schedule of Compensation. The hourly rates set forth in the Standard Schedule of Compensation shall be inclusive of all direct*

and indirect salary costs, overhead, fringe benefits, profit, and other costs, and shall reflect the total hourly charge for each listed job category. Other direct non-salary expenses for the performance of work authorized under the Time-and-Expense Payment Method shall be all identifiable costs directly chargeable to each RFS including, but not limited to: travel and subsistence expenses; work subcontracted to others; reproduction of plans, specifications, reports and other documents; equipment rental; and, drafting and stenographic supplies used in the work. The chargeable rate for automobile mileage for the work to be performed under this Agreement shall be stated in the RFS. Direct non-salary expenses shall be compensated for at their actual cost, unless otherwise stated in the RFS, providing they have been authorized in advance by WATERMASTER. A Total Price, which may not be exceeded without WATERMASTER's prior written approval, will be established for each specific RFS for which this payment method will be used.

In accordance with Section V.E "*The hourly rates set forth in the Standard Schedule of Compensation shall be inclusive of all direct and indirect salary costs, overhead, fringe benefits, profit, and other costs, and shall reflect the total hourly charge for each listed job category.*" Thus, the hourly rates in the RFSs, which were provided by MPWMD when the RFSs were being drafted, are to include all directly-related costs to furnish the labor, and therefore should not leave MPWMD with any uncompensated labor-related costs.

Regarding indirect (non-labor related costs) Section V.E. states "*Other direct non-salary expenses for the performance of work authorized under the Time-and-Expense Payment Method shall be all identifiable costs directly chargeable to each RFS including, but not limited to: travel and subsistence expenses; work subcontracted to others; reproduction of plans, specifications, reports and other documents; equipment rental; and, drafting and stenographic supplies used in the work. The chargeable rate for automobile mileage for the work to be performed under this Agreement shall be stated in the RFS.*" Clearly this language entitles MPWMD to recover all of its indirect costs related to the performance of work under the RFSs. This includes equipment and vehicle mileage costs, when said costs are listed in the RFSs. A review of the cost breakdown spreadsheets in the RFSs shows that costs for such things as eductor setup, airlift equipment, fuel, and laboratory analytical costs were included. If indirect costs are not listed in the RFSs, then they would not be compensable. The costs contained in each RFS the Watermaster has ever issued to MPWMD were prepared and compiled by MPWMD staff, not by the Watermaster, and were included in those RFSs without dispute or reductions of any kind by the Watermaster.

The statement in your letter that *"Current employee billing rates are not reflected in the RFS and billing rates for employees no longer employed at the District are used"* is inconsistent with the fact, as noted above, that the employee billing rates were provided by MPWMD based on what the Watermaster was told were the billing rates for the current employees performing the work authorized by those RFSs.

Your letter refers to two *"styles"* of RFS, one for work that MPWMD performs to support data collection and management to comply with the Watermaster's Monitoring and Management Program (MMP) and one that you refer to as an *"event driven RFS"* for the work MPWMD does to monitor producers that do not monitor their own wells. Your letter goes on to state that *"The cost per event in this RFS has not been evaluated for some time and does not reflect the true costs of collecting the data."* As noted above, this is inconsistent with the fact that when each *"event driven RFS"* is being drafted, MPWMD is asked to update the costs authorized by the RFS to reflect MPWMD's current labor, laboratory, and other costs. When the RFS is issued it contains the updated costs data that MPWMD provides. Your letter further states that *"An event driven RFS is an inefficient way for the District to recover actual costs related to monitoring wells and therefore is not compatible with the Districts current contracting and tracking practices and standards."* It is not clear why this type of

RFS is "inefficient" since it clearly describes what work is to be done and the compensation that will be paid to perform that work. These "event driven RFSs" cover work that producers may or may not wish to have performed during a given Water Year, and the Watermaster only asks MPWMD to perform the work when these producers request to have it performed. Consequently, the full scope of the work under these RFSs is not known at the start of the Water Year, and only becomes known to the Watermaster when the producers notify the Watermaster that they would like to have monitoring work performed on their wells. Thus, these RFSs have to be *"event driven"* since the work the RFSs authorize is in response to the "event" of the Watermaster being notified by producers that they wish to have work performed.

Your letter states that *"A non-sequential legacy numbering system exists in the agreement(s). Because the District can no longer enter into event driven contracts, the annual contracts can be combined into one contract. Combining the annual contracts allows ability to establish a sequential numbering convention. Currently, due to multiple annual contracts and billing in different methods with antiquated numbering systems, staff spends more time tracking these contracts than necessary and none of that time is compensated"* and that "*MPWMD support staff is currently not being compensated for time spend in the procurement, RMA, and payment processes for support of Watermaster owned equipment."* It is not clear what your term "non-sequential legacy numbering system" refers to. Each RFS is given a number which begins with the year in which the RFS is being issued, and each RFS issued in that year is given its own unique sequential number. As noted above in the paragraph pertaining to "event driven RFSs" those types of RFS are to perform work that is reimbursed to the Watermaster by the producers who request that work be performed for them. This differs from the other RFSs that the Watermaster issues to MPWMD for the performance of work in the Watermaster's MMP, which is not reimbursable to the Watermaster but is paid for entirely by the Watermaster. Therefore, it would not be appropriate from an internal tracking and bookkeeping practices standpoint to combine these two RFSs into a single RFS. You also refer to "multiple" annual contracts. There are only two contracts in any given year. MPWMD staff time to manage two contracts hardly seems unreasonable, and according to the language in Section V.E that *"...hourly rates...shall be inclusive of all direct and indirect salary costs, overhead, fringe benefits, profit, and other costs..."* That language provides the mechanism for MPWMD to recover the labor costs of support staff who may be involved in tracking and assisting with managing the RFSs.

Your letter states *"Currently if the District agrees to complete additional work in the middle of a financial year, a new RFS is created for that work, creating an additional contract. Billing for multiple agreements containing non-sequential numbering of tasks creates an unnecessary load for District Administrative Staff when compared to combining all work into one contract that would generate one bill."* All work that the Watermaster can anticipate needing to have MPWMD perform in a given year is authorized via the two RFSs that are issued at the start of that year. Obviously, unanticipated work could not be combined into the RFS at the time it is issued. If the need to perform unanticipated work arises during the year, it is combined into the RFS for the work on the Watermaster's M&MP, if it can reasonably associated with the scope of work of that RFS, by issuing an amendment to that RFS to describe the additional work to be done and the compensation to be paid to MPWMD to perform that additional work. If the unanticipated additional work is not associated with the work of that RFS, it is necessary that a separate RFS be issued. This is a rare and unavoidable occurrence.

Relating to invoicing and contracts, Section V.F in the Agreement reads in part *Terms of Payment - PROFESSIONAL shall invoice WATERMASTER monthly for work completed during the previous month, unless a different invoicing frequency is agreed to by both parties to this Agreement. All invoices shall be due and payable within thirty (30) days of the date of receipt by WATERMASTER, provided all costs included in the invoice are adequately supported by documentation accompanying the invoice.* No different invoicing frequency has been agreed to by both parties, so monthly billing is required.

MPWMD has never billed Watermaster monthly in accordance with this contract requirement. Requests have been made by Ms. Paxton, the Watermaster's Administrative Officer, often over weeks or months, for MPWMD to invoice for work done months before. (Current MPWMD Watermaster invoicing is awaiting adequate accompanying support documentation requested three weeks ago before payment can be made.) There have only been two invoices in the 15 years of Watermaster that were billed quarterly consecutively. It would seem that if MPWMD is concerned about recouping all of its costs that it would begin by billing for them in a reasonable time period (monthly) according to the terms in the Agreement. Moreover, monthly billing allows Watermaster to minimize any unanticipated cost-overruns that MPWMD might be incurring in the performance of its work. One example is the high amount of time MPWMD spent working with DWR to get Watermaster's voluntary wells integrated into the DWR SGMA reporting system. That work cost far more than was budgeted. Watermaster had no knowledge of that overrun until finally being invoiced and discovering the overrun had already occurred months prior.

Your letter requests a number of changes. These are listed below, along with the Watermaster's responses.

MPWMD Requested Change 1. One annual contract for time and expenses capturing all tasks. Watermaster staff can provide a singular table of wells to be monitored and the frequency and type of data to be collected as well as additional database related tasks. The District will provide a cost estimate based on this submittal and current FY employee billing rates.
Response: As explained above it is necessary for the Watermaster to issue two separate RFSs for the work being authorized to MPWMD, in order to provide separate bookkeeping records for the reimbursable and non-reimbursable work. Each of the RFSs contains a listing of the wells to be monitored and the other associated information.

MPWMD Requested Change 2. In the annual contract, tasks shall be numbered sequentially replacing the current legacy numbering system to reduce time demands on District support staff.
Response: The current task numbering system that you refer to as "legacy" is actually the task numbering in the Watermaster's M&MP. The M&MP contains a detailed description of what each task consists of, and that information is pertinent to the work being authorized in the RFSs. Therefore, the current task numbering system needs to be used.

MPWMD Requested Change 3. Any additional tasks agreed to be contracted to the District mid-year will be handled through the contract amendment process and will be added as the next sequential task in the annual agreement.
Response: The Watermaster is agreeable to issuing mid-year task additions via amendments to the RFSs, as we have done in the past. As noted above, the M&MP task numbering system needs to be used to coordinate the RFS work with the work described in the M&MP.

MPWMD Requested Change 4. Billing rates shall be based on current billing rates for the current FY (June to July) for the employees identified to complete the tasks. If employees of multiple billing rates complete the same task a hybrid rate will be used for budget purposes.
Response: The Watermaster agrees that billing rates used in the RFSs should be current billing rates, including hybrid rates if appropriate.

MPWMD Requested Change 5. A budget line item shall be added to cover District administrative support for work associated with Watermaster work or maintaining Watermaster owned equipment (procurement, RMS process, vendor payment, and contract billing).
Response: If there are such costs that are additional to the costs that are to be built into the hourly rates, the Watermaster is agreeable to paying those costs if they are included in the RFS cost spreadsheets. This would be consistent with the language in Section V.E of the Agreement that is

cited above. Most consultants have a percentage mark-up factor to cover their administrative support costs, and that factor is used in developing the billing rates for their employees. If MPWMD has a mark-up factor, it would simplify drafting of the RFSs if MPWMD would use that factor in setting its billing rates in order to be consistent with Section V.E. If MPWMD does not have a mark-up factor, then the administrative costs could be separately listed and described in the cost spreadsheet for the RFS.

MPWMD Requested Change 6. The Watermaster has purchased and owns some of the monitoring equipment used for data collection (low flow pumps and data loggers), however the District utilizes its own equipment (sounders, data logger interrogation equipment, and well head maintenance tools) to support and collect data for this agreement. The District has supplied and maintained these equipment for over a decade without recovering some of the cost from the Watermaster even though one third of the total wells visited by District staff (including Carmel Valley) are due to the District's agreement with the Watermaster. A one third Watermaster - two thirds District cost share to stock and maintain these equipment shall be established so that the District can recover the cost of supplying monitoring equipment to support the Watermaster's data network. A line item shall be added to the annual contract so that the Watermaster can cost share in replacement and maintenance of these equipment.
Response: Costs to purchase and maintain some of the types of equipment you describe are already regularly listed and included in the RFS cost spreadsheets. For example in RFS 2020-01 some of the costs listed in the RFS spreadsheet read *"...maintenance on previously installed sample collection equipment = $1,000. One-time cost, if necessary, for replacing a well sampling pump if the existing pump fails or is found to be inadequate due to dropping groundwater levels = $2,000; Purchase one datalogger @ $700 plus $50 in parts to keep in inventory as a spare if needed..."* If there are other costs associated with the equipment that the Watermaster owns, the Watermaster is agreeable to having them included in the RFS cost spreadsheets.

MPWMD Requested Change 7. Mileage shall be charged at the current IRS rate when District fleet support is used for Watermaster Tasks to recover the cost of using District fleet support for Watermaster work.
Response: The Watermaster is agreeable to paying mileage at the IRS rate, as provided for in Section V.E of the Agreement. However, the IRS rate includes fuel costs, so the fuel cost item in future RFS cost spreadsheets should be removed, if that pertains to fuel for vehicles.

MPWMD Requested Change 8. Quarterly the District shall provide Watermaster with a bill showing an hourly total and billing amount for each employee who completed work under the contract and itemized receipts supporting the expense charges included in the bill.
Response: Per Section V.F of the Agreement invoices are to be sent monthly, not quarterly. Monthly invoicing will benefit MPWMD by enabling MPWMD to be reimbursed for its costs more quickly compared to quarterly billing.

Your letter states that MPWMD can no longer offer hydrogeologic analysis as a service to the Watermaster at the Professional Level that would require Professional Licensing or scientific interpretation. Other than compiling data for reports and things of that nature, we are not aware of MPWMD providing any hydrogeologic analysis services to the Watermaster. The Watermaster has other consultants that it uses for that type of work.

Your letter also states that pertaining to the scope of the annual agreement, MPWMD would like to remind Watermaster Staff that MPWMD does not have the ability to expand the scope of services past the proposed annual data logger download and is not able to support additional Watermaster work. There was agreement at a recent Watermaster TAC meeting that annual, rather than quarterly, downloads will be satisfactory. A few times in recent years you have reported that you are

sometimes short of staff, or for other reasons would not be able to perform some work that the Watermaster was considering undertaking. This is of concern to the Watermaster, because necessary work that cannot be anticipated at the start of a given year may arise during the year, and the Watermaster has no other consultants currently under contract that can perform much of the field work that MPWMD currently performs. The comment in your letter about not being able to support additional work for the Watermaster raises the question of whether it would be better for the Watermaster to see if it can contract with an entity other than MPWMD to perform the work that is needed for the Watermaster to carry out its M&MP and any other field-type work that may become necessary. This should be a topic for further discussion between MPWMD and the Watermaster.

Sincerely,

Robert S. Jaques
Technical Program Manager

Laura Paxton
Administrative Officer

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D-R-A-F-T
MINUTES

Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
February 10, 2021
(Meeting Held Using Zoom Conferencing)

Attendees: TAC Members

City of Seaside – Scott Ottmar
California American Water – Tim O'Halloran
City of Monterey – Max Reiser
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
City of Seaside – Nisha Patel
MCWD – Patrick Breen
EKI (consultant to MCWD) – Tina Wang

The meeting was convened at 1:32 p.m.

1. **Public Comments**

There were no public comments.

2. **Administrative Matters:**

A. Approve Minutes from the November 18, 2020 Meeting

Mr. Jaques noted that the Draft Minutes failed to include Mr. Cook of Cal Am as an attendee. On a motion by Mr. Gaglioti, seconded by Mr. Rieser, the minutes were unanimously approved with the correction noted by Mr. Jaques.

B. Sustainable Groundwater Management Act (SGMA) Update

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

Mr. Lear said that there is a new data portal for SGMA, and wondered if a new portal was going to replace the CASGEM reporting portal. Ms. Voss mentioned that MCWRA is using the new portal. Mr. Jaques said he would inquire about this at the Adjudicated Basins Annual Workshop which is coming up this later this month, and report back to Mr. Lear.

Mr. Ottmar asked if draft chapters of the Groundwater Sustainability Plan being prepared by Marina Coast water District were being reviewed and commented on by Watermaster representatives. Mr.

Jaques responded yes, and briefly described his involvement in providing review comments to MCWD and his involvement with MCWD's hydrogeologic consultant (EKI), Montgomery and that Associates, and SVBGSA representatives in a Zoom meeting to discuss those comments.

C. PWM Project Tracer Study Conclusions and Next Steps

Mr. Jaques summarized the agenda packet materials for this item. He asked Mr. Lear if he could elaborate on the difficulty being experienced in identifying the location of the front of the injected water plume and the need to, for the time being, rely on the groundwater model to make that prediction.

Mr. Lear explained that quarterly reporting is required by the permitting agencies and that is why the Tracer Test Status Reports are being prepared. He elaborated on the detection of the front of the injected water plume. The tracer data will be used to recalibrate the model when more data is acquired.

3. Discuss the Need for Dataloggers in Monitoring Wells

Mr. Jaques summarized the agenda packet materials for this item. He then turned the discussion over to those on the TAC more familiar with data logging, and when having data loggers justify the expense.

Mr. Lear provided background information on the history of the data logger network

Mr. Gaglioti voice opinion that the more data the better. He has surplus data loggers which you would offer to donate, if they would be of use.

Mr. Lear would need additional scope and cost authorization each year to download and work up the data sets. This would include performing a yearly data download, maintaining the data loggers, and providing the data to Montgomery and Associates.

Mr. Gaglioti asked what the immediate value was a processing the data logger data. Ms. King responded that the data loggers listed in Table 3 of her Technical Memorandum help us to understand what is going on during the time periods between the monthly water level measurements that are currently being made. She referred to this as "nuanced data" which can be helpful in better understanding the basin. She feels being able to review the unprocessed data that currently exist could be helpful. If we find it doesn't provide anything helpful, it might help to better decide where data loggers are providing the most helpful data.

Ms. Voss felt that having the detailed information from data loggers was good to have in areas where pumping depressions and groundwater divides exist. She noted that having a data logger in Monitoring Well FO – 11 might help to understand what is causing the groundwater depression there.

Mr. Lear felt it would be good to process the historical data to see if it is helpful or not. He mentioned, however, that he did not have the staff available to support doing quarterly downloads of the data, only annual downloads. After downloading, he would send the data to Montgomery and Associates for them to process it.

Mr. Gaglioti asked Mr. Lear what kind of data loggers MPWMD is currently using. Mr. Lear described the various types of data loggers MPWMD has and how they are operated.

Mr. Lear said that processing is the more time-consuming activity compared to just downloading the data. They probably spend about 1 ½ days per year doing the data downloading. Processing, however, involves a number of steps to get accurate data and is more time consuming.

Mr. Gagliano recommended using Table 3 in Ms. King's technical memo for the locations where data loggers should be in place. He also felt it was beneficial to retro-process all the data that has thus far been acquired. After doing that, we should ask for feedback from Ms. King on whether or not continuing to process data from each location is proving to be beneficial. After receiving that feedback, TAC could make a decision about revising how the data logger network data is handled. He said he also was supportive of recommendation number 4 in Ms. King's Tech Memo about reinstalling the datalogger in Monitoring Well PCA-West shallow.

Mr. Lear reported that the data loggers in monitoring well FO-nine (deep and shallow) is part of MPWMD's network, and not a cost to the watermaster. The datalogger in monitoring well FO-10 is a watermaster datalogger. There is a data logger in Monitoring Well PCA-West shallow, which is stuck and cannot be used. That well is screened only the Paso Robles aquifer, whereas the Sentinel wells are not perforated in the Paso Robles aquifer.

Ms. King said that the Monitoring Well PCA-West shallow is important to understanding water quality data in that area of the Seaside basin. As recommended in her technical memorandum, the data logger there should be replaced. Mr. Lear said he recommended having Martin Feeney do that work. He also said that he would do some research to determine the best type of datalogger to put in that well in order to avoid future problems such as the one currently being experienced. Mr. Jaques will coordinate with Mr. Lear and Mr. Feeney to develop a cost estimate to replace the datalogger in that well.

Mr. Lear also said he could provide recommendations to the TAC about the types of dataloggers to be used in the various locations, and other things related to the datalogger network management at a future TAC meeting.

Ms. Voss said that MCWRA does quarterly data downloads from its dataloggers. She was interested in Ms. King's thoughts on the value of getting data downloaded on a quarterly basis versus an annual basis.

Ms. King said that the $2,900 cited in her Technical Memorandum is for annual data processing, not quarterly. Quarterly processing would increase the cost.

Mr. Jaques said he would compile further information on these various issues for continued discussion by the TAC at a near future meeting.

4. Update on Concerns about Possible Detection of Seawater Intrusion in Monitoring Wells FO-9 and FO-10 Shallow, and Board Direction to Obtain a Cost Estimate to Install a New Monitoring Well

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

Mr. Lear suggesting asking Ed Ghandour if we could sample his well to obtain additional water quality information in that part of the Seaside Basin, noting that it would provide another data point. Mr. Ghandour's well is southwest of Monitoring Well PCA-West. He said that MPWMD could collect that sample if Craig Evans, who does other well related work for Mr. Ghandour, could not do it.

Mr. Jaques said his recollection was that, following TAC meeting discussion late in 2020, the Watermaster had already asked Mr. Ghandour to collect a water quality sample and provide the results to the Watermaster. He said he would look into this and report back at a future TAC meeting.

Mr. O'Halloran asked if, in the February 2 Zoom meeting with the hydrogeologic consultants, there was discussion about where the high chloride level water is coming from. Mr. Lear described what is being seen in the monitoring wells in the vicinity of FO-9 shallow. Ms. King said the theory is that the dune

sand is already intruded, and that seawater from the dune sand is percolating downward into the Paso Robles aquifer. Mr. Lear said that induction logging of monitoring wells FO-9 and FO-10 shallow was recommended in that Zoom meeting, as well as performing a geophysical survey. He went on to say that he is coordinating with Martin Feeney on performing this induction logging work.

Mr. Jaques clarified that the Board had provided direction not to install a new monitoring well now, but instead to do induction logging in Monitoring Wells FO – 9 and FO – 10 and see what is learned from that.

Ms. Voss asked how often monitoring well FO-11 shallow is sampled. Mr. Lear said this well is not one that is required to have water quality samples taken from it. She wondered if MCWD would be willing to do water quality monitoring in well FO-11, since that well is located within the Monterey Subbasin in the Marina-Ord area. Ms. Wang said she felt it would be good to get water quality data from that monitoring well. However, this is not currently discussed in Draft Chapter 5 of the Groundwater Sustainability Plan.

5. Schedule

Mr. Jaques said he had no update to report on from the schedule contained in the agenda packet.

6. Other Business

Mr. Leith asked that at a future TAC meeting there be discussion about the potential to provide reclaimed water for irrigation of the Laguna Seca golf course. Mr. Jaques said he would provide background information on this topic for discussion at a future TAC meeting.

The meeting adjourned at 2:53 PM.

D-R-A-F-T
MINUTES

Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
March 10, 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
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
City of Seaside – Nisha Patel
California American Water – Chris Cook and Ian Crooks

The meeting was convened at 1:38 p.m.
Note: The meeting was chaired by Ms. Voss as Mr. Lear was delayed in joining until 1:45 p.m.

1. Public Comments
There were no public comments.

2. Administrative Matters:

A. Approve Minutes from the February 10, 2021 Meeting
On a motion by Mr. Gaglioti, seconded by Mr. O'Halloran, the minutes were unanimously approved as presented.

B. Sustainable Groundwater Management Act (SGMA) Update
Mr. Jaques summarized the agenda packet materials for this item. There was no other discussion on this item.

3. Continued Discussion of the Need for Dataloggers in Monitoring Wells
Mr. Jaques summarized the agenda packet materials for this item.

Mr. Gaglioti said that the summary of recommendations contained in the bullet list on page 12 of the agenda packet was accurate.

Mr. Ottmar noted that the PCA-West Shallow well has a datalogger that is not listed in Table 3. Mr. Lear recommended equipping it similar to well FO-9, with the datalogger on its own communication cable along with a separate cable for the sample pump.

Mr. Jaques will add PCA-West Shallow to Table 3 as needing a replacement datalogger.

Mr. Lear will research why dataloggers were proposed for these wells one the Monitoring and Management Program was developed, and provide that information at a future TAC meeting.

On a motion by Mr. Gaglioti, seconded by Mr. Lear, there was unanimous approval to send the information contained in this agenda item forward to the Board with the recommended changes to the Watermaster's datalogger management program.

4. Contract Amendments for Martin Feeney and Montgomery & Associates

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

Mr. Lear reported that he had been working with Mr. Feeney on well FO-10. The deep completion at this well is obstructed, so it cannot be induction logged. The intermediate and shallow completions seem to be clear. He provided some background information on the well completions at this location. The intermediate and deep completions appear to be in the same aquifer.

Ms. King noted that these are very deep completions, over 1,000 feet deep for the intermediate and deep ones.

Ms. Voss commented that she would like to send some of her personnel to observe the induction logging work when it is being performed.

On a motion by Mr. Gaglioti, seconded by Mr. Gomez, the contract amendments were unanimously approved.

5. Discuss Board Direction Regarding Concerns about Possible Detection of Seawater Intrusion in Monitoring Wells FO-9 and FO-10 Shallow

Mr. Jaques summarized the agenda packet materials for this item. The numbers below refer to the numbered items on page 31 of the agenda packet.

Item 1: (Discussed on pages 32-33 of the agenda packet) Mr. Gaglioti felt that the finding in the 2013 HydroMetrics report that 25,000 acre-feet of replenishment water would be required in order to achieve protective groundwater levels should be updated. Mr. Jaques and Ms. King concurred with Mr. Gaglioti's recommendation. Ms. King went on to say that ASR and pure water Monterey injection impacts should be addressed to update the analysis. Mr. Gaglioti felt that the status of the basin with regard to risk of seawater intrusion is probably more severe now than it was when the 2013 analysis was performed. Mr. Jaques said he would revise the language in his Discussion Paper to reflect that.

Mr. O'Halloran said he felt that the 1,300 acre-feet per year of projected ASR water in Mr. Stoldt's Supply and Demand Memo and in the Supplemental EIR for the Pure Water Monterey Expansion Project was too high to be reasonable. Mr. Lear responded that MPWMD feels the 1,300 acre-feet is not too high for use as a long-term average. Mr. Gaglioti commented that he felt the quantity of water attributed to ASR is of concern to some people. Following much discussion on the ASR topic there was consensus to agendize further discussion of ASR flow projections for a future TAC meeting. Information contained in the Supplemental EIR on this issue would be included as part of that discussion background information.

Mr. Crooks asked if the 1,300 acre-feet per year of ASR water was to be used solely for water supply and not for replenishment. Mr. Lear responded that was correct, it would be used solely for water supply.

Item 2: (Discussed on pages 33-34 of the agenda packet) Mr. Gaglioti said he felt that the recommendations on this item is contained on page 34 the agenda packet were fine. Mr. O'Halloran recommended starting to identify where supplemental water should be injected and how.

Item 3: (Discussed on pages 34-36 of the agenda packet) Ms. King reported that she did not see anything beyond what Mr. Jaques had already identified that needed to be updated in the seawater intrusion response plan.

Ms. Voss commented that although we are seeing rising chloride levels, it is hard at this time to determine if seawater intrusion is actually occurring. She felt that more data points would be needed to clearly indicate seawater intrusion. Mr. Gaglioti felt it was better to act soon, as there are many indicators that tell us that seawater intrusion is a risk to the Basin.

Item 4: (Discussed on page 40 of the agenda packet) The induction logging work is already scheduled for performance.

Item 5: (Discussed on page 40 of the agenda packet) The work to analyze groundwater flow directions and velocities is covered by the contract amendment approved under the previous agenda item.

Mr. Lear noted that we haven't been able to identify the source of pumping near well FO-11 that is causing groundwater levels to drop in that location. Ms. Voss noted that seawater intrusion can move both horizontally and vertically, and they are seeing some of that in the Salinas Valley 180/400-foot aquifer.

Mr. Jaques reported that Mr. Ghandour has agreed to have the water quality sample from his well taken as soon as possible, rather than delaying it to the usual September sampling date.

Mr. Lear reported that he plans to take the next set of quarterly water quality samples in April and the data would probably be available in late April or early May.

Item 6: (Discussed on page 40 of the agenda packet) Mr. Gaglioti commented that we need to understand the "baseline" of how overdrafted the Basin is before trying to calculate a revised Natural Safe Yield figure or performing a Sustainable Yield analysis. Ms. King noted that some of the work within the proposal from Montgomery and Associates to prepare the Sustainable Yield analysis was to incorporate climate change impacts. Mr. Lear reported that the Bureau of reclamation, USGS, and MPWMD will be completing a basin study that will address climate change impacts with regard to ASR. A model is being used for this, and it covers the Seaside Basin. Ms. King said if there is already a climate change analysis available to use in performing the Sustainable Yield analysis, it would somewhat reduce the cost for that work.

Mr. Jaques noted that when the Sustainable Yield analysis cost proposal was presented to the Board, because of its high cost of over $100,000 there was reluctance to proceed with it at this time. The Board's preference was to wait until the Groundwater Sustainability Plan for the Monterey Subbasin has been completed, and its impacts on the Seaside Basin could be evaluated, before deciding whether or not to proceed with performing a Sustainable Yield analysis.

Item 7: (Discussed on pages 40-44 of the agenda packet) Mr. Gaglioti said he felt the get charts contained in the agenda packet were okay.

Mr. Ottmar said he felt that starting negotiations with regard to obtaining replenishment water should reflect actual pumping amounts needed by the City of Seaside in order to meet its customers' water demands.

Mr. Jaques said he would make edits to the Discussion Paper to reflect input from the TAC at today's meeting and provide it for final review by the TAC via email in late March.

6. Opinions of Consultants and TAC Members Regarding Implementation of the Seawater Intrusion Response Plan and Ionic Analysis

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

Mr. Gaglioti felt this was information that should go to the Board. He did not see any reason to delay declaring that seawater intrusion has occurred. He did not think it was appropriate for the TAC to say it is not occurring as a basis for waiting to take action. He felt the Board should make that decision. Ms. Voss felt the TAC was not saying that seawater intrusion is not occurring, rather that if it is, it is very early on in the process. Mr. Gaglioti felt the TAC should stay silent on this matter and let the Board review the information and draw its own conclusions by reading the comments on page 55 in the agenda packet.

Mr. Jaques highlighted that are that there are significant workload and cost impacts if the Seawater Intrusion Response Plan is triggered into implementation. Mr. Ottmar said we are already starting to do some of the Seawater Intrusion Response Plan work such as increased monitoring frequency and analyzing flow directions and velocities.

Mr. Lear said the MPWMD has a duty to protect and augment the water supply, and that MPWMD feels more data is needed to support making a decision with regard to whether or not seawater intrusion is occurring. He recommended that the Watermaster and MPWMD Boards work collaboratively regarding this issue.

Ms. Voss suggested informing the Board that the experts are not saying that seawater intrusion is not occurring, but that the TAC feels that more data is needed to make a determination, including performing induction logging of Wells FO –9 and FO – 10, getting more water quality sampling data points, and performing the analysis by Montgomery and Associates of the cation/anion evaluations described in their previously submitted Work Plan.

Mr. Lear said that the increasing chloride levels may be the upward movement of connate salt water rather than seawater intrusion. If so, the Seawater Intrusion Response Plan actions may not be the most effective way of addressing the problem.

There was consensus to bring this topic back to the TAC for further discussion at its next meeting.

7. Schedule

Mr. Jaques explained why he was recommending that the next TAC meeting be held on March 31 which is two weeks earlier than its normal meeting date. Mr. Leith recommended delaying the Board meeting discussion on issues of concern to it until May, and skipping the April Board meeting.

Ms. Paxton recommended getting the induction logging work by Mr. Feeney completed before having the next Board meeting. Mr. Lear noted that Mr. Feeney's work may not be conclusive. Ms. Voss felt that there is enough information to go to the Board for its April meeting, but to hold back from making any recommendation with regard to whether or not to implement the Seawater Intrusion Response Plan.

Following further discussion on this matter, there was consensus to not have a second TAC meeting in March, but instead to have the next TAC meeting on the normal April date.

Ms. Paxton will discuss with the Board chairman when to have the next Board meeting to receive information from the TAC on these issues.

[Note: Ms. Paxton discussed this with the Chair of the Board after today's TAC meeting and a decision was made to provide a brief progress report to the Board via email, but to hold off until May to have the next Board meeting in order to give the TAC more time to evaluate these issues.]

8. Other Business

There was no Other Business.

The meeting adjourned at 4:00 PM.

D-R-A-F-T
MINUTES

Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
April 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
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
Martin Feeney – Martin Feeney

Others
City of Seaside – Nisha Patel
California American Water – Ian Crooks and Catherine Stedman

The meeting was convened at 1:31 p.m.

1. **Public Comments**

There were no public comments.

2. **Administrative Matters:**

A. Approve Minutes from the March 10, 2021 Meeting

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

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques summarized the agenda packet materials for this item. Ms. Voss noted that the date of the extra (special) SVBGSA Monterey Subbasin GSP Committee listed on page 9 of

the agenda packet as being scheduled for May 23 was in fact scheduled for March 23. There was no other discussion on this item.

C. Water Quality Sampling Results from SNG Well

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

Mr. Gaglioti noted that the SNG well provides another data point showing seawater intrusion into the Basin.

Mr. Feeney commented that the SNG well is old (nearly 60 years) and that its steel casing may be "shot". He felt that the high chloride level may be due to water going down the gravel pack for this well.

Ms. King recommended that this well be fixed to keep it from being a cross-contamination source to the Paso Robles aquifer. Ms. Voss said she concurred with Ms. King's recommendation. Since the dune sands are known to be intruded it is not surprising that it could be cross contaminating the Paso Robles aquifer.

Mr. Lear asked if the cross-contamination issue should be agendized as a future item for the TAC.

Mr. Stoldt said he believed that Cal Am has a tee in its water system to serve this parcel in the future, and noted that there is a wheeling agreement for this purpose.

Mr. Gaglioti said the Board should be made aware of this potential cross-contamination situation.

Mr. Feeney reiterated that he is certain the casing has holes in it and therefore the well should be destroyed to prevent cross-contamination.

Mr. Lear said that the previously completed cross-contamination study could be provided to the Board along with a TAC recommendation to have this well destroyed.

On a motion by Mr. Gaglioti, seconded by Ms. Voss, the TAC recommended that the Board (1) be informed of the potential risk of cross-contamination from the SNG well, and be provided the previously completed cross-contamination report, and (2) that a letter be sent to the owner notifying him to destroy the well. The motion passed unanimously.

It was noted that destroying the well will have a cost impact to the well owner, since it can currently be used for construction site irrigation. Loss of use of this well, if it were destroyed, would necessitate the well owner having to purchase water to meet his needs.

Mr. Stoldt said it was his understanding that the ownership of the parcel were the SNG well is located is currently in dispute, and that MPWMD could provide information on that.

Ms. Voss said that Monterey County Health may have a program to help with well destruction costs, but it is most likely focused on the agricultural fields of the lower Salinas Valley. Mr. Feeney said he was not aware of a program like this at the location of the SNG well. Ms. Voss reported that the County has a Department of Water Resources grant for well destruction in specific parts of the Salinas Valley, but not in the location of the SNG well.

D. MPWMD Water Supply Committee Meeting Agenda Items

Mr. Jaques summarized the agenda packet materials for this item

Mr. Gaglioti asked why there was a rush on the part of MPWMD to get rid of the FO-9 Shallow monitoring well.

Mr. Lear explained that if video inspection of the well shows a crack, Monterey County Health will not approve a repair using a sleeve to seal the leak. Installing a sleeve would restrict the diameter of the casing such that water quality sampling could no longer be performed. He went on to explain that wells in that area were drilled to get stratigraphic information in the 1990s. When the Watermaster's Monitoring and Management Program was created, regular monitoring of the wells was commenced. MPWMD will also video inspect FO-9 deep to ensure it is okay and not also leaking. MPWMD does not want the liability of continuing to have FO-9 left in service if it is leaking. Because of the well's importance to both the watermaster, MPWMD, and Marina Coast Water District, there could be a cost sharing approach to have a replacement monitoring well installed near that location.

Mr. Gaglioti said he was open to having the existing well repaired it was feasible, or to exploring the most cost-effective means of having a new monitoring well installed there.

Ms. Voss went on to clarify that the well cannot be fixed with a sleeve because that would prevent it from further use as a water quality monitoring well. She felt it was important to video inspect well FO-9 deep to determine whether it is okay.

Mr. Feeney said that if the problem with FO-9 Shallow is just a crack, it might be repairable using a "squeeze job" approach with a packer and sealing the crack with bentonite. If there is a separated joint, then a sleeve would be necessary. He went on to say that video inspection of the well is planned in the next few weeks.

Mr. Lear further explained that MPWMD is the owner of the well and therefore must make the final decision on what to do. The well is old, as are the others that were drilled at about the same time, and those wells are reaching the end of their useful lives.

Mr. Ottmar asked about the Water Supply Committee table on page 18 of the agenda packet which shows 774 AFY as the Cal Am allotment after it reduces its 1,474 AFY by 700 AFY to repay its over-pumping. Mr. Lear explained that this table only looks at Cal Am's supply and does not address the City of Seaside municipal water supply system. Mr. Ottmar went on to say that the City was having trouble meeting its Adjudication ramp-down requirements and was looking for additional water supply sources. Also, the

City's planning department has difficulty with the growth projections that are in the AMBAG forecast. Mr. Stoldt noted that portions of Seaside's growth will be in the MCWD service area, not within the City's municipal water system service area.

Mr. O'Halloran commented that Seaside is a good example of the difficulty in making growth projections, because they are affected by the water hook-up moratorium.

There was discussion of replenishment water amounts and that more study of this is needed to refine the previous modeling work on this subject.

Mr. Riley said he felt the Watermaster should be working on two tracks with regard to water supply (1) is a replenishment water supply available? and (2) who pays for replenishment water? He said he felt the burden is on the watermaster to generate the funding and protecting the basin.

Ms. King remarked that it will be complex process to make the decisions on what assumptions and conditions are to be used in the replenishment modeling work, including the various projects and how they affect groundwater conditions in the Basin. There was consensus to agendize this topic for further discussion at a future TAC meeting.

3. Report on Findings and Conclusions from Induction Logging of Monitoring Wells FO-9 and FO-10

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

Mr. Feeney provided a more detailed explanation of the work that was done and its findings. He reported that FO-9 Shallow has high chloride due to an apparent casing leak. He said he did not have an explanation of the cause for the findings in the FO-10 Shallow induction logging which shows high conductivity over nearly the entire depth of the casing, but noted that the data shows that the water quality samples from that well are valid. He said he did not feel videoing of FO-10 Shallow well tell us anything of value. He noted that FO-10 is outside of the Seaside Basin, and said he felt that the MCWDGSA should take on the responsibility of investigating this well.

Mr. Jaques said he would send Mr. Feeney's report to MCWD and their consultant, EKI, and ask them to address the FO-10 issues in the Monterey Subbasin GSP.

Mr. Lear recommending making sure that MCWD plans to sample the FO-10 wells on a quarterly basis once they begin their GSP water quality sampling program.

4. Continued Discussion of Board Direction Regarding Concerns about Possible Detection of Seawater Intrusion in Monitoring Wells FO-9 and FO-10 Shallow

Mr. Gaglioti recommended including the FO-9 and FO-10 induction logging results in the Discussion Paper. Other than this revision, there was consensus that the Discussion Paper was suitable for presentation to the Board as-is.

5. Continued Discussion of Opinions of Consultants and TAC Members Regarding Implementation of the Seawater Intrusion Response Plan and Ionic Analysis

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

Mr. Lear commented that the data does not look like seawater intrusion that has been seen in other locations.

6. Recommendations and/or Contract Amendments with Martin Feeney, MPWMD, and Montgomery & Associates

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

A motion was made by Mr. Gaglioti, seconded by Mr. O'Halloran, to recommend to the Board approval of Montgomery and Associates Amendment No. 1. The motion passed unanimously.

7. Discussion of Projected ASR Volumes

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

Mr. Lear explained that citations of the 1,300 acre-feet per year ASR value came from earlier Cal Am of documents. Mr. Stoldt went on to say that in 2012 a group with many diverse representatives met and discussed the five-year average of water demand figures. ASR was discussed and 1,300 AFY came out of that discussion. That value was used in early documents. He said he felt it appears to be a reasonable value, and might even be a little low.
Mr. Lear provided background information on the development and operations of the ASR program.

There was discussion of other topics related to the ASR figures, including climate change.

Mr. Ottmar asked if ASR has proven to be cost-effective. He wondered if more could be stored under the ASR problem program in very wet years, or would it not be cost-effective to scale-up the size of the ASR facilities to be able to do that. Mr. Lear responded that some initial analysis has been done on the cost-effectiveness of the ASR program. Mr. Stoldt went on to say that increasing well capacity, iron removal capacity at the Begonia iron removal plant, delivery pipeline capacity, and injection well capacity all have cost impacts, and it appeared not to be cost-effective to scale-up the ASR facilities, compared to up-scaling some of the other water supply projects.

Mr. O'Halloran reported that he had met with Mr. Stoldt and Mr. Lear earlier today and that the 1,300 FY figure "has legs" based on their analysis. He said, however, that he was still concerned about counting on this level of ASR in future years.

8. Discussion of Potential for Providing Recycled Water for Irrigation of Laguna Seca Golf Course

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

Mr. Ottmar reported that the City of Seaside is negotiating with MCWD for reclaimed water for the Seaside golf courses.

Mr. Stoldt explained that MCWD retained rights to receive as much reclaimed water as they contributed to the Regional Treatment Plant in the form of wastewater. He went on to describe the Pebble Beach reclaimed water project and the additional treatment that was required there to irrigate tees and greens in order to prevent turf burn from the reclaimed water. He felt the cost of reclaimed water for golf course irrigation at the Laguna Seca golf courses would be higher than the $2,800 per acre foot that is currently estimated. He felt it was costing the Pebble Beach recycled water users between $6,000 and $7,000 per acre foot.

9. Schedule
Mr. Jaques said he had nothing to add to the information in the agenda packet on this item.

10. Other Business
There was no other business.

The meeting adjourned at 4:17 PM.

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SEASIDE GROUNDWATER BASIN WATERMASTER

Reported Quarterly and Annual Water Production From the Seaside Groundwater Basin
For All Producers Included in the Seaside Basin Adjudication—Water Year 2021

(All Values in Acre-Feet [AF])

	Type	Oct	Nov	Dec	Oct-Dec 20	Jan	Feb	Mar	Jan-Mar 21	Apr	May	Jun	Apr-Jun 21	Jul	Aug	Sep	Jul-Sep 21	Reported Total	Yield Allocation	from WY 2020	for WY 2021
Coastal Subareas																					
CAW - Coastal Subareas	SPA	233.22	194.47	258.49	**686.18**	116.54	18.91	22.63	**158.09**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**844.27**	1,466.02	5.48	1,471.50
Luzern		62.71	59.24	23.86	**145.81**	0.03	0.00	39.07	**39.10**				**0.00**				**0.00**	**184.91**			
Ord Grove		122.95	117.17	121.44	**361.56**	118.00	27.62	52.71	**198.32**				**0.00**				**0.00**	**559.88**			
Paralta		108.31	101.89	64.52	**274.73**	0.00	7.56	95.55	**103.11**				**0.00**				**0.00**	**377.84**			
Playa		32.31	27.38	8.13	**67.83**	0.00	0.00	0.00	**0.00**				**0.00**				**0.00**	**67.83**			
Plumas		18.83	23.76	7.88	**50.47**	0.00	15.30	30.12	**45.42**				**0.00**				**0.00**	**95.89**			
Santa Margarita #1		188.11	165.03	132.65	**485.79**	44.62	0.00	0.00	**44.62**				**0.00**				**0.00**	**530.41**			
Santa Margarita #3		0.00	0.00	0.00	**0.00**	103.89	0.00	0.00	**103.89**				**0.00**				**0.00**	**103.89**			
ASR Recovery		0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**												
PWM Recovery		(300.00)	(300.00)	(100.00)	**(700.00)**	(150.00)	(31.57)	(194.81)	**(376.38)**												
City of Seaside (Municipal)	SPA	13.48	13.93	13.37	**40.79**	12.26	13.94	13.18	**39.38**				**0.00**				**0.00**	**80.17**	120.28	0.00	120.28
Granite Rock Company	SPA	- -	- -	- -	**0.00**	- -	- -	- -	**0.00**				**0.00**				**0.00**	**0.00**	11.35	235.87	247.21
DBO Development No. 30	SPA	- -	- -	- -	**0.00**	- -	- -	- -	**0.00**				**0.00**				**0.00**	**0.00**	20.59	426.81	447.40
Calabrese (Cypress Pacific Inv.)	SPA	- -	- -	- -	**0.00**	- -	- -	- -	**0.00**				**0.00**				**0.00**	**0.00**	2.76	13.32	16.08
City of Seaside (Golf Courses)	APA	46.99	14.60	14.94	**76.54**	8.62	6.31	43.73	**58.66**				**0.00**				**0.00**	**135.20**	540.00		540.00
Sand City	APA	0.15	0.14	0.06	**0.35**	0.06	0.05	0.06	**0.17**				**0.00**				**0.00**	**0.51**	9.00		9.00
SNG (Security National Guaranty)	APA	0.00	0.00	0.02	**0.02**	0.00	0.04	0.05	**0.09**				**0.00**				**0.00**	**0.11**	149.00		149.00
Calabrese (Cypress Pacific Inv.)	APA	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**				**0.00**				**0.00**	**0.00**	6.00		6.00
Mission Memorial (Alderwoods)	APA	3.17	3.07	3.91	**10.15**	2.70	1.64	3.41	**7.76**				**0.00**				**0.00**	**17.91**	31.00		31.00
Coastal Subareas Totals					**814.02**				**264.14**				**0.00**				**0.00**	**1,078.16**	**2,356.00**	**681.48**	**3,037.47**
Laguna Seca Subarea																					
CAW - Laguna Seca Subarea	SPA	34.97	25.48	13.11	**73.56**	8.38	6.53	8.55	**23.46**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**97.02**	0.00		0.00
Ryan Ranch Unit		5.02	3.56	0.99	9.57	0.00	0.00	0.00	0.00				**0.00**				0.00	9.57			
Hidden Hills Unit		13.86	10.44	9.10	33.39	8.38	6.53	8.55	23.46				**0.00**				0.00	56.85			
Bishop Unit 3		8.20	5.84	1.51	15.55	0.00	0.00	0.00	0.00				**0.00**				0.00	15.55			
Bishop Unit 1		7.89	5.64	1.52	15.05	0.00	0.00	0.00	0.00				**0.00**				0.00	15.05			
The Club at Pasadera	APA	15.90	6.30	2.00	**24.20**	3.30	2.00	4.00	**9.30**				**0.00**				**0.00**	**33.50**	251.00		251.00
Laguna Seca Golf Resort (Bishop)	APA	18.28	1.54	0.00	**19.82**	7.39	1.34	3.26	**11.98**				**0.00**				**0.00**	**31.80**	320.00		320.00
York School	APA	1.07	1.63	0.93	**3.63**	0.65	0.25	0.13	**1.04**				**0.00**				**0.00**	**4.67**	32.00		32.00
Laguna Seca County Park	APA	1.70	0.24	31.03	**32.98**	0.84	0.65	0.99	**2.48**				**0.00**				**0.00**	**35.45**	41.00		41.00
Laguna Seca Subarea Totals					**154.19**				**48.25**				**0.00**				**0.00**	**202.44**	**644.00**	**0.00**	**644.00**
Total Production by WM Producers					**968.21**				**312.40**				**0.00**				**0.00**	**1,280.60**	**3,000.00**	**681.48**	**3,681.47**
									Annual Production from APA Producers									259.15	1,379.00		
									Annual Production from SPA Producers									1,021.46	2,302.47		

																			Previous Balance	*Total*
CAW / MPWMD ASR (Carmel River Basin source water)																				
Injection	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**				**0.00**				**0.00**	**0.00**		
(Recovery)	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**				**0.00**				**0.00**	**0.00**		
Net ASR	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**				**0.00**				**0.00**	**0.00**	**735.49**	**735.49**
Pure Water Monterey (PWM) Injection and Cal-Am Recovery																			
Injection Operating Reserve	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**1,035.12**	**1,035.12**
Injection Drought Reserve	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**
Delivery to Basin	190.12	222.99	173.77	**586.88**	297.05	266.37	313.71	**877.13**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**1,464.01**	**0.00**	**1,464.01**
CAW	(190.12)	(222.99)	(173.77)	**(586.88)**	(297.05)	(266.37)	(313.71)	**(877.13)**	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**(1,464.01)**	**0.00**	**(1,464.01)**

Notes:

1. The Water Year (WY) begins October 1 and ends September 30 of the following calendar year. For example, WY 2021 begins on October 1, 2020, and ends on September 30, 2021.
2. "Type" refers to water right as described in Seaside Basin Adjudication decision as amended, signed February 9, 2007 (Monterey County Superior Court Case No. M66343).
3. Values shown in the table are based on reports to the Watermaster received by April 15, 2021.
4. All values are rounded to the nearest hundredth of an acre-foot. Where required, reported data were converted to acre-feet utilizing the relationships: 325,851 gallons = 43,560 cubic feet = 1 acre-foot.
5. "Base Operating Yield Allocation" values are based on Seaside Basin Adjudication decision. These values are consistent with the *Watermaster Producer Allocations Water Year 2021* (see Item VIII.B. in 12/2/2020 Board packet).
6. Any minor discrepancies in totals are attributable to rounding.
7. APA = Alternative Producer Allocation; SPA = Standard Producer Allocation; CAW = California American Water.
8. It should be noted that CAW/MPWMD ASR "Injection" and "Recovery" amounts are not expected to "balance" within each Water Year. This is due to the injection recovery "rules" that are part of SWRCB water rights permits and/or separate agreements with state and federal resources agencies that are associated with the water rights permits.

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March 25, 2021

Ms. Kate McKenna
Monterey County LAFCO
132 W. Gabilan St. #102
Salinas, CA 93901

Re: Monterey Peninsula Water Management District
2021 Sphere of influence, Annexation and
Latent Power Activation Proposal

Dear Ms. McKenna:

I am the General Counsel for the Seaside Groundwater Basin Watermaster. I am submitting this letter on the Watermaster's behalf.

The Watermaster does not take any position on the Monterey Peninsula Water Management District 2021 Sphere of influence, Annexation and Latent Power Activation Proposal.

The Watermaster does advise LAFCO that the Seaside Groundwater Basin is an adjudicated water basin (Superior Court of California, County of Monterey Case M66343 California American Water vs. City of Seaside, et al, intervenor Monterey Peninsula Water Management District) that is subject to oversight by the Court. In the event that any portion of the LAFCO decision conflicts with any of the Court Judgement, the Judgement shall take precedence.

Thank you for your attention. Please let me know if you have any questions or concerns.

Very truly yours,

Christopher L. Campbell
BAKER MANOCK & JENSEN, PC

CLC:tlw

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MEMORANDUM

TO: Seaside Groundwater Basin Watermaster
Post Office Box 51502
Pacific Grove, California 93950

FROM: Christopher L. Campbell
BAKER MANOCK & JENSEN, PC

DATE: April 29, 2021

RE: Report on the MPWMD LAFCO Filing and Watermaster Legal Counsel Discussion with the General Counsel of MPWMD

Laura Paxon notified me that the MPWMD applied to the Local Agency Formation Commission (LAFCO) to activate its latent power to provide water production and distribution services for retail customers throughout the District, and to amend its sphere of influence to annex 58 parcels currently outside the District's jurisdictional boundary (application link: https://www.co.monterey.ca.us/home/showpublisheddocument/99982/637502177676500000). The application is a minor but essential step to allow the MPWMD to achieve its goal of acquiring all assets of Cal Am.

Myself and Ms. Paxton felt it necessary that a letter be submitted to LAFCO on Watermaster's behalf in response to the application submitted by the District, advising LAFCO that the Seaside Groundwater Basin is an adjudicated water basin (Superior Court of California, County of Monterey Case M66343 California American Water vs. City of Seaside, et al, intervenor Monterey Peninsula Water Management District) that is subject to oversight by the Court. In the event that any portion of the LAFCO decision conflicts with any of the Court Judgement, the Judgement shall take precedence.

To gain additional information about what the MPWMD has in mind in regards to acquiring Cal Am, I called the MPWMD General Counsel, David Laredo, to discuss what he expects will occur.

My main question was whether the District understands and agrees that they will be subject to the terms of the judgement and the Court's oversight. He responded that nothing will change, at least at first. As he put it, they will paint the trucks with a different logo and continue serving water as usual. He also emphasized that it will be quite a while, if ever, that the District acquires Cal Am, but It is doing the voters bidding to the best of its ability.

David's main message is that the District is required to proceed with the acquisition per the vote of the people. He knows that Cal Am will challenge the takeover of its system. As a result, the District is moving very methodically to ensure that each step is executed carefully. So, the process will be slow.

David made it very clear that he understands the significant District role in the Watermaster if and when Cal Am is acquired. Extensive dialogue between the Watermaster and the District would then be necessary.

CLC:sdg