# MEETING NOTICE AND AGENDA

## *TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER*

**DATE: Wednesday, April 9, 2025**

**MEETING TIME: 1:30 p.m.**

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

If joining the meeting by phone, dial this number: +1 669 900 9128 US (San Jose)
If you encounter problems joining the meeting using the link above, you may join from your Zoom screen using the following information:

**Meeting ID: 854 9361 2070**
**Passcode: 615032**

**TAC Member Teleconferencing Information is on the Next Page**

**OFFICERS**
**Chairperson: Jon Lear, MPWMD**
**Vice-Chairperson: Kim Shirley, City of Del Rey Oaks**

**MEMBERS**

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

# TAC MEMBER TELECONFERENCING INFORMATION

| NAME | ENTITY | LOCATION |
|---|---|---|
| Amy Woodrow | Monterey County Water Resources Agency | 5 Carriage Way, Durham, NH. |
| Kim Shirley | City of Del Rey Oaks | 4 Baxter Place, Del Rey Oaks, CA |
| Andreas Baer | City of Seaside | Engineering Trailer,<br>440 Harcourt Avenue<br>Seaside, CA |
| Dave Pezzini | California American Water | 22625 Oak Canyon Road<br>Salinas, CA 93908 |
| Cody Hennings | City of Monterey | Monterey Public Library, Solarium Conference Room<br>625 Pacific Street<br>Monterey, CA 93940 |
| Jon Lear | Monterey Peninsula Water Management District | 5 Harris Court, Bldg. G, Monterey, CA |
| Leon Gomez | City of Sand City | City Hall in Sand City, 1 Pendergrass Way, Sand City, CA 93955 |
| Paul Bruno | Coastal Subarea Landowners | 192 Healy Ave, Marina, CA |
| Eric Tynan | Laguna Seca Subarea Landowners | 11528 Castro Street, Castroville, CA. 95012 |

## *SEASIDE BASIN WATER MASTER*
## *TECHNICAL ADVISORY COMMITTEE*

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

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| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 2.A |
| **AGENDA TITLE:** | Approve Minutes from the February 12, 2025 Meeting |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

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

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

**D-R-A-F-T**
**MINUTES**

**Seaside Groundwater Basin Watermaster**
**Technical Advisory Committee Meeting**
**February 12, 2025**

**Attendees: TAC Members**

City of Seaside – No Representative
California American Water – David Pezzini
City of Monterey – Cody Hennings
Laguna Seca Property Owners – No Representative
MPWMD – Jon Lear
MCWRA – Amy Woodrow
City of Del Rey Oaks – Kim Shirley
City of Sand City –Leon Gomez
Coastal Subarea Landowners – No Representative

**Watermaster**
Technical Program Manager-Bob Jaques

**Others**
MPWMD – Cody Steinmetz, William Hix

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The meeting was convened at 1:31.

1. **Public Comments**

There were no public comments.

2. **Administrative Matters:**

- **Approve Minutes from the December 11, 2024 Meeting**

On a motion by Ms. Woodrow, seconded by Ms. Shirley, the minutes were unanimously approved as presented.

- **Sustainable Groundwater Management Act (SGMA) Update**

Mr. Jaques introduced this agenda item and there was no other discussion.

- **Update on SNG Well**

Mr. Jaques summarized the agenda packet materials for this item. Mr. Lear commented that, as he understood it, the intent was for the well to be used for compaction and other purposes during construction of the Eco-Resort project, and then to be destroyed thereafter. A wheeling agreement has been prepared between the SNG property owners and Cal Am to provide long-term water service to the project.

3. **Professional Services Agreement and RFS 2025-01 to Geophysical Imaging Partners to Perform Pilot Test of Subsurface Imaging in the Vicinity of Sentinel Well No. 4**

Mr. Jaques summarized the agenda packet materials for this item. He went on to say that he would be seeking assistance from Mr. Lear in getting State Parks' permission for the work to be performed on the State Park property. Mr. Jaques and Mr. Lear commented that MPWMD already has access permission

to the SNG property, and that that should provide the permission needed for the geophysical imaging work to be done there.

On a motion by Mr. Gomez, seconded by Mr. Pezzini, the TAC unanimously approved the Professional Services Agreement and RFS 2025-012 with Geophysical Imaging Partners and recommended these be forwarded to the Board for Board approval.

**4. RFS No. 2025-03 to Montgomery & Associates to Update the Seawater Intrusion Response Plan**

Mr. Jaques summarized the agenda packet materials for this item. In response to questions from some TAC members Mr. Jaques said he expected there to be significant interaction between the consultants and the TAC and the Board as this work was being performed. He noted that if the amount of interaction or numbers of meetings that Montgomery and Associates would be involved in was greater than expected by the consultant when they put together their budget for this work, the budget could be augmented with funds from the General Consulting RFS that the Watermaster has with Montgomery and Associates. There were other questions and answers with regard to certain of the tasks in the scope of work.

On a motion by Mr. Henning, seconded by Ms. Shirley, the TAC unanimously approved RFS 2025-03 with Montgomery and Associates and recommended that it be forwarded to the Board for Board approval.

**5. Status Report on Montgomery & Associates' Recommendations on the Best Approach to be Used in Updating the Seaside Basin Groundwater Model**

Mr. Jaques summarized the agenda packet materials for this item. Ms. Woodrow reported that the USGS has said they plan to publish the Salinas Valley Integrated Hydrogeologic Model (SVIHM) in March of this year.

On a motion by Ms. Shirley, seconded by Ms. Woodrow, the TAC unanimously approved the Technical Program Manager's recommendation to delay completion of work on this until the unresolved related modeling issues have been resolved.

**6. Discuss How to Verify Chloride Concentrations and Water Chemistry in the 140 to 200 Foot Zone of Sentinel Well No. 4**

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

Mr. Lear said he felt that if Cone Penetration Testing (CPT) was found to be infeasible, or would not provide sufficient information, we may want to consider the other options mentioned in the agenda packet. He said he wondered whether the CPT technology could go deep enough to obtain a water quality sample at the desired depth.

Ms. Woodrow said she also questioned the value of just getting a single water quality sample.

The TAC unanimously concurred with the Technical Program Manager's recommendation, as an initial step, to move forward with investigating the feasibility and desirability of the CPT technology.

**7. Schedule**

Mr. Jaques reported that he had not added any new tasks to the schedule since the last meeting, but had revised the schedule to show a delay in updating the groundwater model. He also commented that he

would add the Geophysical Imaging Partners work to the schedule when more information about timing becomes available.

**8. Other Business**

There was no other business.

The meeting adjourned at 2:04 p.m.

## *SEASIDE BASIN WATER MASTER*
## *TECHNICAL ADVISORY COMMITTEE*

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

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|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 2.B |
| **AGENDA TITLE:** | Sustainable Groundwater Management Act (SGMA) Update |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

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

**At the Monterey County level:**
Attached are summaries of meetings held in February and March 2025.

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

# SUMMARY OF
# PURE WATER MONTEREY, AND
# SALINAS VALLEY AND
# MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS
# IN FEBRUARY 2025

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

**180/400-Foot Aquifer Subbasin GSP Implementation Committee Meeting, February 10, 2025:**
The item of interest and the principal presentation at this meeting was a discussion of Salinas River Project Alternatives. A lengthy presentation was made by Mr. Dennis Lebow, who is a member of this committee. He is a member of the Salinas Basin Water Alliance and is an agricultural hydrologist. Looking at his credentials on his LinkedIn posting, he reports that his expertise includes:

- Vast experience developing hydro-logic models, analyzing maps and data sets, writing scientific reports, and evaluating water quality.
- Designing databases and developing spatial queries to achieve proper data archiving and retrieval mechanisms.
- Plans, performs, coordinates, and directs comprehensive studies of hydrologic systems

His presentation made the following points:

- Dam releases are proving not to be effective in mitigating seawater intrusion.
- Much of the surface water released from the dams is lost by percolating into the groundwater in the upper Salinas Valley and by evapotranspiration.
- Water transfer pipelines were recommended in Department of Water Resources 1946 study of this part of the Salinas Basin. Those pipelines would be used to move water from the Forebay subarea, to the Pressure and Eastside subareas where groundwater is being over-drafted.
- This there is not a water supply problem in the Basin, there is a water distribution problem.
- The major projects currently being evaluated will be more costly and less effective than a project that would install water transfer pipelines.
- One project that has been considered in the past would be to spread surface water from the of Arroyo Seco river. The Arroyo Seco River has a very short peak runoff period, so a lot of groundwater storage capacity would need to be available in order to capture this water by percolation. However, this is not feasible because it would require first emptying the groundwater storage capacity there so there would be room to store this surface water.
- Pipelines to bypass sections of the Salinas River would improve downstream water quality by reducing fertilizer pollutants such as nitrate and others.
- The redistribution of water would help to mitigate seawater intrusion by delivering water to over-drafted areas, so groundwater pumping there could be reduced. Supplemental projects to distribute this water to where it can be used would still be needed.
- There was brief discussion about CSIP-2 and CSIP-3 (expansions of the current CSIP) as future projects to help accomplish this.

Following this presentation:

- Some attendees expressed concern that DWR will conclude not enough progress is being made fast enough by the SVBGSA, that too many studies and not enough action is being taken.
- There was much discussion about water rights being a big hurdle for many of the proposed projects.

- One member felt that the Salinas Basin Water Alliance was trying to delay progress on implementing the GSP by bringing up the topic of water transfer pipelines.
- A motion by Chris Bunn was made and passed to ask staff and consultants to examine how big an impact there would be from cutting back pumping in each of the Subbasins as well as across the Basin as a whole.
- As a result of this, SVBGSA staff will look at the impacts on seawater intrusion from various things such as reduced pumping, bringing in new water supplies, etc. They will not focus on specific projects to accomplish these things, in order to avoid spending so much time and money on feasibility studies for specific projects,

**SVBGSA Advisory Committee Meeting, February 20, 2025:**

Items of interest at this meeting included a presentation made by Derrik Williams of Montgomery & Associates on the findings from modeling scenarios that were performed to address seawater intrusion:

- With regard to demand management (a 30% pumping reduction) there is little effect on moving the seawater intrusion front back toward the coast. Even with such a reduction, groundwater levels in the 180 and 400 foot aquifers remain well below sea level.
- With regard to ASR scenarios none of these push back seawater intrusion in either aquifer far enough to meet the GSP's seawater intrusion Minimum Threshold.
- With regard to the Brackish Groundwater Restoration Project:
    - They evaluated three project sizes, small medium and large.
    - These are much more effective at stopping seawater intrusion from moving inland.
    - The projects include inland desalinated water injection wells in "hotspots" located inland from the coast.
    - The medium and large projects do achieve compliance with the seawater intrusion Minimum Threshold, the small project does not.
- One of the agricultural representatives pointed out that if demand management causes a reduction in agricultural water being available in the coastal area, then the crops would be pushed inland where evapotranspiration rates are higher, therefore requiring larger quantities of water for irrigation. They also reported that agriculture could not survive economically if the costs of water that would be provided by the GSP projects are as high as they are currently being projected.
- Sarah Hardgrave reported that an application for funding from federal agencies (such as the Bureau of Reclamation) for the Brackish Water Restoration Project will require that alternatives projects or actions also be analyzed. These could include other projects such as the groundwater transfer projects discussed at the February 10th 180/400-Foot Aquifer GSP Implementation Committee meeting.
- In the upcoming year SVBGSA staff will prepare a funding mechanism study to evaluate how the high costs of some of the GSP projects can be funded.

**Monterey Subbasin Implementation Committee Meeting, February 26, 2025:**

The largest agenda item at this meeting pertained to the SVBGSA's work on developing a Demand Management program. Other brief items were progress or status reports on projects undergoing feasibility studies, all of which had been presented at the February 20 Advisory Committee meeting . Some topics/comments of interest:

- The Demand Management consultant (ERA Economics) said that they are assisting the SVBGSA with developing answers to these questions:
    - What are baseline economic conditions for water users, and directly/indirectly related industries across the Subbasin, Basin, County, and region?
    - What are the direct, indirect, and induced economic impacts of demand management?
    - What are different options for demand management and how do we identify cost-effective approaches?

    - What are current investments in water conservation practices and how can these inform future program design?
- They will then provide the SVBGSA with an Economic Analysis of Demand Management including:
    - Basin-wide economic framework to evaluate demand management alternatives
    - Baseline conditions and economic impact analysis grounded in outreach to water users and related industries
        - Essential for any future program design
        - Ensure economic impacts represent local and regional implications
    - Quantify costs and benefits of alternatives
        - Farm to region
        - Feasible alternatives
        - Cost effective portfolio
- They are looking at:
    - Voluntary Incentive-Driven Programs
    - Mandatory Programs
    - Hybrid Programs
- Some comments of interest included:
    - One Committee member said that for the Monterey Subbasin demand management is the only feasible action available to work toward sustainability. Another member commented that this Subbasin could also join in with adjacent subbasin(s) in joint projects.
    - The consultant reported that DWR has not established guidelines for Demand Management Programs. Therefore there are no criteria that must be met to satisfy DWR for such programs. He went on to say he felt the work the SVBGSA was doing was comprehensive and that it would be unlikely for DWR to direct the SVBGSA to make changes to its program.
    - There was much discussion about ensuring de minimis users (small water systems not regulated by the State) are included in any demand management actions. Some commented that de minimis users are very watchful of their water usage, while others commented that there were large private water systems that were not being watchful.

# SUMMARY OF
# PURE WATER MONTEREY, AND
# SALINAS VALLEY AND
# MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS
# IN MARCH 2025

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

**180/400-Foot Aquifer Subbasin GSP Implementation Committee Meeting, March 6, 2025:**

The items on the agenda for this meeting were either topics covered at other meetings I attended, or items that would have no direct impact on the Watermaster. Therefore, I did not attend this meeting.

One of the items pertained to a continued effort by some of the Committee members to have other options evaluated that they felt had the potential to bring the subbasin into sustainability at lower cost than the options currently being considered. These consisted of the interbasin water transfer pipeline projects that were discussed at a prior Committee meeting, and interbasin water transfer canals.

***SEASIDE BASIN WATER MASTER***
***TECHNICAL ADVISORY COMMITTEE***

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

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|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 2.C |
| **AGENDA TITLE:** | Update on SNG Well |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

A conference call with Ed Ghandour of Security National Guarantee and his attorney Kyle Withers on March 13, 2025. Attending for the Watermaster were the Watermaster's legal counsel Alex Dominguez, Martin Feeney one of the Watermaster's hydrogeologic consultants, and Robert Jaques.

I had asked Mr. Feeney to participate because he has intimate knowledge of the SNG well's construction as well as they hydrogeology of this area.

Principal topics discussed included:

- Mr. Ghandour provided this synopsis of activities:
  - In April there will be the start of mediation between the parties involved in the lawsuit pertaining to the property to try to resolve the litigation issues. The Eco Resort project is a Joint Venture so multiple parties are involved.
  - He had Roy Alsop Pump & Drilling and Pacific Coast Well Drilling and Maggiora Brothers Well Drilling all provide input on the condition of the well and propose possible solutions to the leaking problem.
  - An 8" PVC liner was installed to about 60' to 80' from the bottom of the well; the pump is about 300' deep; the full depth of the well is about 570'; some sand has been pumped out of the well casing
  - A video inspection (performed in 2018) showed many of the perforations were clogged with iron scale
- Mr. Ghandour would like to be able to use the well to provide water for construction, and then for landscape irrigation once the Eco Resort development is completed. Granite Construction will need about 250 GPM of water supply for construction.
- Mr. Ghandour described several potential solutions to the leakage problem:
  - Video the well; swab it; install swedge patches on cracks in the upper portion of the casing. He went on to say he recognized this might not be successful, but it was much cheaper than the other options.
  - Remove the PVC liner; video the well; get a permit from Monterey County Health to repair the well; put in a new liner from the bottom of the upper aquifer to the ground surface; seal the annular space grave pack around the liner with concrete. He is awaiting a cost proposal from Pacific Coast Well Drillers to perform this work – he believes it will be on the order of $50K.
  - Replace the well with a new well and destroy the existing one. He got a quote from Maggiora of $187K to do this.

***SEASIDE BASIN WATER MASTER***
***TECHNICAL ADVISORY COMMITTEE***

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

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| **AGENDA ITEM:** | 2.C (Continued) |

- The completed Eco Resort will include 2-200,000 gallon water storage tanks. Under a wheeling agreement Mr. Ghandour has with Cal Am, the potable water supply to the Resort will be provided from Cal Am's distribution system.
- Mr. Feeney said that based on the water quality sampling from this well in 2021, it is clearly leaking shallow saline water into the lower levels where the well's perforations are located. He went on to say that because of the age of the well and the deterioration of the steel casing that would have occurred over its lifetime, he felt the well would likely collapse if it was put back into operation or if attempts to rehabilitate it were undertaken. Mr. Ghandour acknowledged this a risk.
- Mr. Ghandour acknowledged that at some point in the future he will need to install a new well, but that he would like to not have to incur that cost at this point in time, since the Eco Resort has not yet been constructed.
- Mr. Withers said he and Mr. Ghandour would compile the documentations they have from their consultants and provide them to Mr. Dominguez next week.

I will provide future updates as I hear from Mr. Dominguez.

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| **ATTACHMENTS:** | None |
| **RECOMMENDED ACTION:** | None required – information only |

***SEASIDE BASIN WATER MASTER***
***TECHNICAL ADVISORY COMMITTEE***

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

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|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 2.D |
| **AGENDA TITLE:** | Update on FO-10 and FO-11 Monitoring Wells |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

Jon Lear provided the attached report from MCWD on Monitoring Wells FO-10 and FO-11. These monitoring wells were installed in the late 1990s by MPWMD and are located outside of and to the north of the Seaside Basin Adjudication Decision boundary line.

After completing a number of tests MCWD has determined they do not want to take ownership of FO-10 from MPWMD because that well is compromised. Consequently, MPWMD will destroy FO-10 as a project in their next year's budget. MPWMD is transferring the Franchise License Agreements with the Army for the use of the FO-10 and FO-11 locations to MCWD as they exist in the GSA. This way should MCWD chose to redrill FO-10, they will already have a permitted location.

Since FO-10 has been determined to be compromised, MPWMD proposes to stop sampling that well immediately. This is being brought to the TAC's attention, as monitoring data from FO-10 may have been compromised for a while. Once the ownership of FO-11 is transferred to MCWD, we should see if their proposed monitoring frequency works for the Watermaster's data needs. If so, Mr. Lear also proposes MPWMD's stopping measuring water levels at that well and obtaining the water level data from MCWD. MPWMD would still need a small budget item to request data and enter it into the database, but this would be less than the cost to measure the water levels.

The attached report has been forwarded to Georgina King and Pascual Benito of Montgomery & Associates so they will be abreast of these developments, and so that the 2025 Seawater Intrusion Analysis Report can include this information.

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| **ATTACHMENTS:** | Well Investigation Report |
| **RECOMMENDED ACTION:** | Concur with Mr. Lear's Recommendations |

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Daly City, CA 94014
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ekiconsult.com

26 February 2025

**MEMORANDUM**

To: Patrick Breen, PE, Marina Coast Water District (MCWD)

From: Vera Nelson, PE, EKI Environment & Water, Inc. (EKI)
Jeff Shaw, PG, CHg, EKI
Tina Wang, PE, EKI
Nathan Cutler, EKI

Subject: FO-10 Nested Wells Pneumatic Slug Tests
Monterey County, CA
(EKI B60094.22)

## INTRODUCTION

The work summarized in this technical memorandum addresses Task 3.2 of Monterey Subbasin Groundwater Sustainability Plan (GSP) implementation for the fiscal year 2024-2025. This work was undertaken to address a critical data gap identified during GSP implementation of the ongoing risk of additional seawater intrusion to the 400 Foot and Deep Aquifers, and the potential impact of nested monitoring well FO-10 as a source of hydraulic connectivity between the two aquifers.

Nested monitoring well FO-10, located in Seaside, California (**Figure 1**) consists of three nested wells installed in a single 1,500-foot borehole. FO-10 was constructed in 1996 by advancing a 17-inch diameter borehole to 285 feet below ground surface (bgs) and subsequently a 10-inch diameter borehole to total depth. Each of the well completions in FO-10 are constructed of 2-inch PVC, with 20-foot screened intervals. Well FO-10S (shallow) is completed in the Paso Robles Formation and screened from 620 to 640 feet bgs (believed to be within the 400 Foot Aquifer). Wells FO-10M (middle) and FO-10D (deep) are completed in the Santa Margarita Sandstone (Deep Aquifer), screened from 990 to 1010 feet bgs and 1380 to 1400 feet bgs, respectively. The original driller's log for nested well FO-10 is included as **Attachment A**.

Since at least 2020, the Seaside Watermaster has detected a sustained increase in chloride concentrations in samples from well FO-10S. In 2022 the Seaside Watermaster also detected an increase in chloride concentrations in samples from well FO-10D. Additionally, groundwater levels in wells FO-10S and FO-10D have been closely aligned since monitoring began soon after the nested wells were constructed (Montgomery & Associates, 2022). No record of chloride or water level monitoring at FO-10M is available.

Due to these observations, the Seaside Watermaster raised questions about the integrity of the nested well cluster. A review of results from induction logging conducted in 2021 and the original well construction field notes suggest that approximately 1,300 feet of 2-inch steel tremie pipe was lost in the borehole annular space during well construction (Feeney, 2022). The tremie pipe itself may be acting as a conduit of hydraulic connectivity between the screened intervals, and/or the position of the abandoned

tremie pipe may have prevented successful continuous grouting of the borehole annular space between screened intervals. Given the uncertainty of the condition of the FO-10, the well owner, Monterey Peninsula Water Management District granted MCWD and EKI access to the wells to conduct hydraulic testing and assess the potential interconnectivity of aquifers occurring in the borehole. EKI designed and implemented a pneumatic slug testing program for the investigation.

## METHODOLOGY

### Overview

Pneumatic slug testing is a commonly preferred alternative to conventional slug testing for wells with fully saturated screens in highly transmissible formations due to the near instantaneous pressure release, or 'slug', the method permits. Additionally, the pneumatic method allows for greater hydraulic stress to be applied to the test well than with the solid slug method.

In this case, the slug test was not conducted with the typical objective of estimating aquifer parameters. Instead, the objective of the investigation was to qualitatively assess whether any of the three aquifer zones corresponding to the three well completion depths are hydraulically interconnected via the borehole. To best assess the integrity of nested well FO-10, the pneumatic method was selected to introduce the greatest possible hydraulic stress to the test well and avoid the potential false negative error of not observing a signal in observation well(s) if the stress introduced to the test well was too weak to propagate to other screened interval zones.

### Equipment

A typical pneumatic slug test well-head assembly consists of a plug affixed over the top of the well casing with an air compressor and regulator, quick-release valve, and access port for instrumentation. The three FO-10 casing surface completions are very closely spaced, however, and standard equipment would not work in this case. To test the well, EKI constructed a valved custom well-head assembly using an internal expansion plug inserted into the top of the well casing to seal each test well casing.

The pneumatic slug testing configuration included:

- The custom well-head assembly
- Manual air pump
- Electric air compressor

Instrumentation used to collect test data included:

- Solinst Water Level Meter manual well sounder
- Three In-Situ Level TROLL 400 unvented pressure transducers
- One In-Situ Rugged Baro TROLL barometric pressure transducer

**Test Procedure**

The pneumatic slug testing was conducted on 21 January 2025. Two slug tests were conducted in each of wells FO-10S and FO-10D. During each test absolute pressure data were collected in the test well and in each of the other two observation wells at ½-second intervals. Barometric pressure was collected continuously throughout the duration of testing at 1-minute intervals.

The well FO-10S tests were conducted first, beginning with Test 1 at 11:15. The well FO-10D tests were conducted subsequently, with Test 1 starting at 12:50. All testing was completed by 14:20. Prior to the start of each slug test, the test well pressure transducer was affixed to a line, lowered to several feet below the static water level (SWL), and the line was tied to the bottom of the expansion plug bolt inside the casing. The plug was then expanded within the top of the well casing, sealing the test well casing from the atmosphere. During each test, the other two wells were used as observation wells, with pressure transducers deployed approximately 20 feet below SWL or deeper, using direct-read data cables.

Pressurization of the well casing for the FO-10S tests was completed using a manual air pump. The casing was pressurized for over 12 minutes for Test 1 and over 10 minutes for Test 2. The 'slug' was then initiated by opening the wellhead assembly ball-valve to release the air pressure in the casing. Recovery in the test well and response in the observation wells were observed and the subsequent test was set up.

To introduce greater pressure to the test well, an electric air compressor was used to pressurize the well casing for the FO-10D tests. The casing was pressurized for over 21 minutes for each test. The 'slug' and observations for the well FO-10D tests were conducted in the same manner as for the well FO-10S tests.

**DATA PROCESSING**

Following the completion of all tests, raw instrument data was processed in Microsoft Excel. Observation well absolute pressure data was barometrically compensated to account for atmospheric pressure difference throughout each test. Test well pressure data for the pressurization period was not barometrically compensated since after the test well casing was sealed for each test, no atmospheric pressure influence occurred. Test well recovery period data was barometrically compensated, although the impact of atmospheric pressure difference to the change in absolute pressure over this short period was near zero.

The convention for slug tests is to report normalized change in pressure head, however since the objective of the FO-10 slug tests was to assess the response of observation wells to the test well slugs, the real magnitude of change in pressure head is reported in this case. Processed data is reported in delta pressure head (feet of water), i.e. deviation of pressure head from pre-test static conditions (H(t)). Time is reported in minutes elapsed since the start of each test, or the onset of pressure introduced to the test well.

**RESULTS**

During each of the four slug tests a near-immediate response was observed in each of the observation wells at the onset of pressurization of the test well, and again when the test well was depressurized for the 'slug' initiation. The results between each of Tests 1 and 2 at the same test well yielded very similar responses in the observation wells, suggesting the results are reliable.

During slug testing of the shallow-screened well FO-10S, observed maximum delta pressure head in the test well were 7.58 and 7.86 feet during Test 1 and 2, respectively. Each of the FO-10S tests yielded a response in each of the observation wells FO-10M and FO-10D of at least 0.10 feet. Observation well pressure head responses commenced immediately as FO-10S was depressurized, and the maximum displacement occurred less than two minutes later.

During testing of the deep-screened well FO-10D, observed maximum delta pressure head in the test well were 54.27 and 56.17 feet during Test 1 and 2, respectively. Each of the well FO-10D tests yielded a response in each of the observation wells FO-10S and FO-10M of at least 0.97 feet. As with FO-10S, observation well pressure head responses commenced immediately as FO-10D was depressurized, and the maximum displacement occurred less than two minutes later.

**Table 1** below summarizes the recovery in the test well and associated response in the observation wells during each depressurization 'slug' event.

Table 1: Summary of Slug Testing Results

| Well | Screened Interval (feet, bgs) | Shallow Test 1 | Shallow Test 2 | Deep Test 1 | Deep Test 2 |
|---|---|---|---|---|---|
| | | Maximum H(t) (feet of $H_2O$) | Maximum H(t) (feet of $H_2O$) | Maximum H(t) (feet of $H_2O$) | Maximum H(t) (feet of $H_2O$) |
| FO-10S | 620-640 | **7.58** | **7.86** | 0.97 | 1.10 |
| FO-10M | 990-1010 | 0.10 | 0.11 | 1.60 | 1.27 |
| FO-10D | 1380-1400 | 0.14 | 0.15 | **54.27** | **56.17** |

Abbreviations:
bgs = below ground surface
H(t) = delta pressure head

Notes:
a. **Bold text** values indicate test well.
b. Maximum H(t) is maximum delta pressure head after depressurization of test well ('slug').

The plots of H(t) versus time for the well FO-10S tests are shown in **Figures 2** and **3**. Similar plots of H(t) versus time for the well FO-10D tests are shown in **Figures 4** and **5**. The respective A plots show data for all three wells, and the respective B plots show more detailed data with a condensed y-axis to show the relatively small magnitude of displacement in the observation wells. The initial positive delta pressure head observed on the plots corresponds to the pressurization period for each test. The subsequent rapid change in delta pressure head corresponds to the depressurization 'slug' response for each test.

The oscillation observed in the delta pressure head data during the pressurization period for the FO-10S tests was caused by the variable output from the manual air pump used for these tests. In each of the well

FO-10S Tests 1 and 2, the oscillatory response is also visible in the delta pressure head data for each observation well.

**ANALYSIS**

The slug test results suggest that all three of the aquifer zones screened by nested well FO-10 are hydraulically interconnected via the borehole. The responses observed in well FO-10M suggest that in addition to the tremie pipe, channelized voids in sealing materials also may provide conduits of hydraulic connectivity in the borehole annulus. The well casings at the surface nearly touch each other; if no spacers were used between the casing strings during well construction, a vertical channel may exist in much of the annular fill wherever two or more casings are in contact.

During the well FO-10S slug tests, observation well FO-10M had a lesser response than the more vertically distant observation well FO-10D. Conversely, during the well FO-10D slug tests, observation well FO-10M had a greater response than the more vertically distant observation well FO-10S. The response lag times also differed between the tests: during the well FO-10S test, the observation well responses occurred nearly simultaneously, however during the FO-10D tests the response in observation well FO-10M was slightly delayed compared to the response in observation well FO-10S. The mixed results suggest occurrence of both faster, direct hydraulic communication via the tremie pipe and more tortuous hydraulic communication via void space in the borehole annulus.

The rapid hydraulic responses in the observation wells to both pressurization and depressurization suggest that the responses are due to a compromised nested well that allows hydraulic communication between all screened intervals. An alternate hypothesis is that the induced hydraulic stress propagated from the upper to middle and lower screens outside of the borehole (i.e., within the native geologic media). To test this alternate hypothesis, EKI estimated the theoretical propagation time of the hydraulic response and compared it to the observed data.

The calculation was performed using the observed data from the well FO-10D Test 1. A conservative approach was used, specifically the following assumptions:

- Homogenous, sand-dominated aquifer encompassing wells FO-10D and FO-10M screened intervals and the entire thickness between them, without any confining units.
- High-end horizontal hydraulic conductivity for sand with any fines present ($K_h$): **100 ft/d**.
- Low hydraulic conductivity anisotropy ratio ($K_h$ / $K_v$): **3**
- Low specific storage: **1 x $10^{-5}$ $ft^{-1}$**

To further constrain the theoretical propagation time, a second calculation was performed to estimate the propagation time through the clay unit recorded on the original well driller's log from 1035 to 1240 feet bgs, between the intervals screened by wells FO-10M and FO-10D. Again, a conservative approach was used for analysis parameters, specifically the following assumptions:

- High horizontal hydraulic conductivity for clay ($K_h$): **0.1 ft/d**.
- Low hydraulic conductivity anisotropy ratio ($K_h$ / $K_v$): **3**

- Low specific storage: **1 x $10^{-5}$ $ft^{-1}$**

The equation for one-dimensional, linear vertical hydraulic diffusivity follows as Equation 1.

**Equation [1] Vertical Hydraulic Diffusivity**

$$D = K_v / S_s$$

where:

$D$ = Hydraulic diffusivity [$ft^2/d$],
$K_v$ = Vertical hydraulic conductivity [ft/d], and
$S_s$ = Specific storage [$ft^{-1}$].

Assuming the FO-10 borehole annular space is effectively sealed and intact, theoretical propagation time was calculated from estimated hydraulic diffusivity (Wang, 2020), as demonstrated by Equation 2 below.

**Equation [2] Hydraulic Disturbance Propagation Time from Hydraulic Diffusivity**

$$t = x^2 / (2 * D)$$

where:

$t$ = Propagation time [days],
$x$ = Distance from source [ft], and
$D$ = Hydraulic diffusivity [$ft^2/d$].

The propagation time was calculated for a hydraulic disturbance with origin at well FO-10D to reach well FO-10M, for the two scenarios: (a) assuming a homogenous sand aquifer, and (b) through the clay confining unit that appears to be present between the two screened intervals, based on the available driller's log. The propagation time represents the time required for the peak of the hydraulic disturbance to reach the distance, *x*. **Table 2** below summarizes the propagation time results.

Table 2: Summary of Theoretical Hydraulic Disturbance Propagation Times

| Analysis | Kh (ft/d) | Kv (ft/d) | Ss ($ft^{-1}$) | D ($ft^2/d$) | x (ft) | t (min) |
|---|---|---|---|---|---|---|
| Sand Aquifer | 100 | 33 | $1.0 \times 10^{-5}$ | $3.3 \times 10^{6}$ | 370 | **29.6** |
| Clay Aquitard | 0.1 | 0.033 | $1.0 \times 10^{-5}$ | 3,300 | 205 | **9,080** |

Notes:
a. Propagation time, *t*, converted from days to minutes.

The theoretical propagation times suggest that even with a very permissive aquifer parameterization, the estimated time for the peak hydraulic disturbance from the 'slug' in well FO-10D to reach well FO-10M is over 29 minutes, far greater than the observed peak response of less than two minutes. The estimated

time for the peak hydraulic disturbance to travel through the clay aquitard recorded on the drilling log is over 9,000 minutes, or over 6 days.

The theoretical results presented above do not support the alternative hypothesis that the borehole is competent and the response in observation wells is due to propagation of the hydraulic stress outside of the borehole through the geologic media. Thus, based on the available data, nested well FO-10 is compromised throughout its annular seals, and hydraulic or water quality data obtained historically or in the future are probably not representative of actual aquifer conditions. Additionally, the well appears to behave as a conduit, connecting different aquifer units and allowing movement of groundwater from zones of higher hydraulic head to zones of lower hydraulic head, which may potentially degrade water quality in the aquifers.

## RECOMMENDATIONS

Available data indicate that the FO-10 nested monitoring well directly connects multiple aquifers and will continue to be a potential risk factor in spreading elevated chloride concentrations from the shallower aquifer, where seawater intrusion has been widely documented in the region, to the deeper aquifer zones. To prevent further hydraulic connection of the three aquifer zones screened by the FO-10 nested well and associated impairment to water quality, FO-10 should be decommissioned and destroyed.

Destruction of the FO-10 nested wells should be completed in general accordance with the California Department of Water Resources Monitoring Well Standards (Bulletin 74-90) Part III: Destruction of Monitoring Wells.[1] Due to the lost steel tremie pipe present in approximately 1,300 vertical feet of the borehole annulus, overdrilling and removal of all material in the borehole may not be feasible. However, to ensure proper sealing of void spaces that are likely present in the borehole, EKI recommends overdrilling to at least 200 feet bgs (the estimated top of the lost tremie pipe) prior to tremie grouting from the maximum depth reached by the drill string. Use of a rotosonic drilling technique may allow more effective overdrilling of the upper parts of the well. Other possible aids to improve well and vertical conduit destruction could be mechanical ripping of the deepest casing or puncturing it at regular intervals, or controlled explosives to breach the casing prior to grouting. The volume of grout placed into the borehole while sealing must be monitored to ensure a competent grout seal has been constructed. The County or local well authorities may have additional requirements for borehole destruction due to the complications of the condition of the FO-10 borehole.

In addition to well destruction, groundwater level and chloride concentration data from wells FO-10S and FO-10D should be removed from future evaluations of groundwater conditions in the area due to the potential misleading nature of data from the compromised borehole.

To address the new data gap in monitoring data with the removal of nested well cluster FO-10, a new monitoring well cluster should be constructed. EKI is currently in the process of supporting MCWD with

[1] Available at: https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards/Monitoring-Destruction

contracting and permitting of two new well clusters, including developing well specifications for a well cluster near FO-10, as part of Task 4 of GSP implementation for the fiscal year 2024-2025.

Nested monitoring well FO-11, consisting of two nested wells with screened intervals from 700 to 730 feet bgs and from 1090 to 1120 feet bgs, respectively, does not display the same close alignment of water levels observed in well FO-10S and well FO-10D; however the two FO-11 wells do show similar short- and long-term trends. Given the similar construction, age, and potential for compromised well integrity, we recommend conducting a similar pneumatic slug test investigation at nested monitoring well FO-11.

List of Figures



Attachments



References

Feeney, M.B., 2022, *Addendum to Geophysical Investigation of Fort Ord Monitoring Well FO-10*, prepared for: Seaside Groundwater Basin Watermaster, April 5.

Montgomery & Associates, 2022, *Seaside Groundwater Basin 2022 Seawater Intrusion Analysis Report*, prepared for: Seaside Groundwater Basin Watermaster, November 23.

Wang, H.F., 2020, *Groundwater Storage in Confined Aquifers*, The Groundwater Project. https://books.gw-project.org/groundwater-storage-in-confined-aquifers/chapter/diffusion-equation/.


Legend

Nested Well Set FO-10

Notes

1. All locations are approximate.

Sources

1. Basemap is ESRI's ArcGIS Online world imagery, obtained 24 February 2025.

**Location of Nested Well Set FO-10**
**4230 Gigling Rd, Seaside, California**

Marina Coast Water District
Monterrey Subbasin GSP Implementation FY 2024-25
Marina, CA
February 2025
B60094.22

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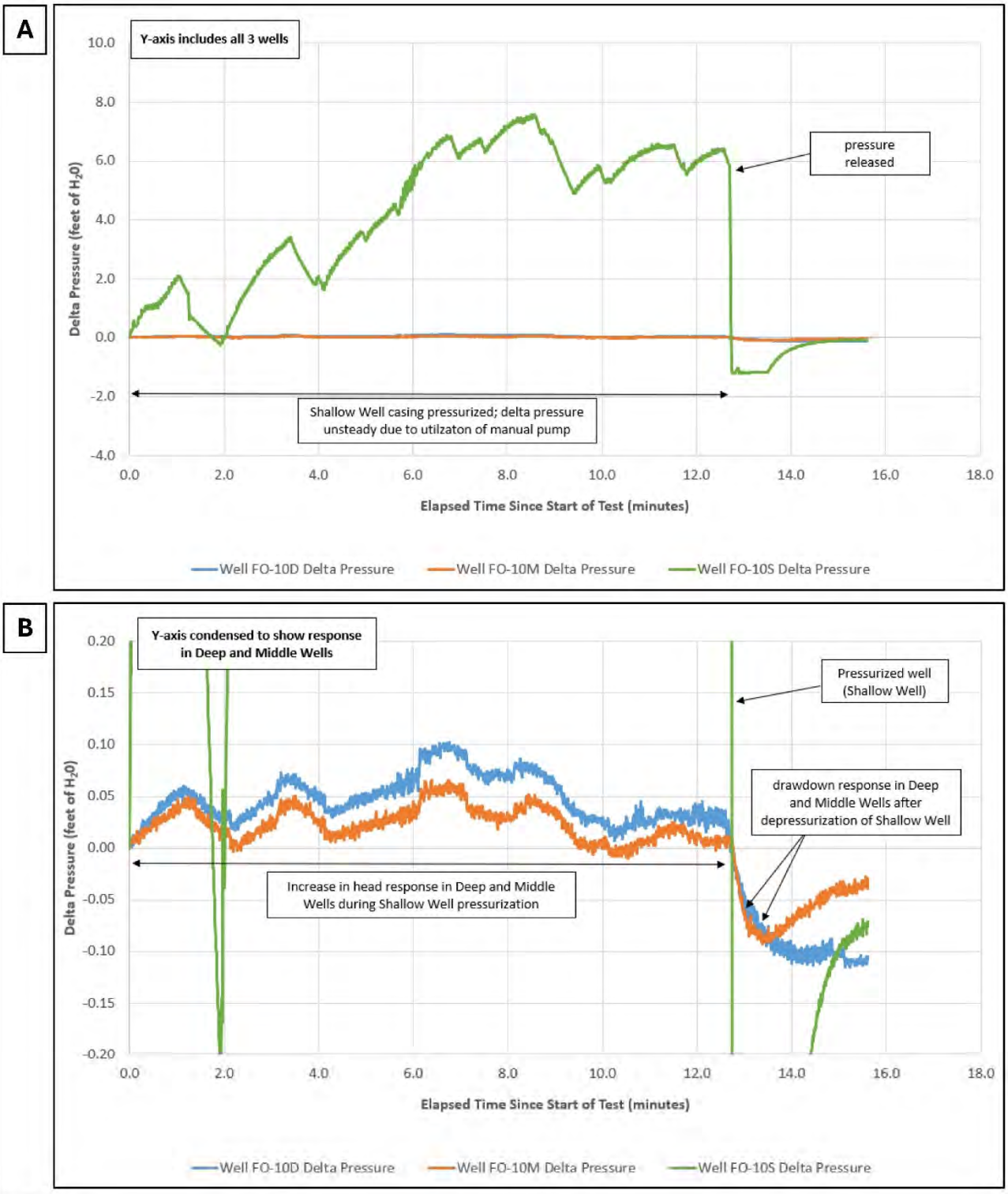
**Figure 1**

Path: X:\B60094\Maps\2025\02\FO-10_SlugTest_Figure.aprx




Notes

1. Pneumatic slug test conducted January 21, 2025.
2. Well FO-10S screened from 620 to 640 feet below ground surface (bgs); well FO-10M screened from 990 to 1010 feet bgs; well FO-10D screened from 1380 to 1400 feet bgs.

**Well FO-10S, Slug Test #1**

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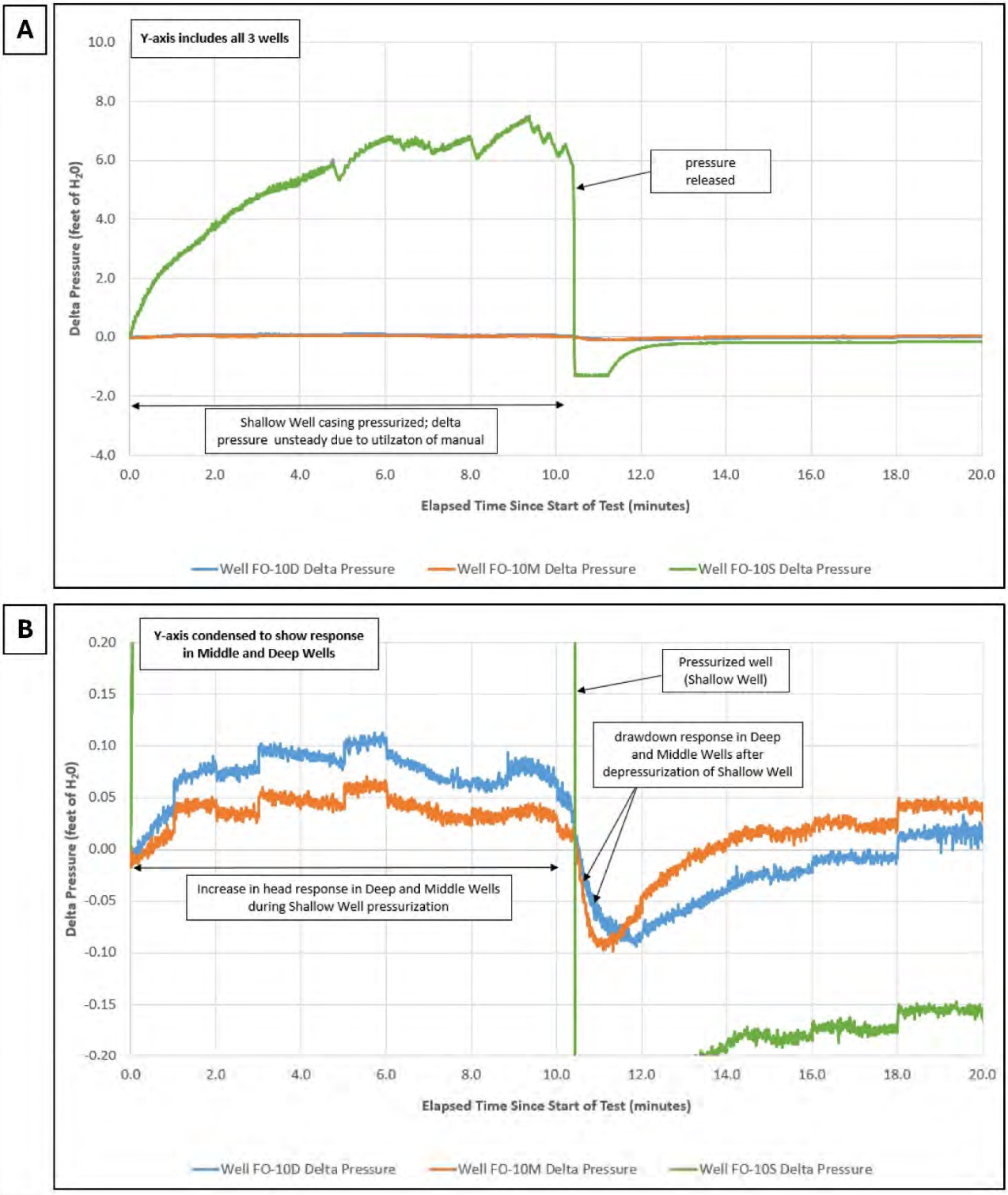
**Figure 2**




Notes

1. Pneumatic slug test conducted January 21, 2025.
2. Well FO-10S screened from 620 to 640 feet below ground surface (bgs); well FO-10M screened from 990 to 1010 feet bgs; well FO-10D screened from 1380 to 1400 feet bgs.

**Well FO-10S, Slug Test #2**

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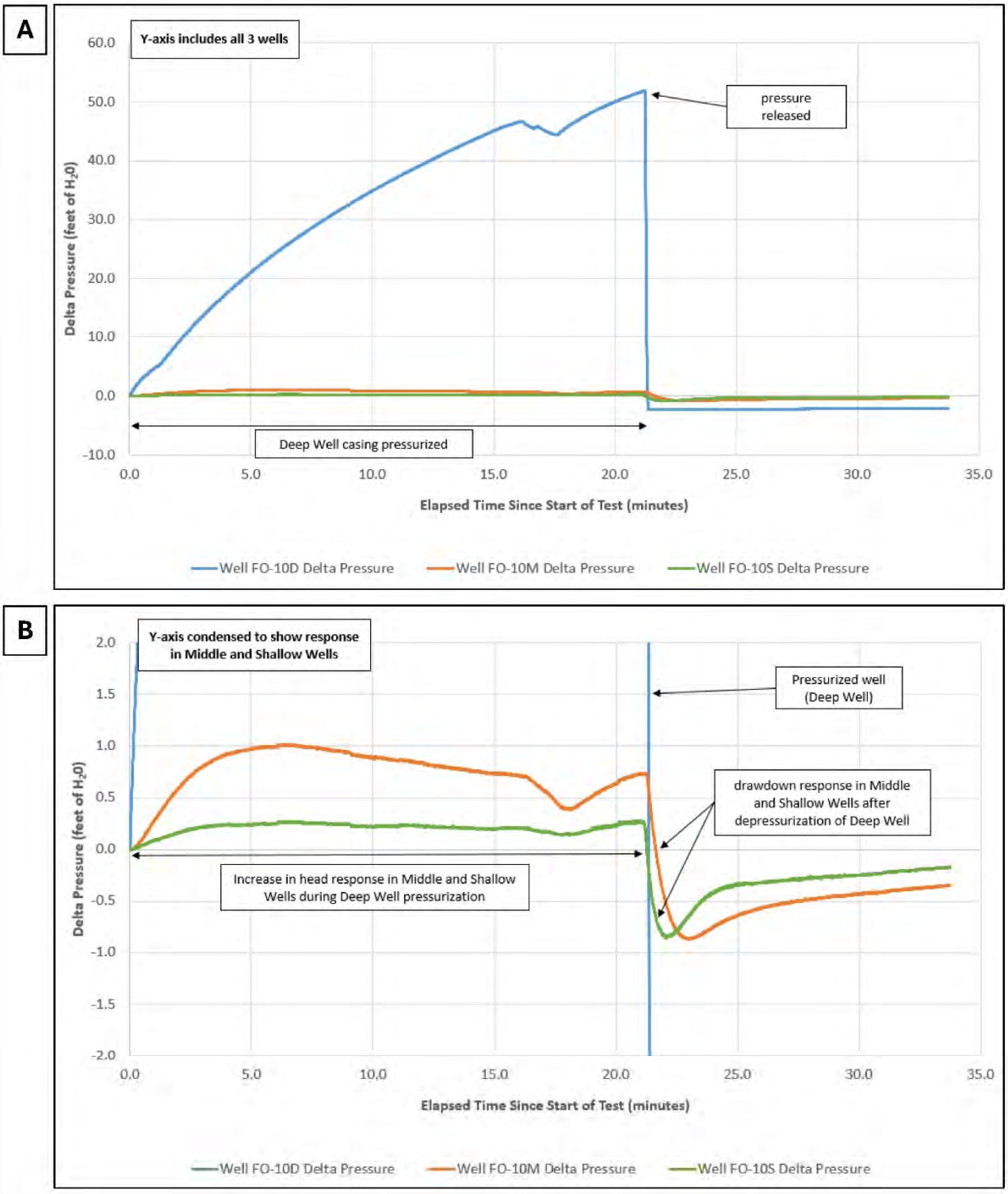
**Figure 3**




Notes

1. Pneumatic slug test conducted January 21, 2025.
2. Well FO-10S screened from 620 to 640 feet below ground surface (bgs); well FO-10M screened from 990 to 1010 feet bgs; well FO-10D screened from 1380 to 1400 feet bgs.

**Well FO-10D, Slug Test #1**

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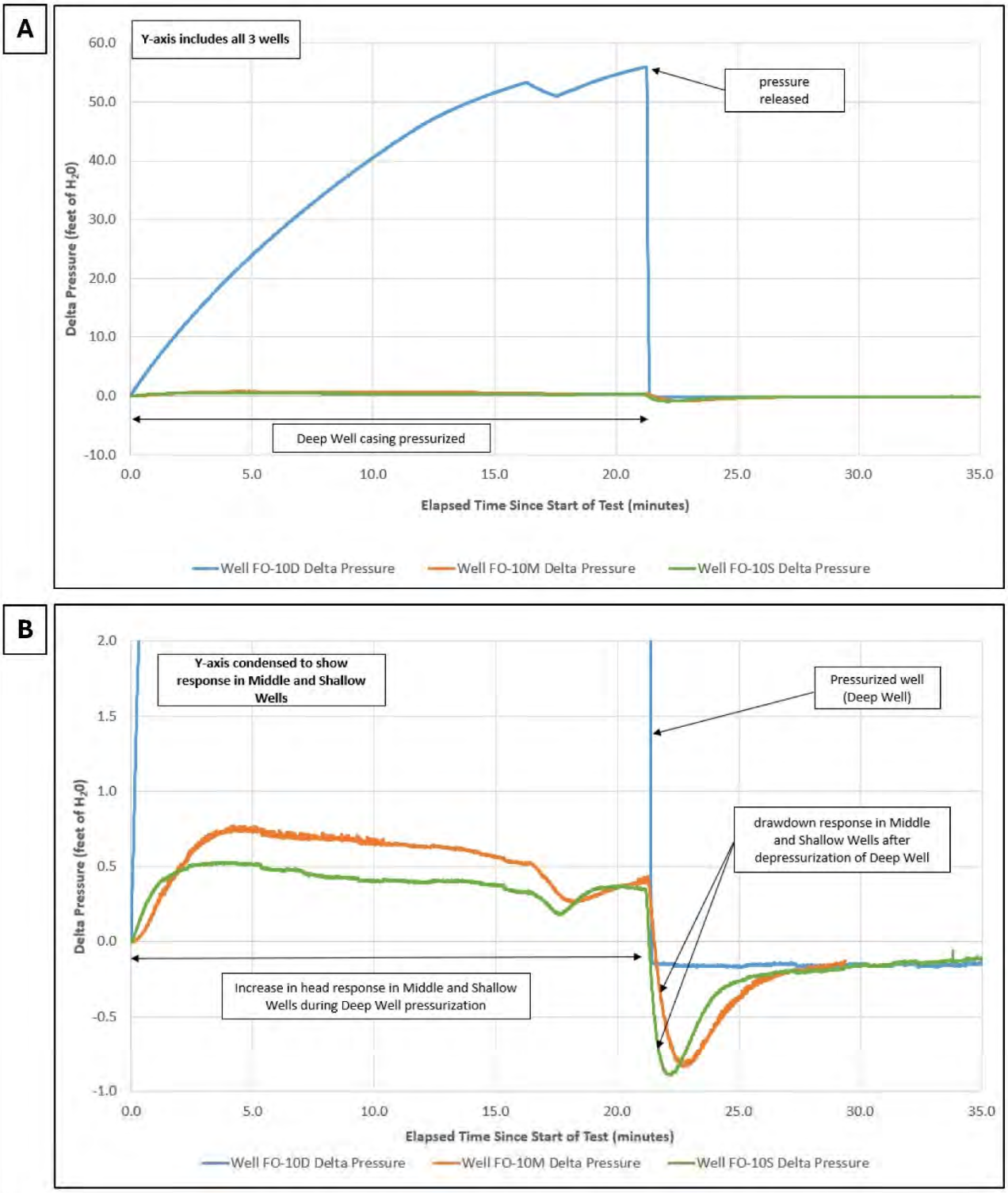
**Figure 4**




Notes

1. Pneumatic slug test conducted January 21, 2025.
2. Well FO-10S screened from 620 to 640 feet below ground surface (bgs); well FO-10M screened from 990 to 1010 feet bgs; well FO-10D screened from 1380 to 1400 feet bgs.

**Well FO-10D, Slug Test #2**

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**Figure 5**

**ATTACHMENT A**

**FO-10 Nested Wells**

Well Completion Report

MPWMD FO-10

JWO 10/97

**QUADRUPLICATE**
**For Local Requirements**

STATE OF CALIFORNIA

# WELL COMPLETION REPORT

*Refer to Instruction Pamphlet*

M.P.W.M.D. RECEIVED OCT 16 1997

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO. 15S/01E/12F

LATITUDE ____ LONGITUDE ____

APN/TRS/OTHER

Page 1 of 1

Owner's Well No. FO-10 No. 442738

Date Work Began 07/30/96 Ended 08/21/96

Local Permit Agency COUNTY OF MONTEREY EHS

Permit No. WSAL 96-118 Permit Date 06/19/96

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DEPTH TO FIRST WATER 285 (Ft.) BELOW SURFACE

| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 215 | YELLOW SANDY CLAY |
| 215 265 | BROWN SANDY CLAY |
| 265 280 | MEDIUM RED SAND |
| 280 500 | CLAY STREAKED WITH SAND |
| 500 550 | GREEN BROWN CLAY |
| 550 605 | COARSE SAND SHALE |
| 605 670 | BLUE CLAY |
| 670 755 | BROWN SANDY CLAY |
| 755 790 | BLUE SANDY CLAY |
| 790 795 | CHERT |
| 795 895 | COARSE WHITE SAND |
| 895 910 | BROWN SANDY CLAY |
| 910 1035 | BLUE SANDY CLAY |
| 1035 1240 | CLAY STREAKED WITH SAND |
| 1240 1420 | SAND WITH HARD STREAKS |
| 1420 1500 | CLAY STREAKED WITH SAND |
| | CASING LOG CONTINUED |
| 1010 1020 | 2" PVC BLANK |
| +2 1380 | 2" PVC BLANK |
| 1380 1400 | 2" PVC SCREEN |
| 1400 1410 | 2" PVC BLANK |
| | ANNULAR MATERIAL CONTINUED |
| 1360 1320 | CEMENT SEAL |
| 1320 1430 | 8 X 16 SAND MIX |
| 1430 1490 | CEMENT SEAL |
| 1490 1500 | 8 X 16 SAND MIX |

TOTAL DEPTH OF BORING 1500 (Feet)

TOTAL DEPTH OF COMPLETED WELL 1410 (Feet)

## WELL OWNER

Name MPWMD

Mailing Address P. O. BOX 85

CITY MONTEREY STATE CA ZIP 93942

## WELL LOCATION

Address BEHIND BARKER THEATER

City PRESIDO ANEX

County MONTEREY

APN Book N/A Page ___ Parcel ___

or Township ___ Range ___ Section ___

or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH


*Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.*

## ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR

___ Deepen

___ Other (Specify)

___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

## PLANNED USE(S) (✓)

X MONITORING

WATER SUPPLY

___ Domestic

___ Public

___ Irrigation

___ Industrial

___ "TEST WELL"

___ CATHODIC PROTECTION

___ OTHER (Specify)

DRILLING METHOD MUD ROTARY FLUID BIO-POLYMER

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 0 (Ft.) & DATE MEASURED / /

ESTIMATED YIELD* 0 (GPM) & TEST TYPE ___

TEST LENGTH 0 (Hrs.) TOTAL DRAWDOWN 0 (Ft.)

* *May not be representative of a well's long-term yield.*

## CASING(S)

| DEPTH FROM SURFACE Ft. to Ft. | BORE-HOLE DIA. (Inches) | TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL/GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|
| 0 285 | 17 | | | Y | | STEEL | 16.2 | .188 | |
| +2 620 | 10 | Y | | | | PVC | 02.0 | SCH40 | |
| 620 640 | 10 | | Y | | | " | 02.0 | " | 32 |
| 640 650 | 10 | Y | | | | " | 02.0 | " | |
| +2 990 | 10 | Y | | | | " | 02.0 | " | |
| 990 1410 | 10 | | Y | | | " | 02.0 | " | 32 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 50 | Y | | | |
| 50 490 | | | | 8 X 16 |
| 490 500 | Y | | | |
| 500 880 | | | | 8 X 16 |
| 880 900 | Y | | | |
| 900 1700 | | | | 8 X 16 |

## ATTACHMENTS (✓)

___ Geologic Log

___ Well Construction Diagram

___ Geophysical Log(s)

___ Soil/Water Chemical Analyses

___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

## CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME CASCADE DRILLING & SUPPLY (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 505 LAS ANIMAS AVE, GILROY, CA, CITY 95020 STATE ZIP

Signed [signature] (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 12/15/96

C-57 LICENSE NUMBER 647140

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

## *SEASIDE BASIN WATER MASTER*
## *TECHNICAL ADVISORY COMMITTEE*

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

| | |
|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 3 |
| **AGENDA TITLE:** | Progress Report on Geophysical Imaging Partners Contract to Perform Pilot Test of Subsurface Imaging in the Vicinity of Sentinel Well No. 4 |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

Following TAC and Board approval, the Watermaster issued a contract to Geophysical Imaging Partners to conduct a pilot test of subsurface geophysical imaging in the hope that it would provide useful information regarding seawater intrusion in the vicinity of Sentinel Well No. 4.

The initial step on this work is to obtain access permission from the landowners where the work is to take place. This includes:

- State Parks for the portion of the work on the Fort Ord Dunes State Park
- Security National Guarantee (SNG) which is the property just south of the State Parks property
- City of Seaside for the portion of the work to be performed on the storm water retention basin for the Seaside Highlands residential development
- Monterey Peninsula Unified School District (MPUSD) for the portion of the work on Seaside High School property

Mr. Lear has offered to help obtain the State Parks permission and has submitted descriptive information about the work to them to get the process started.

I have contacted Mr. Ghandour of the SNG property to seek his permission, and he is reviewing the descriptive information I sent him.

Mr. Andreas Baer of the City of Seaside said he will process the request for the City, and he is helping me with making the request to the MPUSD.

Once all the necessary access permissions have been obtained I will be able to give a Notice-to-Proceed to Geophysical Imaging Partners.

| | |
|---|---|
| **ATTACHMENTS:** | Map showing locations where the work is planned to be performed |
| **RECOMMENDED ACTION:** | None required – information only |

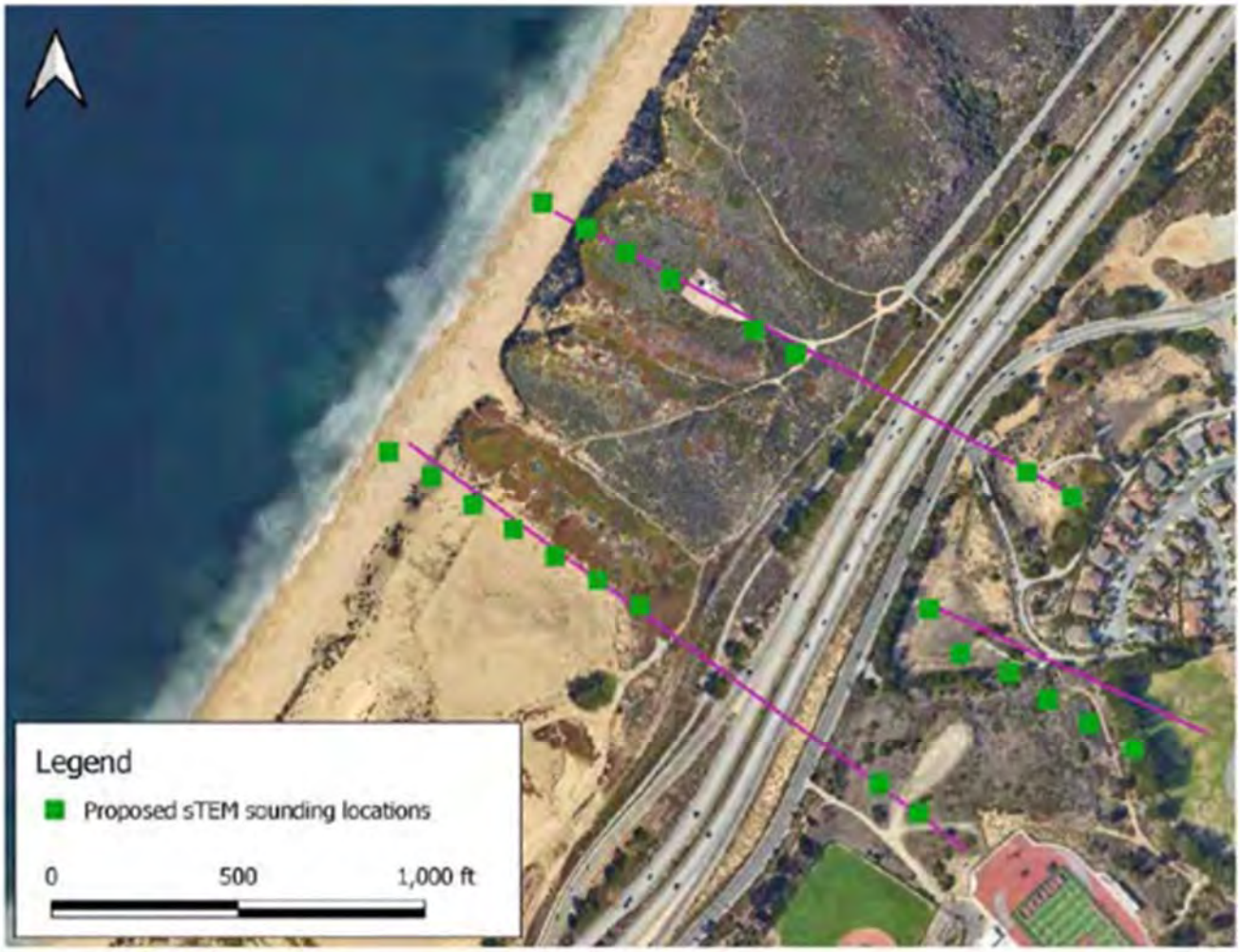


*Figure 2 Proposed sTEM sounding locations.*

## *SEASIDE BASIN WATER MASTER*
## *TECHNICAL ADVISORY COMMITTEE*

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

| | |
|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 4 |
| **AGENDA TITLE:** | Informational Presentation on Cone Penetration Technology as a Possible Means of Obtaining Water Quality Data in the 140 to 200 Foot Zone in the Vicinity of Sentinel Well No. 4 |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

As discussed at prior TAC meetings it would be desirable to obtain water quality samples from the depth zone of concern in the general vicinity of Sentinel Well No. 4 in order to have actual chloride data, not just induction logging conductivity data, at that depth where there has been a steady increase in conductivity measurements in recent years.

Georgina King and Bill DeBoer, both of Montgomery & Associates, have prepared an informational presentation on this technology as well as another technology that may be preferable in this instance. Mr. De Boer designed and managed the construction of the Watermaster's replacement for monitoring well FO-9 at the Seaside Golf Courses. He has first hand experience with these technologies. Due to a scheduling conflict, Ms. King will be making the presentation.

| | |
|---|---|
| **ATTACHMENTS:** | None |
| **RECOMMENDED ACTION:** | Provide input to the Technical Program Manager on the next steps to be taken in investigating these options |

## *SEASIDE BASIN WATER MASTER*
## *TECHNICAL ADVISORY COMMITTEE*

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

| | |
|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 5 |
| **AGENDA TITLE:** | Progress Report on Montgomery & Associates Contract to Update the Seawater Intrusion Response Plan |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

The approved 2025 Monitoring and Management Plan, and its accompanying budget, includes a Task to update the Watermaster's existing Seawater Intrusion Response Plan (SIRP). Earlier this year the TAC and Board approved a contract with Montgomery & Associates to perform this work.

Here is the planned work schedule:

Task 1: ***Update SIRP Figures, Tables, and Appendices*** – M&A works on this during March and April

Tasks 2 & 3: ***Revise List of Tasks in Contingency Action No. 4 on Pumping Redistribution Plan and Incorporate Geophysical Data as a Seawater Intrusion Indicator and Trigger***

- M&A works on this in April and May
- TAC provides input on Tasks 2 & 3 at June TAC meeting

Task 4: ***Prepare Updated SIRP*** –

- M&A provides draft SIRP to Watermaster - July 2
- M&A presents draft SIRP for TAC review and comments at July 9 TAC meeting
- M&A provides Board draft SIRP to Watermaster - July 30
- M&A presents draft Updated SIRP to Board at August 6 Board meeting
- Board comments will be addressed in the final updated SIRP

| | |
|---|---|
| **ATTACHMENTS:** | None |
| **RECOMMENDED ACTION:** | None required – information only |

| | |
|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 6 |
| **AGENDA TITLE:** | Progress Report on Updating the Seaside Basin Groundwater Model |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

Due to evolving conditions regarding other groundwater modeling in the Salinas Valley Groundwater Basins, Mr. Pascual Benito, who will be guiding us on how best to update the Watermaster's existing Groundwater Model, has recommended that this work be delayed until those modeling issues have been firmed-up. This is his latest update on the situation:

In February, Pascual Benito met with the SVGSA modeling team that is currently reviewing and updating the SVIHM to get a debrief on the planned model updates and improvements. The SVIHM is being updated to improve the regional calibration and to align with the updated hydrogeological conceptual model that was developed through the GSP development process. The goal is to use a single model for the entire Salinas Valley groundwater basin that is useful for all the subbasins in making management decisions. Improvements and updates are being made to the model grid, the simulated wells and pumping rates, the surface water stream network, boundary conditions, the MODFLOW "farm process" used to estimate agricultural pumping, irrigation and recharge, the model calibration dataset, and the hydraulic aquifer properties and the approach used to calibrate the model. The model grid and representation of geology is being updated to align with the recent changes and improvements made to the Sea Water Intrusion (SWI) Model. Once the model is updated and recalibrated, there will also be a process of making sure that the SVIHM and SWI model inputs and calibrations are generally consistent with one another.

The model update timeline has model updates and calibration occurring in March/April, followed model review memo, updating SVOM, and starting QA/QC cross-calibration of the SWI and SVIHM in April/May, and finishing the QA/QC of the updated models in June. The full model report is targeted for completion in August and will be released in September.

Here is summary of the items where Pascual proposed that the Watermaster's consultant would like to be able to provide review and input as pertains to the Seaside subbasin:

- pumping/injection well screen elevations and model layer/aquifer assignments
- extraction and injection rates
- water levels used for calibration and understanding of pilot point assignments for calibration in the Seaside area
- applied natural recharge (e.g. from precipitation, irrigation, and system losses) - methodology, magnitude and spatial distribution
- review and comparison of simulated water budget
- location of simulated flow divides that develop between the Monterey and Seaside subbasins

| | |
|---|---|
| **AGENDA ITEM:** | 6 (Continued) |

Based on their current schedule, it looks like the SVIHM model updates and recalibration will be completed this summer. Assuming that they finish and make available their SVIHM model review memo in May and complete the model updates and improvements by late summer, it seems like we would likely have some info to be able to start providing preliminary recommendations in May-July timeframe and possibly refine that in August/Sept when the model update report is released.

| | |
|---|---|
| **ATTACHMENTS:** | None |
| **RECOMMENDED ACTION:** | None required – information only |

| | |
|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 7 |
| **AGENDA TITLE:** | Schedule |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**

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

Attached is the updated schedule for 2025 activities,

I will be away from the office for most of the month of May, and no time-critical TAC business items are expected to occur in May, so there will be no May TAC meeting. The next TAC meeting will be on June 11, 2025.

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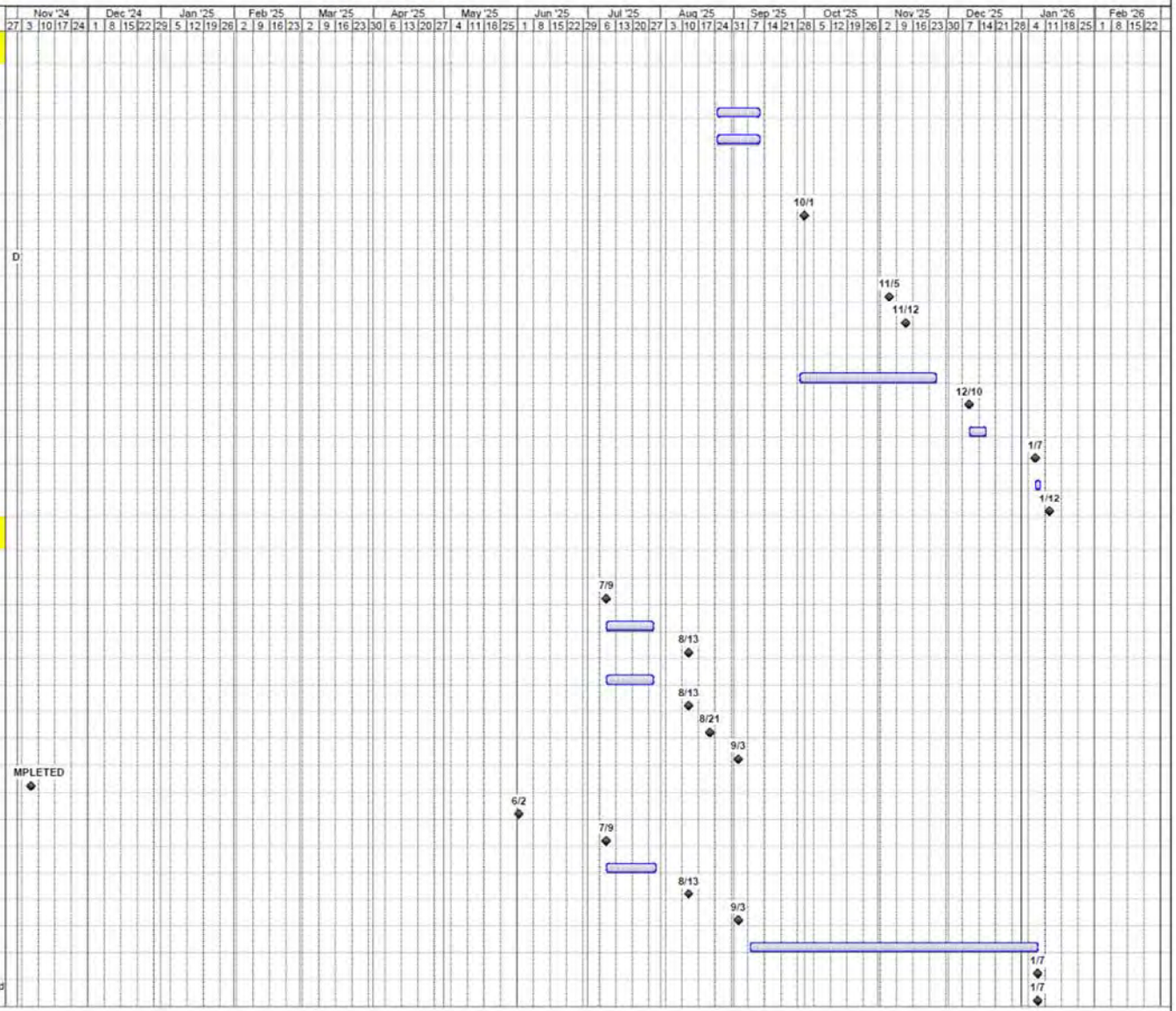
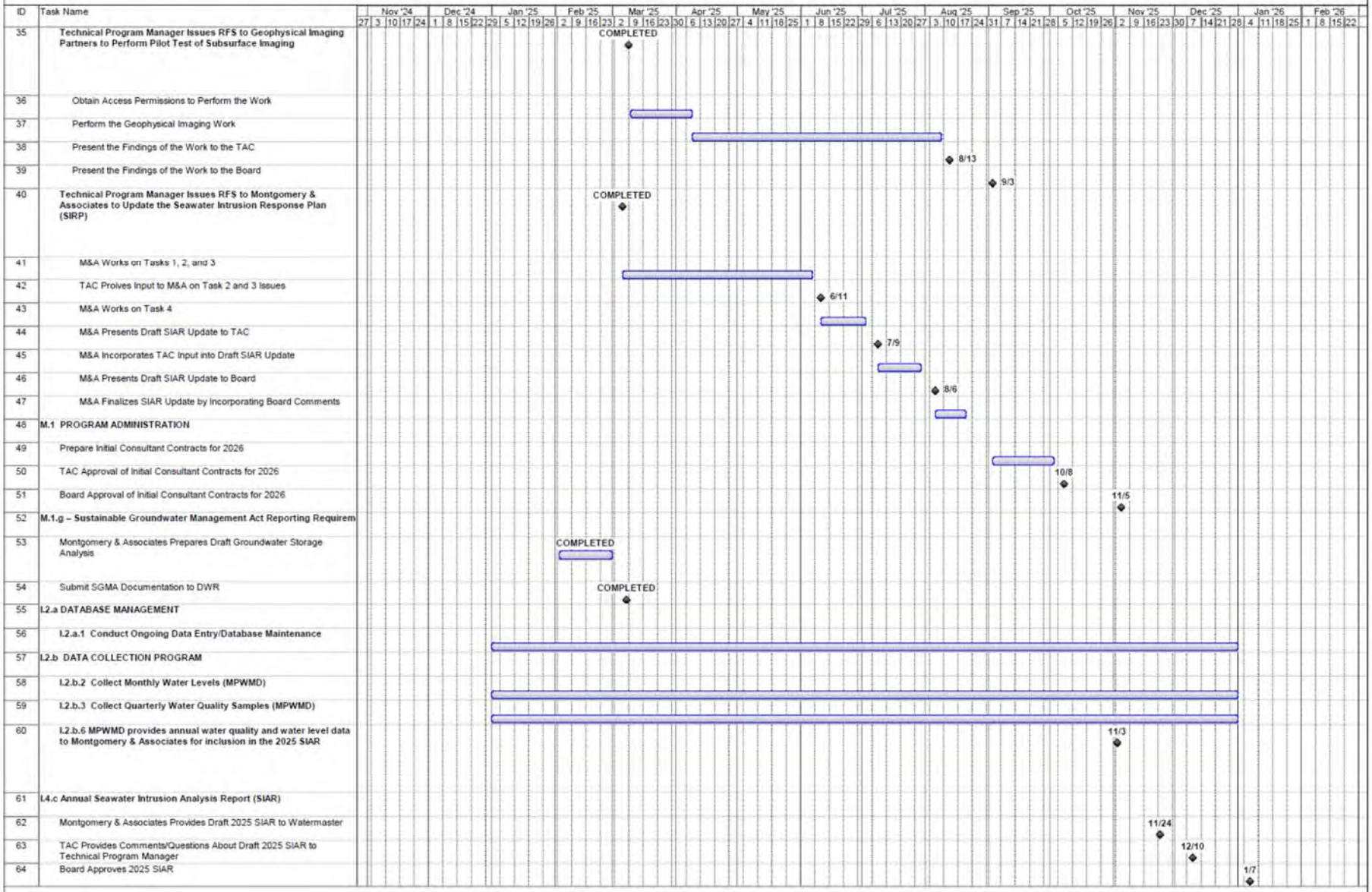
|---|---|
| **ATTACHMENTS:** | Updated Schedule of 2025 Activities |
| **RECOMMENDED ACTION:** | Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedule |

# Seaside Basin Watermaster
# 2025 Monitoring and Management Program
# Work Schedule

| ID | Task Name |
|---|---|
| 1 | ***MANAGEMENT & ADMINISTRATION*** |
| 2 | **Replenishment Assessment Unit Costs for Water Year 2026** |
| 3 | B&F Committee Develops Replenishment Assessment Unit Cost for 2026 Water Year |
| 4 | If Requested, Technical Program Manager Provides Assistance to B&F Committee in Development of 2026 Water Year Replenishment Assessment Unit Cost |
| 5 | Board Adopts and Declares 2026 Water Year Replenishment Assessment Unit Cost |
| 6 | **Replenishment Assessments for Water Year 2025** |
| 7 | Watermaster Prepares Replenishment Assessments for Water Year 2025 |
| 8 | Watermaster Board Approves Replenishment Assessments for Water Year 2025 (At November Meeting) |
| 9 | Watermaster Levies Replenishment Assessment for 2025 |
| 10 | **2025 Annual Report** |
| 11 | Prepare Preliminary Draft 2025 Annual Report |
| 12 | TAC Provides Input on Preliminary Draft 2025 Annual Report |
| 13 | Prepare Draft 2025 Annual Report (Incorporating TAC Input) |
| 14 | Board Provides Input on Draft 2025 Annual Report (At January Board Meeting) |
| 15 | Prepare Final 2025 Annual Report (Incorporating Board Input) |
| 16 | Watermaster Submits Final 2025 Annual Report to Judge |
| 17 | ***MONITORING AND MANAGEMENT PROGRAM*** |
| 18 | **Monitoring & Management Program (M&MP) Plan and Budgets for 2026** |
| 19 | Discussion of Potential Scope of Work for 2026 M&MP |
| 20 | Prepare 2026 M&MP |
| 21 | TAC approves 2026 M&MP |
| 22 | Prepare 2026 O&M and Capital Budgets |
| 23 | TAC approves 2026 O&M and Capital Budgets |
| 24 | Budget & Finance Committee Approves 2026 M&MP and 2026 O&M and Capital Budgets |
| 25 | Board approves 2026 M&MP AND 2026 O&M and Capital Budgets |
| 26 | **Technical Program Manager Issues RFS to M&A to Evaluate Groundwater Model Updating Options** |
| 27 | M&A Provides Draft of Evaluation to Watermaster |
| 28 | M&A Presents the Evaluation to the TAC |
| 29 | Technical Program Manager Drafts RFS to M&A to Update the Groundwater Model |
| 30 | TAC Approves RFS for Updating the Groundwater Model |
| 31 | Board Approves RFS for Updating the Groundwater Model |
| 32 | M&A Prepares Updated Seaside Basin Groundwater Model |
| 33 | M&A Presents Updated Seaside Basin Groundwater Model to the TAC |
| 34 | M&A Presents Updated Seaside Basin Groundwater Model to the Board |



# Seaside Basin Watermaster
# 2025 Monitoring and Management Program
# Work Schedule



## *SEASIDE BASIN WATER MASTER*
## *TECHNICAL ADVISORY COMMITTEE*

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

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|---|---|
| **MEETING DATE:** | April 9, 2025 |
| **AGENDA ITEM:** | 8 |
| **AGENDA TITLE:** | Other Business |
| **PREPARED BY:** | Robert Jaques, Technical Program Manager |

**SUMMARY:**
The "Other Business" agenda item is intended to provide an opportunity for TAC members or others present at the meeting to discuss items not on the agenda that may be of interest to the TAC.

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| **ATTACHMENTS:** | None |
| **RECOMMENDED ACTION:** | None required – information only |