

**APPENDIX 3.M. CHOWCHILLA SUBBASIN RMS NETWORK
EVALUATION WORKPLANS**

Prepared as part of the
Groundwater Sustainability Plan
Chowchilla Subbasin

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Revised August 2024

GSP Team:

Davids Engineering, Inc (Revised GSP)
 Luhdorff & Scalmanini (Revised GSP)
 ERA Economics
 Stillwater Sciences and
 California State University, Sacramento

TECHNICAL MEMORANDUM

DATE: July 17, 2024

Project No. 23-1-048

TO: Chowchilla Subbasin GSAs

FROM: LSCE and DE

SUBJECT: Chowchilla Subbasin GSP – Groundwater Level Representative Monitoring Site (RMS) Network Evaluation Workplan

Introduction and Background

The Chowchilla Groundwater Sustainability Agencies (GSAs) (Chowchilla Water District GSA, County of Madera GSA, County of Merced GSA, and Triangle T Water District GSA) developed a Groundwater Level Representative Monitoring Sites (RMS) network as part of the development of a Groundwater Sustainability Plan (GSP) for the Chowchilla Subbasin that was originally submitted in January 2020. During the implementation of the GSP, various issues have arisen that have affected the consistency of groundwater level measurements at a number of these RMS. As part of the first periodic update to the GSP, the groundwater level RMS network will be evaluated and updated to ensure consistent measurements that will satisfy Sustainable Groundwater Management Act (SGMA) monitoring requirements and support GSP activities in the Subbasin.

Groundwater Level RMS Network

The Groundwater Level RMS network in Chowchilla Subbasin (**Figure 1**) currently consists of 36 wells: 9 screened in the Upper Aquifer, 25 screened in the Lower Aquifer, and two screened across both aquifers (composite). The monitoring network was initially developed using existing wells in the GSP Area. The database for existing wells was reviewed with the following criteria in mind:

- CASGEM wells preferred;
- Known construction (screen intervals, depth) preferred;
- Long histories of water level data (including recent data) preferred;
- Relatively good match between observed and modeled water levels preferred;
- Good spatial distribution preferred;
- Representation of both Upper (where present in western portion of Plan Area) and Lower Aquifers preferred.

As required by SGMA, groundwater level RMS are to be measured on a semi-annual basis at a minimum during periods which will capture seasonal highs and lows (i.e., spring and fall). A summary of annual monitoring activities is provided in each year's Annual Report for the Subbasin. A more comprehensive

review of the monitoring network will be conducted as part of this workplan, and a revised monitoring network will be implemented.

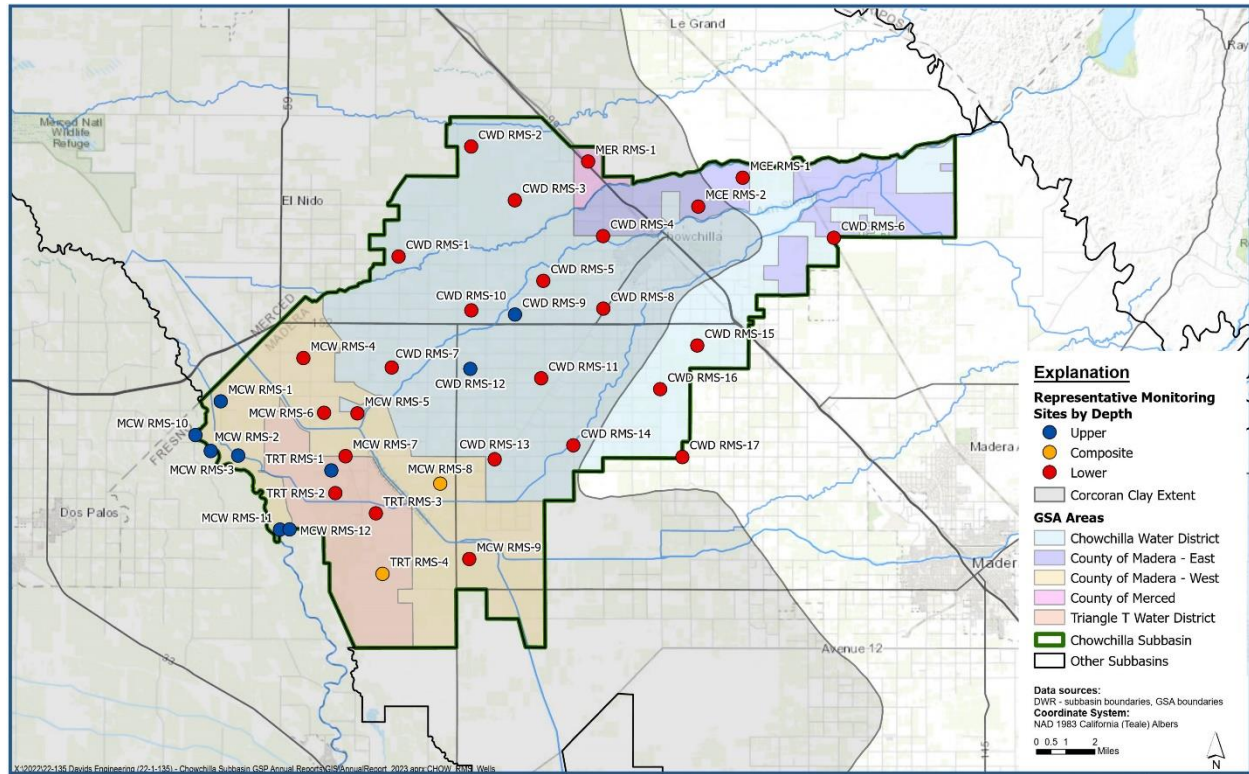


Figure 1. Current Groundwater Level Representative Monitoring Sites (RMS) Network

Proposed Scope of Work

The proposed scope of work details the planned updates to groundwater level RMS network as part of the first periodic update to the Chowchilla Subbasin GSP. Refinements to the RMS network are necessary to ensure that the GSP is in compliance with the monitoring requirements set forth under SGMA. This scope of work involves three main tasks including evaluation of the current monitoring network, evaluation of wells for inclusion in the updated monitoring network, and finalization of the update monitoring network. The proposed scope of work is described in more detail below.

Task 1. Evaluate Current Monitoring Network

The first task will involve reviewing the monitoring history of each groundwater level RMS well. Wells that do not have consistent, reliable groundwater level measurements will require further evaluation, these include wells with both non-measurements and questionable measurements. Further evaluation will involve a detailed review of the issues encountered during monitoring. If these issues are persistent and preclude the well from satisfying the SGMA monitoring requirements on a regular basis, they will be identified for removal from the RMS network and possible replacement.

Task 2. Evaluate New Wells for Inclusion in Monitoring Network

Wells that have been identified for removal from the RMS network and possible replacement will either be replaced with dedicated nested monitoring wells or other existing wells.

Dedicated Nested Monitoring Wells

A total of 37 dedicated monitoring wells at 15 locations were drilled as part of GSP implementation. These dedicated monitoring wells have been consistently measured upon completion, with the intention of including these wells into the groundwater level RMS network. Where possible, these nested monitoring wells will replace current network RMS that have been identified for removal from the RMS network. In other locations, these wells will provide additional spatial coverage to the monitoring network.

Additional Existing Wells

In areas where existing RMS have been identified for removal from the RMS network but no dedicated nested monitoring wells exist, other existing wells will be used to fill in gaps in the RMS network. Potential wells for inclusion in the updated monitoring network will be identified through conversations with the GSAs, as well as review of currently monitored wells. At least five years of measurement history and known well construction will be required. After potential wells have been identified, field verification and permission from landowners will be acquired. If these conditions have been satisfied, a well will be included in the updated RMS network.

Task 3. Finalize Updates to Monitoring Network

Prepare a Technical Memorandum (TM) Summarizing Monitoring Network Updates

A TM will be prepared for the Chowchilla Subbasin summarizing the updates to the groundwater level RMS network. This TM will cover the wells identified for removal from the RMS network and possible replacement, the reason for removal/replacement, the new wells selected for inclusion in the RMS network, and a summary of the final updated RMS network. This TM will be included as a detailed appendix to the periodic update of the GSP.

Update the RMS Network Description in the GSP

As part of the first periodic update, the GSP will be updated to include a description of the new groundwater level RMS network. Wells added to the network will have sustainable management criteria developed consistent with the method described in the approved GSP.

Update the RMS Network in the SGMA Portal

The groundwater level RMS network will be updated in the SGMA Portal to reflect all changes made to the network as part of this workplan.

Schedule

The overall implementation of this Workplan is envisioned as a part of a larger effort for the first periodic update to the Chowchilla Subbasin GSP. Implementation of the Workplan is planned to start in mid-2024 with a target completion of late 2024. A general planned schedule for implementation of the Workplan is outlined in **Table 1**.

<u>Table 1. Summary of Proposed Schedule for Implementation of the Chowchilla Subbasin GSP Groundwater Level Representative Monitoring Site (RMS) Network Evaluation Workplan</u>		
<u>Task No.</u>	<u>Task Description</u>	<u>Task Completion Timeframe</u>
<u>1</u>	<u>Evaluate Current Monitoring Network</u>	<u>Mid 2024</u>
<u>2</u>	<u>Evaluate New Wells for Inclusion in Monitoring Network</u>	<u>Mid 2024 – Late 2024</u>
<u>3</u>	<u>Finalize Updates to Monitoring Network</u>	<u>Late 2024</u>

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Groundwater Quality RMS Network

The Groundwater Quality RMS network in Chowchilla Subbasin (**Figure 1**) currently consists of 21 existing wells that are also part of the groundwater level RMS network and will also be sampled for groundwater quality by the Chowchilla GSAs, and eight wells that are currently being monitored by other entities for the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) program and Irrigated Lands Regulatory Program (ILRP). An additional 21 wells at seven nested monitoring well locations were identified in the GSP for future inclusion in the RMS network. These wells have been constructed and are currently being monitored.

As required by SGMA, groundwater quality samples are to be collected annually for key constituents and every five years for all other constituents. Wells that are a part of both the groundwater level and groundwater quality RMS networks, as well as the nested monitoring wells, will be monitored by the GSAs. Additional groundwater quality results reported by monitoring entities to DDW (in accordance with DDW testing requirements) for indicator public supply wells will be obtained for evaluation as part of the groundwater quality monitoring program, although the sampling of these wells will not necessarily be performed by the GSAs. A comprehensive review of the monitoring network will be conducted as part of this workplan, and a revised monitoring network will be implemented.

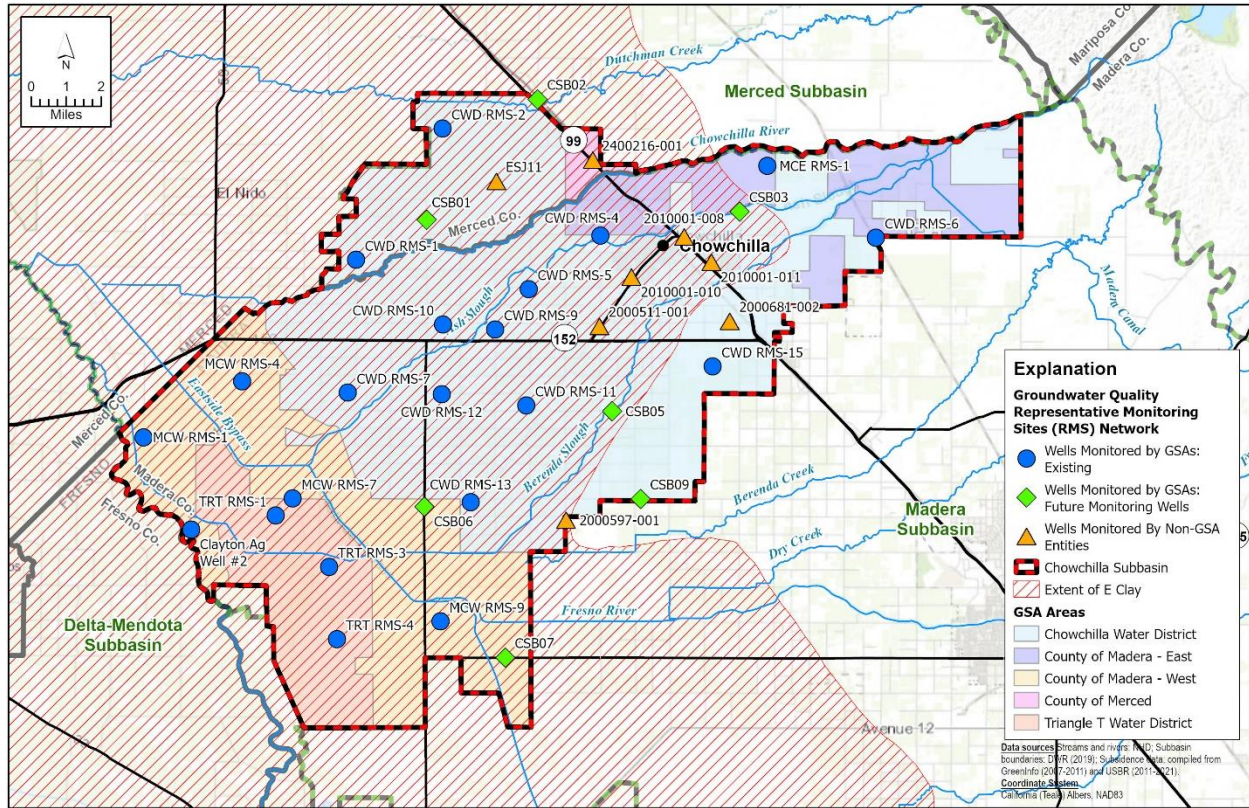


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Task 2. Evaluate New Wells for Inclusion in Monitoring Network

Wells that have been identified for removal from the RMS network and possible replacement will either be replaced with dedicated nested monitoring wells or other existing wells.

Dedicated Nested Monitoring Wells

An additional 10 dedicated monitoring wells at four locations have been drilled as part of GSP implementation. Where possible, these nested monitoring wells will replace current network RMS that

have been identified for removal from the RMS network. In other locations, these wells will provide additional spatial coverage to the monitoring network.

Additional Existing Wells

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