

Attachment A. DWR GSP Determination Letter

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CALIFORNIA DEPARTMENT OF WATER RESOURCES

SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

715 P Street, 8th Floor | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

January 31, 2024

John Neil
Atascadero Basin Groundwater Sustainability Agency
5005 El Camino Real
Atascadero, CA 93422
jneil@amwc.us

RE: Salinas Valley – Atascadero Area Subbasin – Groundwater Sustainability Plan

Dear John Neil,

The Atascadero Basin Groundwater Sustainability Agency (GSA) submitted the Salinas Valley – Atascadero Area Subbasin Groundwater Sustainability Plan (GSP or Plan) to the Department of Water Resources (Department) for evaluation. The Salinas Valley – Atascadero Area Subbasin is designated by the Department as very low-priority and therefore, is not required to be managed under a GSP and is not subject to state intervention under Chapter 11 of the Sustainable Groundwater Management Act (SGMA). However, SGMA encourages and authorizes basins designated as low- and very low-priority to be managed under a GSP. The Department appreciates the Atascadero Basin GSA voluntarily submitting a GSP for the very low-priority Salinas Valley – Atascadero Area Subbasin. This letter is to acknowledge receipt of the GSP and provide an update regarding the Department's evaluation and assessment of the GSP.

The Department has prioritized the evaluation of GSPs submitted for medium- and high-priority basins to meet statutory deadlines for those plans in which state intervention applies. The Department will evaluate GSPs submitted for low- and very low-priority basins now that the evaluation of medium- and high-priority-basin GSPs has been completed and will provide assessments and determinations as soon as practicable. In the meantime, the Department encourages the Atascadero Basin GSA to continue implementing its GSP and providing information to the Department through annual report submittals by April 1.

STATE OF CALIFORNIA | GAVIN NEWSOM, GOVERNOR | CALIFORNIA NATURAL RESOURCES AGENCY

The Department appreciates your patience and should you have any questions, please contact the Sustainable Groundwater Management Office by emailing sgmps@water.ca.gov.

Thank you,

Paul Gosselin
Paul Gosselin
Deputy Director of Sustainable Groundwater Management

Attachment B. DWR Determination Letter

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CALIFORNIA DEPARTMENT OF WATER RESOURCES

SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

715 P Street, 8th Floor | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

April 14, 2025

John Neil
Atascadero Basin Groundwater Sustainability Agency
5005 El Camino Real
Atascadero, CA 93422
jneil@amwc.us

RE: Salinas Valley – Atascadero Area Subbasin – 2022 Groundwater Sustainability Plan

Dear John Neil,

The Department of Water Resources (Department) has evaluated the groundwater sustainability plan (GSP) submitted for the Salinas Valley – Atascadero Area Subbasin (Subbasin) and has determined the GSP is approved. The approval is based on recommendations from the Staff Report, included as an exhibit to the attached Statement of Findings, which describes that the Subbasin GSP satisfies the objectives of the Sustainable Groundwater Management Act (SGMA) and substantially complies with the GSP Regulations. The Staff Report also proposes recommended corrective actions that the Department believes will enhance the GSP and facilitate future evaluation by the Department. The Department strongly encourages the recommended corrective actions be given due consideration and suggests incorporating all resulting changes to the GSP in future updates.

Recognizing SGMA sets a long-term horizon for groundwater sustainability agencies (GSAs) to achieve their basin sustainability goals, monitoring progress is fundamental for successful implementation. GSAs are required to evaluate their GSPs at least every five years and whenever the Plan is amended, and to provide a written assessment to the Department. Accordingly, the Department will evaluate approved GSPs and issue an assessment at least every five years. The Department will initiate the first periodic review of the Basin GSP no later than January 30, 2027.

Please contact Sustainable Groundwater Management staff by emailing sqmps@water.ca.gov if you have any questions related to the Department's assessment or implementation of your GSP.

STATE OF CALIFORNIA | GAVIN NEWSOM, GOVERNOR | CALIFORNIA NATURAL RESOURCES AGENCY

Thank You,

Paul Gosselin
Paul Gosselin
Deputy Director
Sustainable Water Management

Attachment:

1. Statement of Findings Regarding the Approval of the Salinas Valley –
Atascadero Area Subbasin Groundwater Sustainability Plan – April 14, 2025

**STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
STATEMENT OF FINDINGS REGARDING THE
APPROVAL OF THE
SALINAS VALLEY – ATASCADERO AREA SUBBASIN
GROUNDWATER SUSTAINABILITY PLAN**

The Department of Water Resources (Department) is required to evaluate whether a submitted groundwater sustainability plan (GSP or Plan) conforms to specific requirements of the Sustainable Groundwater Management Act (SGMA or Act), is likely to achieve the sustainability goal for the basin covered by the Plan, and whether the Plan adversely affects the ability of an adjacent basin to implement its GSP or impedes achievement of sustainability goals in an adjacent basin. (Water Code § 10733.) Although basins designated by the Department as low- and very low priority are not required to be managed under a GSP, SGMA encourages and authorizes them to be managed under a GSP. (Water Code § 10720.7.) This Statement of Findings explains the Department's decision regarding the Plan submitted by the Atascadero Basin Groundwater Sustainability Agency (GSA or Agency) for the Salinas Valley – Atascadero Area Subbasin (Basin No. 3-004.11).

Department management has discussed the Plan with staff and has reviewed the Department Staff Report, entitled Sustainable Groundwater Management Program Groundwater Sustainability Plan Assessment Staff Report, attached as Exhibit A, recommending approval of the Plan. Department management is satisfied that staff have conducted a thorough evaluation and assessment of the Plan and concurs with staff's recommendation and all the recommended corrective actions. The Department therefore **APPROVES** the Plan and makes the following findings:

- A. The Plan satisfies the required conditions as outlined in § 355.4(a) of the GSP Regulations (23 CCR § 350 et seq.):
 1. Because the Salinas Valley – Atascadero Area Subbasin (Subbasin) is prioritized as very low, there is no statutory deadline for Plan submittal. (Water Code § 10720.7(2)(b); 23 CCR § 355.4(a)(1).)
 2. The Plan was complete, meaning it generally appeared to include the information required by the Act and the GSP Regulations, sufficient to warrant a thorough evaluation and issuance of an assessment by the Department. (23 CCR § 355.4(a)(2).)
 3. The Plan, either on its own or in coordination with other Plans, covers the entire Subbasin. (23 CCR § 355.4(a)(3).)

- B. The general standards the Department applied in its evaluation and assessment of the Plan are: (1) "conformance" with the specified statutory requirements, (2) "substantial compliance" with the GSP Regulations, (3) whether the Plan is likely to achieve the sustainability goal for the Subbasin within 20 years of the implementation of the Plan, and (4) whether the Plan adversely affects the ability of an adjacent basin to implement its GSP or impedes achievement of sustainability goals in an adjacent basin. (Water Code § 10733.) Application of these standards requires exercise of the Department's expertise, judgment, and discretion when making its determination of whether a Plan should be deemed "approved," "incomplete," or "inadequate."

The statutes and GSP Regulations require Plans to include and address a multitude and wide range of informational and technical components. The Department has observed a diverse array of approaches to addressing these technical and informational components being used by GSAs in different basins throughout the state. The Department does not apply a set formula or criterion that would require a particular outcome based on how a Plan addresses any one of SGMA's numerous informational and technical components. The Department finds that affording flexibility and discretion to local GSAs is consistent with the standards identified above; the state policy that sustainable groundwater management is best achieved locally through the development, implementation, and updating of local plans and programs (Water Code § 113); and the Legislature's express intent under SGMA that groundwater basins be managed through the actions of local governmental agencies to the greatest extent feasible, while minimizing state intervention to only when necessary to ensure that local agencies manage groundwater in a sustainable manner. (Water Code § 10720.1(h)) The Department's final determination is made based on the entirety of the Plan's contents on a case-by-case basis, considering and weighing factors relevant to the particular Plan and basin under review.

- C. In making these findings and Plan determination, the Department also recognized that: (1) the Department maintains continuing oversight and jurisdiction to ensure the Plan is adequately implemented; (2) the Legislature intended SGMA to be implemented over many years; (3) SGMA provides Plans 20 years of implementation to achieve the sustainability goal in a basin (with the possibility that the Department may grant GSAs an additional five years upon request if the GSA has made satisfactory progress toward sustainability); and, (4) local agencies acting as GSAs are authorized, but not required, to address undesirable results that occurred prior to enactment of SGMA. (Water Code §§ 10721(r); 10727.2(b); 10733(a); 10733.8.)
- D. The Plan conforms with Water Code §§ 10727.2 and 10727.4, substantially complies with 23 CCR § 355.4, and appears likely to achieve the sustainability goal for the Subbasin.

1. The sustainable management criteria and long-term goal to maintain groundwater levels within the historical range and operate the Subbasin within its sustainable yield, are sufficiently justified and explained. The Plan relies on credible information and science to quantify the groundwater conditions that the Plan seeks to avoid and provides an objective way to determine whether the Subbasin is being managed sustainably in accordance with SGMA. (23 CCR § 355.4(b)(1).)
2. The Plan demonstrates a commitment to eliminate data gaps that are identified during Plan implementation. Filling of data gaps identified in the Subbasin should lead to refinement of the GSA's monitoring networks and sustainable management criteria and help inform and guide future adaptive management strategies and projects and management actions. (23 CCR § 355.4(b)(2).)
3. The projects and management actions proposed are designed to respond to changing conditions in the Subbasin and maintain long-term stable groundwater levels to achieve the Subbasin's sustainability goal. The GSA plans to achieve and maintain sustainability by continuing the existing groundwater recharge practices, addressing data gaps to improve understanding of the groundwater system in the Subbasin, and enhancing overall water management in the Subbasin. The projects and management actions described in the Plan are reasonable and commensurate with the level of understanding of the Subbasin setting and should provide the GSA with greater versatility to adapt and respond to changing conditions. (23 CCR § 355.4(b)(3).)
4. The Plan provides explanation of how the interests of groundwater uses and users in the Subbasin were considered in developing the sustainable management criteria and how those interests would be impacted by the chosen minimum thresholds, and proposes to address data gaps (e.g., domestic well information data gaps) to better assess potential impacts by the chosen minimum thresholds. (23 CCR § 355.4(b)(4).)
5. The Plan's projects and management actions appear feasible at this time and appear capable of preventing undesirable results and ensuring that the Subbasin is operated within its sustainable yield within 20 years. The Department will continue to monitor Plan implementation and reserves the right to change its determination if projects and management actions are not implemented or appear unlikely to prevent undesirable results or achieve sustainability within SGMA timeframes. (23 CCR § 355.4(b)(5).)
6. The Plan includes a reasonable assessment of overdraft conditions and includes reasonable means to mitigate overdraft, if present. (23 CCR § 355.4(b)(6).)

7. At this time, the Plan is not likely to adversely affect the ability of an adjacent basin to implement its GSP or impede achievement of sustainability goals in an adjacent basin because the hydraulic connection between the Atascadero Area Subbasin and the adjacent Paso Robles Area Subbasin is limited by the Rinconada Fault. (23 CCR § 355.4(b)(7).)
8. Because a single plan was submitted for the Subbasin, a coordination agreement was not required. (23 CCR § 355.4(b)(8).)
9. The GSA's four member agencies (City of Atascadero, City of Paso Robles, County of San Luis Obispo, and Templeton Community Services District) and the six participating parties (Atascadero Mutual Water Company, Atascadero State Hospital, Santa Margarita Ranch Mutual Water Company, Santa Ysabel Ranch Mutual Water Company, Walnut Hills Mutual Water Company, and Garden Farms Water District) have historically implemented groundwater monitoring and/or management programs in the Subbasin. The GSA's history of groundwater management provide a reasonable level of confidence that the GSA has the legal authority and financial resources necessary to implement the Plan. (23 CCR § 355.4(b)(9).)
10. Through review of the Plan and consideration of public comments, the Department determines that the GSA adequately responded to comments that raised credible technical or policy issues with the Plan, sufficient to warrant approval of the Plan at this time. The Department also notes that the recommended corrective actions included in the Staff Report are important to addressing certain technical or policy issues that were raised and, if not addressed before future, subsequent Plan evaluations, may preclude approval of the Plan in those future evaluations. (23 CCR § 355.4(b)(10).)

E. In addition to the grounds listed above, DWR also finds that:

1. The Department developed its GSP Regulations consistent with and intending to further the State's human right to water policy through implementation of SGMA and the Regulations, primarily by achieving sustainable groundwater management in a basin. By ensuring substantial compliance with the GSP Regulations, the Department has considered the state policy regarding the human right to water in its evaluation of the Plan. (Water Code § 106.3; 23 CCR § 350.4(g).)
2. The Plan acknowledges and identifies interconnected surface waters within the Subbasin. The GSA proposes initial sustainable management criteria to manage this sustainability indicator and measures to improve understanding and management of interconnected surface water. The

GSA acknowledges, and the Department agrees, future data collection and monitoring will help quantify the relationship between groundwater levels and surface water levels. The GSA should continue filling data gaps, collecting additional monitoring data, and coordinating with resources agencies and interested parties to understand beneficial uses and users that may be impacted by depletions of interconnected surface water caused by groundwater pumping. Future periodic evaluations of the Plan and amendments to the Plan should aim to improve the initial sustainable management criteria as more information and improved methodology becomes available.

3. The Subbasin is not currently in a state of long-term overdraft and projections of future Subbasin extractions are likely to stay within current and historic ranges, at least until the next periodic evaluation by the GSA and periodic review by the Department. Subbasin groundwater levels and other SGMA sustainability indicators appear unlikely to substantially deteriorate while the GSA implements the Department's recommended corrective actions.
4. The California Environmental Quality Act (Public Resources Code § 21000 *et seq.*) does not apply to the Department's evaluation and assessment of the Plan.

Statement of Findings
Salinas Valley – Atascadero Area Subbasin (No. 3-004.11)

April 14, 2025

Accordingly, the GSP submitted by the Agency for the Atascadero Area Subbasin is hereby **APPROVED**. The recommended corrective actions identified in the Staff Report will assist the Department's future review of the Plan's implementation for consistency with SGMA and the Department therefore, recommends the Agency address them by the time of the Department's periodic review, which is set to begin on January 30, 2027, as required by Water Code § 10733.8. Failure to address the Department's recommended corrective actions before future, subsequent plan evaluations, may lead to a Plan being determined incomplete or inadequate.

Signed:

Paul Gosselin
Paul Gosselin, Deputy Director – Sustainable Water Management
Date: April 14, 2025

Exhibit A: Groundwater Sustainability Plan Assessment Staff Report – Salinas Valley – Atascadero Area Subbasin (April 14, 2025)

State of California
Department of Water Resources
Sustainable Groundwater Management Program
Groundwater Sustainability Plan Assessment
Staff Report

Groundwater Basin Name: Salinas Valley – Atascadero Area Subbasin (No. 3-004.11)
Submitting Agency: Atascadero Basin GSA
Submittal Type: Initial GSP Submission
Submittal Date: January 30, 2022
Recommendation: Approved
Date: April 14, 2025

The Sustainable Groundwater Management Act (SGMA)¹ encourages and authorizes the submittal and implementation of a groundwater sustainability plan for a basin designated low- or very low-priority but does not mandate it.² SGMA also identifies that low- or very low-priority basins are not subject to state intervention under Chapter 11 of SGMA. The Department of Water Resources (Department) responsibilities under SGMA remain the same, regardless of a basin's prioritization. The Atascadero Basin Groundwater Sustainability Agency (GSA or Agency) submitted to the Department for evaluation and assessment, the January 2022 Atascadero Area Subbasin Groundwater Sustainability Plan (GSP or Plan) for the Atascadero Area Subbasin (Subbasin). The Subbasin is designated by the Department as very low-priority and therefore, is not required to be managed under a GSP. The Plan covers the entire Subbasin for the implementation of SGMA.

After evaluation and assessment, Department staff conclude that the Plan includes the required components of a GSP, demonstrates a thorough understanding of the Subbasin based on what appears to be the best available science and information, sets well explained, supported, and reasonable sustainable management criteria to prevent undesirable results as defined in the Plan, and proposes a set of projects and management actions that will likely achieve the sustainability goal defined for the Subbasin.³ Department staff will continue to monitor and evaluate the Subbasin's progress toward achieving the sustainability goal through annual reporting and future periodic evaluations of the GSP and its implementation.

¹ Water Code § 10720 *et seq.*

² Water Code § 10720.7(2)(b).

³ 23 CCR § 350 *et seq.*

- ***Based on the current evaluation of the Plan, Department staff recommend the GSP be approved with the recommended corrective actions described herein.***

This assessment includes five sections:

- **Section 1 – Summary**: Provides an overview of Department staff's assessment and recommendations.
- **Section 2 – Evaluation Criteria**: Describes the legislative requirements and the Department's evaluation criteria.
- **Section 3 – Required Conditions**: Describes the submission requirements, Plan completeness, and basin coverage required for a GSP to be evaluated by the Department.
- **Section 4 – Plan Evaluation**: Provides an assessment of the contents included in the GSP organized by each Subarticle outlined in the GSP Regulations.
- **Section 5 – Staff Recommendation**: Includes the staff recommendation for the Plan and any recommended or required corrective actions, as applicable.

1 SUMMARY

Department staff recommend approval of the Atascadero Area Subbasin GSP. The GSA has identified areas for improvement of its Plan (e.g., addressing data gaps related to the hydrogeological conceptual model, expanding monitoring networks, and developing a Subbasin-specific groundwater model). Department staff concur that those items are important and recommend the GSA address them as soon as possible. Department staff have also identified additional recommended corrective actions within this assessment that the GSA should consider addressing by the first periodic evaluation of the Plan. The recommended corrective actions generally focus on the following:

- (1) Clarifying the schedule for addressing data gaps related to the hydrogeologic conceptual model.
- (2) Providing supporting elevations data used to identify interconnected surface water.
- (3) Clarifying the quantitative definition of undesirable results for chronic lowering of groundwater levels.
- (4) Assessing potential impacts of the established minimum thresholds for chronic lowering of groundwater levels on supply wells and other beneficial uses and users of shallow groundwater.
- (5) Clarifying the quantitative definition of undesirable results for reduction of groundwater storage.

- (6) Clarifying or revising sustainable management criteria for degraded water quality.
- (7) Providing information about critical infrastructure and surface land uses in the Subbasin that may be impacted by land subsidence and clarifying or revising sustainable management criteria for land subsidence.
- (8) Continuing to fill data gaps, collecting additional monitoring data, coordinating with resources agencies and interested parties to understand beneficial uses and users that may be impacted by depletions of interconnected surface water caused by groundwater pumping, and potentially refining sustainable management criteria.

Addressing the recommended corrective actions identified in [Section 5](#) of this assessment will be important to demonstrate, on an ongoing basis, that implementation of the Plan is likely to achieve the sustainability goal.

2 EVALUATION CRITERIA

The GSA submitted a single GSP to the Department to evaluate whether the Plan conforms to specified SGMA requirements⁴ and is likely to achieve the sustainability goal for the Salinas Valley – Atascadero Area.⁵ To achieve the sustainability goal for the Subbasin, the GSP must demonstrate that implementation of the Plan will lead to sustainable groundwater management, which means the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.⁶ Undesirable results must be defined quantitatively by the GSAs.⁷ The Department is also required to evaluate whether the GSP will adversely affect the ability of an adjacent basin to implement its GSP or achieve its sustainability goal.⁸

For the GSP to be evaluated by the Department, it must first be determined that the Plan was submitted by the statutory deadline, as applicable,⁹ and that it is complete and covers the entire basin.¹⁰ If these conditions are satisfied, the Department evaluates the Plan to determine whether it complies with specific SGMA requirements and substantially complies with the GSP Regulations.¹¹ Substantial compliance means that the supporting information is sufficiently detailed and the analyses sufficiently thorough and reasonable, in the judgment of the Department, to evaluate the Plan, and the Department determines that any discrepancy would not materially affect the ability of the Agency to achieve the

⁴ Water Code §§ 10727.2, 10727.4.

⁵ Water Code § 10733(a).

⁶ Water Code § 10721(v).

⁷ 23 CCR § 354.26 *et seq.*

⁸ Water Code § 10733(c).

⁹ 23 CCR § 355.4(a)(1).

¹⁰ 23 CCR §§ 355.4(a)(2), 355.4(a)(3).

¹¹ 23 CCR § 350 *et seq.*

sustainability goal for the basin, or the ability of the Department to evaluate the likelihood of the Plan to attain that goal.¹²

When evaluating whether the Plan is likely to achieve the sustainability goal for the Subbasin, Department staff reviewed the information provided and relied upon in the GSP for sufficiency, credibility, and consistency with scientific and engineering professional standards of practice.¹³ The Department's review considers whether there is a reasonable relationship between the information provided and the assumptions and conclusions made by the GSA, including whether the interests of the beneficial uses and users of groundwater in the basin have been considered; whether sustainable management criteria and projects and management actions described in the Plan are commensurate with the level of understanding of the basin setting; and whether those projects and management actions are feasible and likely to prevent undesirable results.¹⁴

The Department also considers whether the GSA has the legal authority and financial resources necessary to implement the Plan.¹⁵

To the extent overdraft is present in a basin, the Department evaluates whether the Plan provides a reasonable assessment of the overdraft and includes reasonable means to mitigate the overdraft.¹⁶ The Department also considers whether the Plan provides reasonable measures and schedules to eliminate identified data gaps.¹⁷ Lastly, the Department's review considers the comments submitted on the Plan and evaluates whether the GSA adequately responded to the comments that raise credible technical or policy issues with the Plan.¹⁸

The Department is required to evaluate the Plan within two years of its submittal date and issue a written assessment of the Plan.¹⁹ The written assessment is required to include a determination of the Plan's status.²⁰ The GSP Regulations define the three options for determining the status of a Plan: Approved,²¹ Incomplete,²² or Inadequate.²³ Within two years of submission, the Department notified the GSA that its review was in progress but was not yet complete.

Even when review indicates that the GSP satisfies the requirements of SGMA and is in substantial compliance with the GSP Regulations, the Department may recommend

¹² 23 CCR § 355.4(b).

¹³ 23 CCR § 351(h).

¹⁴ 23 CCR §§ 355.4(b)(1), (3), (4), and (5).

¹⁵ 23 CCR § 355.4(b)(9).

¹⁶ 23 CCR § 355.4(b)(6).

¹⁷ 23 CCR § 355.4(b)(2).

¹⁸ 23 CCR § 355.4(b)(10).

¹⁹ Water Code § 10733.4(d); 23 CCR § 355.2(e).

²⁰ Water Code § 10733.4(d); 23 CCR § 355.2(e).

²¹ 23 CCR § 355.2(e)(1).

²² 23 CCR § 355.2(e)(2).

²³ 23 CCR § 355.2(e)(3).

corrective actions.²⁴ Recommended corrective actions are intended to facilitate progress in achieving the sustainability goal within the basin and the Department's future evaluations, and to allow the Department to better evaluate whether the Plan adversely affects adjacent basins. While the issues addressed by the recommended corrective actions do not, at this time, preclude approval of the Plan, the Department recommends that the issues be addressed to ensure the Plan's implementation continues to be consistent with SGMA and the Department is able to assess progress in achieving the sustainability goal within the basin.²⁵ Unless otherwise noted, the Department proposes that recommended corrective actions be addressed by the submission date for the first periodic evaluation.²⁶

The Department's staff assessment of the GSP involves the review of information presented by the GSA, including models and assumptions, and an evaluation of that information based on scientific reasonableness, including standard or accepted professional and scientific methods and practices. The assessment does not require Department staff to recalculate or reevaluate technical information provided in the Plan or to perform its own geologic or engineering analysis of that information. The staff recommendation to approve a Plan does not signify that Department staff, were they to exercise the professional judgment required to develop a GSP for the basin, would make the same assumptions and interpretations as those contained in the Plan, but simply that Department staff have determined that the assumptions and interpretations relied upon by the submitting GSA are supported by adequate, credible evidence, and are scientifically reasonable.

Lastly, the Department's review and approval of the Plan is a continual process. Both SGMA and the GSP Regulations provide the Department with the ongoing authority and duty to review the implementation of the Plan.²⁷ Also, GSAs have an ongoing duty to provide reports to the Department, periodically reassess their plans, and, when necessary, update or amend their plans.²⁸ The passage of time or new information may make what is reasonable and feasible at the time of this review to not be so in the future. The emphasis of the Department's periodic reviews will be to assess the progress toward achieving the sustainability goal for the basin and whether Plan implementation adversely affects the ability of adjacent basins to achieve their sustainability goals.

²⁴ Water Code § 10733.4(d).

²⁵ Water Code § 10733.8.

²⁶ 23 CCR § 356.4 *et seq.*

²⁷ Water Code § 10733.8; 23 CCR § 355.6.

²⁸ Water Code §§ 10728 *et seq.*, 10728.2.

3 REQUIRED CONDITIONS

A GSP, to be evaluated by the Department, must be submitted within the applicable statutory deadline. The GSP must also be complete and must, either on its own or in coordination with other GSPs, cover the entire basin.

3.1 SUBMISSION DEADLINE

Basins categorized as low- or very low-priority are not subject to a statutory deadline to submit a GSP.²⁹

The Atascadero Area Subbasin is a very low-priority subbasin. The GSA submitted its Plan on January 30, 2022.

3.2 COMPLETENESS

GSP Regulations specify that the Department shall evaluate a GSP if that GSP is complete and includes the information required by SGMA and the GSP Regulations.³⁰

The GSA submitted an adopted GSP for the entire Subbasin. After an initial, preliminary review, Department staff found the GSP to be complete and appearing to include the required information, sufficient to warrant a thorough evaluation by the Department.³¹ The Department posted the GSP to its website on February 14, 2022.³²

3.3 BASIN COVERAGE

A GSP, either on its own or in coordination with other GSPs, must cover the entire basin.³³

A GSP that is intended to cover the entire basin may be presumed to do so if the basin is fully contained within the jurisdictional boundaries of the submitting GSAs.

The GSP intends to manage the entire Atascadero Area Subbasin and the jurisdictional boundary of the submitting GSA fully contains the Subbasin.³⁴

4 PLAN EVALUATION

As stated in Section 355.4 of the GSP Regulations, a basin "shall be sustainably managed within 20 years of the applicable statutory deadline consistent with the objectives of the

²⁹ Water Code § 10720.7(b).

³⁰ 23 CCR § 355.4(a)(2).

³¹ The Department undertakes a preliminary completeness review of a submitted Plan under section 355.4(a) of the GSP Regulations to determine whether the elements of a Plan required by SGMA and the Regulations have been provided, which is different from a determination, upon review, that a Plan is "incomplete" for purposes of section 355.2(e)(2) of the Regulations.

³² <https://sgma.water.ca.gov/portal/gsp/preview/133>.

³³ Water Code § 10727(b); 23 CCR § 355.4(a)(3).

³⁴ Atascadero Area GSP, Section 3.1, p. 59.

Act.” The Department’s assessment is based on a number of related factors including whether the elements of a GSP were developed in the manner required by the GSP Regulations, whether the GSP was developed using appropriate data and methodologies and whether its conclusions are scientifically reasonable, and whether the GSP, through the implementation of clearly defined and technically feasible projects and management actions, is likely to achieve a tenable sustainability goal for the basin. The Department staff’s evaluation of the likelihood of the Plan to attain the sustainability goal for the Subbasin is provided below.

4.1 ADMINISTRATIVE INFORMATION

The GSP Regulations require each Plan to include administrative information identifying the submitting Agency, its decision-making process, and its legal authority;³⁵ a description of the Plan area and identification of beneficial uses and users in the Plan area;³⁶ and a description of the ability of the submitting Agency to develop and implement a Plan for that area.³⁷

The Plan provides administrative information identifying the submitting agency as the Atascadero Basin GSA. The Plan describes, in an understandable format, the Plan area, the legal authority of the GSA and its ability to manage groundwater in the Subbasin, and identifies beneficial uses and users present in the Subbasin, as summarized below.

The Atascadero Area Subbasin covers an area of approximately 31 square miles within San Luis Obispo County. The Subbasin lies along the Salinas River and extends from the Santa Margarita area in the south to the City of Paso Robles in the north, and is bordered to the west by the Santa Lucia Range and to the east by the Paso Robles Area Subbasin (3-004.06). A map showing the location of the Subbasin is presented as Figure 1 below.

³⁵ 23 CCR § 354.6 *et seq.*

³⁶ 23 CCR § 354.8 *et seq.*

³⁷ 23 CCR § 354.6(e).

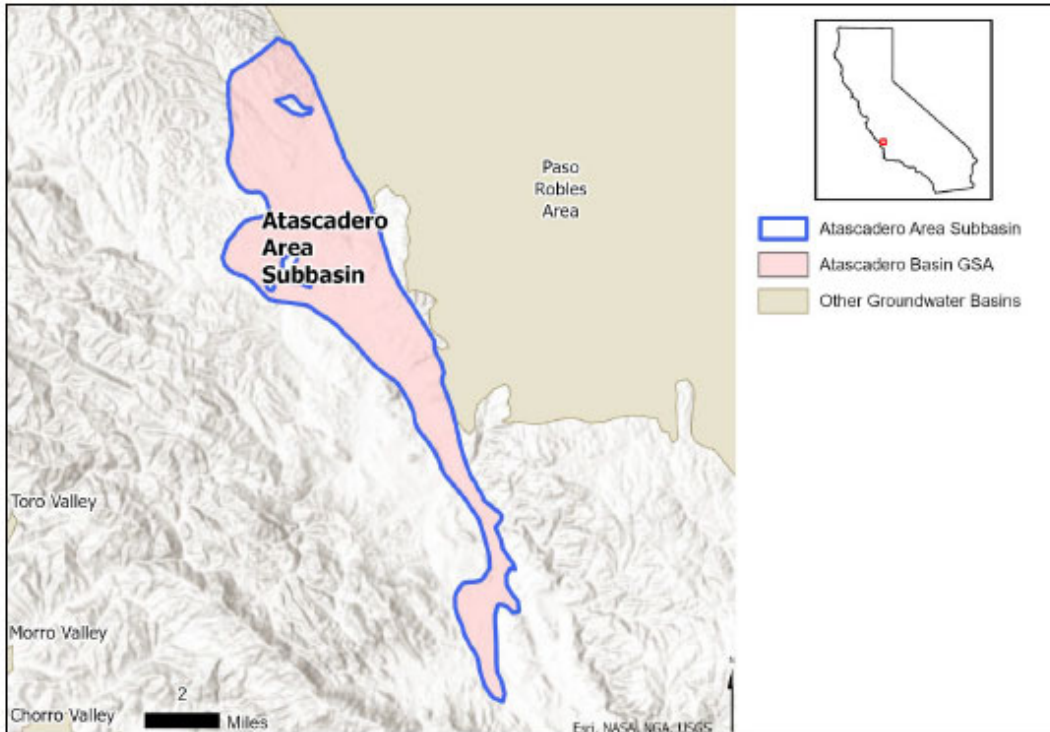


Figure 1: Atascadero Area Subbasin Location Map

Based on information presented in the Plan, the majority of land use in the Subbasin is native vegetation (approximately 67%). Remaining land use categories for the Subbasin include agriculture (approximately 20%) and urban (approximately 13%).³⁸

Jurisdictional boundaries within the Subbasin that have both land and water use authority include San Luis Obispo County and the associated San Luis Obispo Flood Control and Water Conservation District (SLOFCWCD), the City of Atascadero, and the City of Paso Robles. Other entities with water management/supply responsibilities in the Subbasin include special districts and the Department of State Hospitals that operates its own water supply system.³⁹

Beneficial uses and users of groundwater in the Subbasin include municipal, agricultural, rural residential, small community water systems, small commercial entities, and ecological/environmental uses and users.⁴⁰

The Plan includes an inventory of wells and well-density maps based on data from the Department's Well Completion Report Map Application, the State Public Water System,

³⁸ Atascadero Area GSP, Table 3-4, p. 62 and Figure 3-10, p. 68.

³⁹ Atascadero Area GSP, Section 2.3, pp. 52-55, and Section 3.3 and 3.4, pp. 61-62.

⁴⁰ Atascadero Area GSP, Section 4.5, p. 124, and Section 2.3.2, p. 55.

and the Groundwater Ambient Monitoring and Assessment database. A total of 1,956 wells are identified as being present in the Subbasin, with about 97% of the wells being rural and agricultural wells, and the remaining 3% being public supply wells.⁴¹

The Plan states that all water demands in the Subbasin are met with groundwater,⁴² with urban water use being the largest water use sector.⁴³ Based on water budget information provided in the Plan, groundwater extracted in the Subbasin for the period from 2012 to 2016 averaged about 12,900 acre-feet per year; urban (municipal) water use accounted for approximately 71% of the total groundwater extracted in the Subbasin, agriculture accounted for approximately 20%, small public water systems accounted for approximately 5%, and rural domestic accounted for approximately 4%.⁴⁴ Surface water from the Salinas River and its tributaries, including imported surface water from the Nacimiento Water Project, is used in the Subbasin for groundwater recharge. Currently, there is no direct use of recycled water in the Subbasin; however, some treated wastewater effluent in the Subbasin is discharged to the Salinas River via percolation ponds.⁴⁵

The Plan includes information on existing groundwater and surface water monitoring conducted by various entities, including existing water management plans and regulatory programs currently operating in the Subbasin.⁴⁶ The Plan also discusses how the existing management plans and ordinances may limit operational flexibility in the Subbasin, but indicates that these limits to operational flexibility have already been incorporated into the sustainability projects and programs included in the Plan.⁴⁷ The Plan relies upon the existing groundwater monitoring and management programs operating in the Subbasin to describe groundwater conditions, water budgets, and establish sustainable management criteria presented in the Plan for groundwater levels, groundwater storage, groundwater quality, land subsidence, and interconnected surface water.

The Plan describes in sufficient detail the organizational structure of the GSA, and its legal authority to manage groundwater in the Basin⁴⁸ and finance projects and management actions.⁴⁹ The GSA is made up of four forming parties (City of Atascadero, City of Paso Robles, County of San Luis Obispo, and Templeton Community Services District) and six participating parties (Atascadero Mutual Water Company, Atascadero State Hospital, Santa Margarita Ranch Mutual Water Company, Santa Ysabel Ranch Mutual Water Company, Walnut Hills Mutual Water Company, and Garden Farms Water District). The GSA was established through a Memorandum of Agreement and is

⁴¹ Atascadero Area GSP, Section 3.5, p. 69; Figure 3-12, p. 70, and Figure 3-13, p. 71.

⁴² Atascadero Area GSP, Section 3.4.1.1, p. 66.

⁴³ Atascadero Area GSP, Section 3.4.2, p. 67.

⁴⁴ Atascadero Area GSP, Table 6-10, p. 212.

⁴⁵ Atascadero Area GSP, Sections 3.4.1.3, p. 66, and Section 5.4.2.2, p. 465.

⁴⁶ Atascadero Area GSP, Section 3.6.1 through 3.6.3, pp. 72-89.

⁴⁷ Atascadero Area GSP, Section 3.6.3.10, p. 89.

⁴⁸ Atascadero Area GSP, Section 2.2 through 2.3, pp. 50-55, and Section 10.3.9, p. 330.

⁴⁹ Atascadero Area GSP, Section 10.3.9, p. 330.

governed by a nine-member Executive Committee consisting of both voting and non-voting representatives.⁵⁰ The non-voting representatives include at-large members from rural residential, agricultural, and environmental interests.⁵¹

The Plan estimates the cost for Plan implementation for the first five years to be between \$100,000 and \$200,000 per year. Costs for developing an initial groundwater model are estimated to total \$200,000 to \$300,000. The Plan states that costs for projects and management actions will likely vary year by year based on need and may add between zero dollars to \$300,000 or more.⁵² The Plan describes funding mechanisms that the GSA will consider for meeting the Plan implementation costs, which include grant funding and existing revenue streams from GSA members.⁵³

The Plan describes various public outreach activities conducted prior and during the development phase of the Plan, and includes a Communication and Engagement Plan which details the GSA's communication and public engagement efforts, its decision-making process, and the communication and public involvement approach that the GSA plans to use during the Plan implementation phase.⁵⁴ The GSA also provides a list of public meetings where the Plan was discussed or considered,⁵⁵ including public comments and how they were addressed.⁵⁶

The administrative information presented in the GSP addresses the required items of the GSP Regulations. Therefore, Department staff conclude that the administrative information included in the Plan substantially complies with the requirements outlined in the GSP Regulations.

4.2 BASIN SETTING

GSP Regulations require information about the physical setting and characteristics of the basin and current conditions of the basin, including a hydrogeologic conceptual model; a description of historical and current groundwater conditions; and a water budget accounting for total annual volume of groundwater and surface water entering and leaving the basin, including historical, current, and projected water budget conditions.⁵⁷

4.2.1 Hydrogeologic Conceptual Model

The hydrogeologic conceptual model is a non-numerical model of the physical setting, characteristics, and processes that govern groundwater occurrence within a basin, and represents a local agency's understanding of the geology and hydrology of the basin that support the geologic assumptions used in developing mathematical models, such as

⁵⁰ Atascadero Area GSP, Appendix 2A, pp. 346-369.

⁵¹ Atascadero Area GSP, Section 2.3.2, p. 55.

⁵² Atascadero Area GSP, Section 10.4, p. 331.

⁵³ Atascadero Area GSP, Section 10.4.2, pp. 331-332, and Table 10-1, p. 333.

⁵⁴ Atascadero Area GSP, Section 11, p. 335 and Appendices 11A through 11H, pp. 859-1184.

⁵⁵ Atascadero Area GSP, Appendix 11F, pp. 999-1175.

⁵⁶ Atascadero Area GSP, Appendix 11E, pp. 925-998.

⁵⁷ 23 CCR § 354.12.

those that allow for quantification of the water budget.⁵⁸ The GSP Regulations require a descriptive hydrogeologic conceptual model that includes a written description of geologic conditions, supported by cross sections and maps,⁵⁹ and includes a description of basin boundaries and the bottom of the basin,⁶⁰ principal aquifers and aquitards,⁶¹ and data gaps.⁶²

The Plan describes in sufficient detail, based on what appears to be the best available information, the geology and hydrology of the Subbasin, including its regional geologic and structural setting, lateral and vertical extents, principal aquifers, recharge and discharge areas, soils, and other pertinent geologic structures, supported by maps and cross sections.

The Subbasin is a narrow structural northwest-southeast trending trough filled with sediments that have been folded and faulted by regional tectonics, and is located east of the Santa Lucia Range, within the Salinas Valley Groundwater Basin.⁶³

The Subbasin's lateral extent to the northwest, west, and south is defined by the contact between the Subbasin sediments and the relatively impermeable geologic units/bedrock. The eastern extent of the Subbasin is defined by the Rinconada Fault which separates the Subbasin and the adjacent Paso Robles Area Subbasin. Along the northern portion of the boundary between the Subbasin and the Paso Robles Area Subbasin, the Rinconada Fault is assumed to form a leaky hydraulic barrier. The bottom of the Subbasin is defined as the base of the Paso Robles Formation, except at the southern end of the Subbasin, where the bottom of the Subbasin is defined as the base of alluvium.⁶⁴ The low permeability geologic units that underlie and surround the Subbasin include the Santa Margarita Formation, Monterey Formation, Vaqueros Formation, and metamorphic and granitic rocks.⁶⁵

Water bearing sediments in the Subbasin are approximated to be 700 to 800 feet thick.⁶⁶ The Plan points out that the Subbasin's lateral and vertical boundaries are not considered absolute barriers of groundwater flow because some of the geologic units underlying the Paso Robles Formation produce sufficient amounts of water; however, the water is of poor quality and thus not considered part of the Subbasin.⁶⁷

⁵⁸ DWR | Best Management Practices for the Sustainable Management of Groundwater: Hydrogeologic Conceptual Model, December 2016: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-3-Hydrogeologic-Conceptual-Model_19.pdf.

⁵⁹ 23 CCR §§ 354.14 (a), 354.14 (c).

⁶⁰ 23 CCR §§ 354.14 (b)(2-3).

⁶¹ 23 CCR § 354.14 (b)(4) *et seq.*

⁶² 23 CCR § 354.14 (b)(5).

⁶³ Atascadero Area GSP, Section 4.3.1, p. 105.

⁶⁴ Atascadero Area GSP, Section 4.1, pp. 99-100, and Figures 4-5 through 4-11, pp. 109-115.

⁶⁵ Atascadero Area GSP, Section 4.3.3, pp. 116-117, and Figures 4-13 and 4-14, pp. 120-121.

⁶⁶ Atascadero Area GSP, Section 4.3.1, p. 105.

⁶⁷ Atascadero Area GSP, Section 4.1, p. 100.

Surface water bodies in the Subbasin include the Salinas River and its tributaries – the main tributaries to the river within the Subbasin include the Paso Robles, Atascadero, Graves, Santa Margarita, Paloma, and Trout creeks.⁶⁸

The Plan identifies two principal aquifers in the Subbasin: Alluvial Aquifer and Paso Robles Formation Aquifer. The Alluvial Aquifer is a relatively continuous aquifer characterized by alluvial sediments that underlie the Salinas River and tributary streams. The Paso Robles Formation Aquifer is an interbedded aquifer comprised of sand and gravel lenses within the Paso Robles Formation.⁶⁹

The Plan states that no laterally continuous aquitard has been formally defined within the Subbasin, but that the upper portions of the Paso Robles Formation often contain thin, discontinuous clay layers interbedded with sand and shale gravels that can act as a leaky confining layer and are generally widespread throughout the Subbasin. The contact between the Alluvial Aquifer and Paso Robles Formation Aquifer in the Templeton area is characterized by a 60-foot-thick clay-rich aquitard that restricts vertical groundwater flow in this area. The Alluvial Aquifer is in direct communication with the underlying Paso Robles Formation Aquifer in two areas along the Salinas River corridor: the Atascadero area and the area north of Templeton.⁷⁰

As stated in the Plan, primary uses of groundwater from the Subbasin’s principal aquifers include municipal, agricultural, rural residential, small community water systems, and small commercial entities.⁷¹

The Plan describes components of the Subbasin’s hydrogeological conceptual model that warrant further study/investigation or refinement, which include improved understanding of: groundwater elevations in the northwestern end of the Subbasin, the effectiveness of the Rinconada Fault as a barrier to groundwater flow, vertical gradients to assess vertical flows between the Alluvium Aquifer and Paso Robles Formation Aquifer, and vertical flows within the Paso Robles Formation Aquifer.⁷² Based on information provided in the Plan, the GSA intends to address data gaps related to groundwater elevation data during the first five years of Plan implementation.⁷³ However, the Plan provides no details on the schedule to fill the other data gaps identified, i.e., better understanding of the Rinconada Fault as a barrier to groundwater flow and vertical gradients in the Subbasin. Department staff recommend the Plan include a schedule to fill these data gaps (see [Recommended Corrective Action 1](#))

Overall, Department staff conclude that the information provided in the Plan to characterize the hydrogeologic conceptual model substantially complies with the

⁶⁸ Atascadero Area GSP, Section 3.1, p. 59.

⁶⁹ Atascadero Area GSP, Section 4.4, p. 119.

⁷⁰ Atascadero Area GSP, Section 4.4, p. 119.

⁷¹ Atascadero Area GSP, Section 4.5, p. 124.

⁷² Atascadero Area GSP, Section 4.9.1 through 4.9.3, p. 132.

⁷³ Atascadero Area GSP, Table 9-2, p. 317.

requirements outlined in the GSP Regulations. The Plan's descriptions of the Subbasin's hydrogeologic conceptual model appears to utilize the best available information and science. Staff are aware of no significant inconsistencies or contrary technical information to that presented in the Plan. The Plan also identifies data gaps that warrant additional investigation. Staff encourage the GSA to address the data gaps, including the identified recommended corrective action, to refine understanding of the Subbasin's hydrogeologic conceptual model.

4.2.2 Groundwater Conditions

The GSP Regulations require a written description of historical and current groundwater conditions for each of the applicable sustainability indicators and groundwater dependent ecosystems that includes the following: groundwater elevation contour maps and hydrographs,⁷⁴ a graph depicting change in groundwater storage,⁷⁵ maps and cross-sections of the seawater intrusion front,⁷⁶ maps of groundwater contamination sites and plumes,⁷⁷ maps depicting total subsidence,⁷⁸ identification of interconnected surface water systems and an estimate of the quantity and timing of depletions of those systems,⁷⁹ and identification of groundwater dependent ecosystems.⁸⁰

As required by the GSP Regulations, the Plan includes descriptions of current and historical groundwater conditions for each sustainability indicator applicable to the Subbasin.⁸¹

The Plan describes historical and current groundwater flow directions and elevations within the Subbasin's principal aquifers (i.e., Alluvial Aquifer and Paso Robles Formation Aquifer),⁸² supported by groundwater elevation contour maps⁸³ and hydrographs.⁸⁴

The groundwater elevation contour maps presented in the Plan are based on data for spring 1997, 2011, 2015, 2017 and fall 2017. The contour maps show that groundwater flow direction in the Alluvial Aquifer generally follows the alignment and flow direction of the Salinas River and its tributaries.⁸⁵ Within the Paso Robles Formation Aquifer, groundwater flow is generally to the north/northwest and an area of depression is noted

⁷⁴ 23 CCR §§ 354.16 (a)(1-2).

⁷⁵ 23 CCR § 354.16 (b).

⁷⁶ 23 CCR § 354.16 (c).

⁷⁷ 23 CCR § 354.16 (d).

⁷⁸ 23 CCR § 354.16 (e).

⁷⁹ 23 CCR § 354.16 (f).

⁸⁰ 23 CCR § 354.16 (g).

⁸¹ Atascadero Area GSP, Section 5.1 through Section 5.5, pp. 134-167.

⁸² Atascadero Area GSP, Section 5.1.1 through 5.1.2.3, pp.136-157.

⁸³ Atascadero Area GSP, Figure 5-2 through 5-6, pp. 138-142 and Figure 5-8 through 5-12, pp. 148-152.

⁸⁴ Atascadero Area GSP, Appendix 5A, pp. 633-653.

⁸⁵ Atascadero Area GSP, Figure 5-2 through 5-6, pp. 138-142.

on the spring 2015 and fall 2017 contour maps, in the northern portion of the Atascadero area.⁸⁶ The Plan attributes the depression to pumping.⁸⁷

The hydrographs show that groundwater elevations in the Alluvial Aquifer have been generally stable over the long-term, with some short-term seasonal fluctuations.⁸⁸ Similarly, groundwater elevations in the Paso Robles Formation Aquifer show mostly stable trends over the long-term, with relatively more pronounced seasonal fluctuations;⁸⁹ however, some wells in the northern portion of the Subbasin (e.g., well 27S/12E-17E01) exhibit an overall declining groundwater elevation trend.⁹⁰ The Plan attributes the declining groundwater elevation trends in this portion of the Subbasin to increased agricultural activity.⁹¹

The Plan provides historical (1981-2011)⁹² and current (2012-2016)⁹³ change in groundwater storage information for the Subbasin that is derived using modeling tools.⁹⁴ The Plan also includes graphs depicting the estimated annual and cumulative changes in groundwater storage in the Subbasin for the historical and current periods, which include water year type information.⁹⁵ The graphs show that the Subbasin experiences temporary losses of groundwater during periods of drought and rebounds during wet periods. Overall, the Subbasin does not show long-term decreases in groundwater storage. The Plan estimates the average annual change in groundwater storage over the historical period to be an increase of 1,400 acre-feet per year and the cumulative change in groundwater storage to be an increase of 42,300 acre-feet.⁹⁶ For the current period (which was a drought period), the Plan estimates the average annual change in groundwater storage to be a decrease of 2,500 acre-feet per year and the cumulative change in groundwater storage to be a decrease of 12,600 acre-feet over the 5-year period (i.e., 2012 to 2016).

The Plan states that the Subbasin is not adjacent to the Pacific Ocean, a bay, or inlet. Therefore, the Plan does not deem seawater intrusion to be an applicable sustainability indicator in the Subbasin.⁹⁷ Department staff consider the Plan's rationale for not including seawater intrusion as a sustainability indicator for the Subbasin to be reasonable.

⁸⁶ Atascadero Area GSP, Figure 5-8 through 5-10, pp. 148-150.

⁸⁷ Atascadero Area GSP, Section 5.1.2.1, p. 146.

⁸⁸ Atascadero Area GSP, Section 5.1.1.2, p. 143 and Appendix 5A, pp. 636-653.

⁸⁹ Atascadero Area GSP, Appendix 5A, pp. 633-653.

⁹⁰ Atascadero Area GSP, Appendix 5A, p. 648 and Figure 7-1, p. 235.

⁹¹ Atascadero Area GSP, Section 5.1.2.3, p. 157.

⁹² Atascadero Area GSP, Section 6.3.2.3, p. 198.

⁹³ Atascadero Area GSP, Section 6.4.2.3, p. 212.

⁹⁴ Atascadero Area GSP, Section 6.2, p. 189.

⁹⁵ Atascadero Area GSP, Figure 6-4, p. 202, and Figure 6-7, p. 216.

⁹⁶ Atascadero Area GSP, Section 6.3.2.3, p. 198.

⁹⁷ Atascadero Area GSP, Section 5.3, p. 157.

The Plan includes descriptions of current and historical groundwater quality issues in the Subbasin. The Plan states that groundwater quality in the Subbasin is influenced by calcium and magnesium bicarbonate water from the Salinas River that recharges the Subbasin's groundwater, but that groundwater quality in the Subbasin is generally good and suitable for drinking and agricultural.⁹⁸ The Plan identifies non-point source constituents of concern that are detected at concentrations exceeding regulatory standards to include arsenic, nitrate, total dissolved solids (TDS), gross alpha, selenium, iron, and sulphate.⁹⁹ The Plan provides maps illustrating the regional distribution of TDS, chloride, and nitrate within each principal aquifer and graphs illustrating their concentration trends over time.¹⁰⁰ The Plan also discusses potential point-source contamination sites present in the Subbasin and provides a map showing their locations.¹⁰¹ The Plan indicates that there are no mapped groundwater contaminant plumes at these point-source contamination sites.¹⁰²

The Plan states that land subsidence due to groundwater pumping has not occurred in the Subbasin. The Plan references the Department's Interferometric Synthetic Aperture Radar (InSAR) data for the period between June 2015 and December 2020 and provides a map showing the extent of subsidence during this period. The data and map show that no measurable subsidence occurred during the 2015-2020 period (i.e., land vertical displacement measurements were within the margin of error).¹⁰³

The Plan uses groundwater level information from wells located adjacent to the Salinas River to identify and map areas with potential groundwater-surface water interconnection in the Subbasin. The Plan's analysis of interconnected surface water consisted of comparing average springtime groundwater elevations within the Alluvial Aquifer and Paso Robles Formation Aquifer, with the elevation of the adjacent Salinas River thalweg. If the average springtime groundwater elevations were greater than the elevation of the Salinas River thalweg, the river was considered to be a potentially gaining stream reach. On the other hand, if the average springtime groundwater elevations were below the adjacent thalweg, the river was considered to be a potentially losing stream reach.¹⁰⁴

For the Paso Robles Formation Aquifer, groundwater levels were further evaluated based on their occurrence within confined or semi-confined zones or within areas known to be in direct communication with the overlying Alluvial Aquifer. Additionally, proximity to wastewater percolation and the Nacimiento Water Project infiltration basins was also

⁹⁸ Atascadero Area GSP, Sections 5.7 and 5.7.1, p. 169.

⁹⁹ Atascadero Area GSP, Section 5.7.1, p. 170.

¹⁰⁰ Atascadero Area GSP, Figure 5-22 and 5-23, pp. 175-176; Figure 5-24 and 5-25, pp. 178-179; and Figure 5-26 and 5-27, pp. 181-182.

¹⁰¹ Atascadero Area GSP, Section 5.7.3, p. 171, and Figure 5-21, p. 172.

¹⁰² Atascadero Area GSP, Section 5.7.3, p.171, Table 5-1, p. 171.

¹⁰³ Atascadero Area GSP, Section 5.4, p. 158, and Figure 5-16, p. 159.

¹⁰⁴ Atascadero Area GSP, Section 5.5, p. 160.

considered in the analysis. The Plan provides maps showing the locations identified as having potentially interconnected surface water.¹⁰⁵

Department staff are satisfied that the Plan has adopted a reasonable approach to identify the location of interconnected surface waters in the Subbasin. However, the Plan does not provide the supporting data to show the groundwater elevations relative to the elevation of the Salinas River thalweg that were used to determine whether segments of the river were gaining, losing, or disconnected. Staff recommend the Plan include the groundwater level data and depth/elevation data for the Salinas River thalweg used in the analysis to identify interconnected surface water (see [Recommended Corrective Action 2](#)).

The Plan presents maps showing segments of the Salinas River that are identified as potentially having interconnection with groundwater within the Alluvial Aquifer and the Paso Robles Formation Aquifer.¹⁰⁶ According to the Plan, the identified locations of interconnected surface water account for approximately 7.5 miles of the Salinas River within the Subbasin. The Plan states that the status of surface water interconnection for the remaining approximately 8 miles of river is unknown.¹⁰⁷ However, the Plan does not identify this as a data gap that needs addressing. Department staff recommend the GSA evaluate interconnected surface conditions for the remaining 8 miles of the Salinas River (i.e., roughly half the total length of the Salinas River course within the Subbasin), to address the identified data gap (see related [Recommended Corrective Action 8b](#), provided under [Section 4.3.2.6](#) of this Staff Report).

The Plan also includes discussion of GDEs in the Subbasin and provides a map identifying their potential locations. The Plan relied upon The Nature Conservancy's Natural Communities Commonly Associated with Groundwater dataset to identify locations of groundwater dependent ecosystems. GDEs are identified as being present in the Templeton area and the southern portion of the Subbasin.¹⁰⁸ The Plan acknowledges that additional field reconnaissance is necessary to verify the presence and locations of potential GDEs and based on information provided in the Plan, the GSA intends to continue evaluating GDEs to improve understanding of their locations, including surface water-groundwater interaction during Plan implementation.¹⁰⁹

Despite the identified recommended corrective actions, Department staff conclude that the Plan sufficiently describes the historical and current groundwater conditions for the sustainability indicators relevant to the Subbasin, based on what appears to be the best available information and science. Staff are aware of no significant inconsistencies or contrary information to that presented in the Plan and, therefore, have no significant

¹⁰⁵ Atascadero Area GSP, Section 5.5, p. 160 and Figure 5-18, p. 164.

¹⁰⁶ Atascadero Area GSP, Figure 5-18, p. 164, and Figure 5-19, p. 166.

¹⁰⁷ Atascadero Area GSP, Section 5.5, p. 160 and Figure 5-18, p. 164.

¹⁰⁸ Atascadero Area GSP, Section 5.6, p. 167 and Figure 5-20, p. 168.

¹⁰⁹ Atascadero Area GSP, Table 9-2, p. 318.

concerns regarding the discussion of this subject in the Plan. Staff also conclude that the information included in the Plan regarding the Subbasin's groundwater conditions substantially complies with the requirements outlined in the GSP Regulations.

4.2.3 Water Budget

GSP Regulations require a water budget for the basin that provides an accounting and assessment of the total annual volume of groundwater and surface water entering and leaving the basin, including historical; current; and projected water budget conditions,¹¹⁰ and the sustainable yield.¹¹¹

The Plan presents historical, current, and projected water budgets, evaluated using an integrated system of three hydrologic models – a watershed model, a soil water balance model, and a groundwater flow model.¹¹² The models were originally developed for the SLOFCWCD and have undergone various updates for GSP purposes. The updated versions of the model are collectively referred to as the "GSP model."¹¹³ As stated by the Plan, the GSP model domain covers large portions of both the Atascadero Area Subbasin and the Paso Robles Area Subbasin and has been used for both subbasins.¹¹⁴ The Plan acknowledges that the GSP model has uncertainty due to limitations in available data and assumptions. The GSA intends to refine the model or develop a groundwater model specific to the Atascadero Area Subbasin, during the first five years of Plan implementation.¹¹⁵

The water budgets presented in the Plan describe an accounting of inflows and outflows for the surface water and groundwater systems, including groundwater storage changes and sustainable yield estimates, presented in tabular and/or graphical format. The Plan evaluates the water budgets for the following periods:

- The historical water budget is evaluated for the period from 1981 to 2011.¹¹⁶
- The current water budget is evaluated for a period covering 2012 to 2016.¹¹⁷
- The projected water budget is evaluated for a period from 2022 to 2042.¹¹⁸

The Plan explains that the projected water budget is based on 36 years of data as the baseline for estimating future hydrology, instead of the 50 years required by the GSP Regulations, because the model used includes only 36 years of data.¹¹⁹ The Plan states that "[i]t is believed that this time period is representative and is the best available

¹¹⁰ 23 CCR §§ 354.18 (a), 354.18 (c) *et seq.*

¹¹¹ 23 CCR § 354.18 (b)(7).

¹¹² Atascadero Area GSP, Section 6.2 through 6.2.1, pp. 189-190.

¹¹³ Atascadero Area GSP, Section 6.2, pp. 190-191.

¹¹⁴ Atascadero Area GSP, Section 6.2, p. 190.

¹¹⁵ Atascadero Area GSP, Section 6.2.1, p. 190 and Section 9.1.2, p. 312.

¹¹⁶ Atascadero Area GSP, Section 6.3, p. 191.

¹¹⁷ Atascadero Area GSP, Section 6.4, p. 204.

¹¹⁸ Atascadero Area GSP, Section 6.5, p. 218.

¹¹⁹ Atascadero Area GSP, Section 6.5, p. 218.

information for groundwater sustainability planning purposes.”¹²⁰ Department staff acknowledge the limitation of historical data for estimating projected hydrologic conditions due to the model used (which was the best available tool at the time of Plan development). Moving forward, staff recommend the Plan incorporate the required 50 years of historical precipitation, evapotranspiration, and streamflow information as the baseline for estimating future hydrology, during the planned model update or subbasin-specific model development.

For the groundwater system, inflow components include streamflow percolation, agricultural irrigation return flow, deep percolation of direct precipitation, subsurface inflow into the Subbasin, imported surface water percolation, wastewater treatment plant pond percolation, and urban irrigation return flow. Streamflow percolation makes up the largest inflow component of the Subbasin.¹²¹ Groundwater outflow components include groundwater pumping, subsurface outflow, and riparian evapotranspiration, with groundwater pumping being the largest groundwater outflow component from the Subbasin.¹²²

The Plan estimates the total average groundwater inflow into the Subbasin for the historical water budget to be 17,500 acre-feet per year and the total average outflow to be 16,100 acre-feet per year, resulting in a gain in groundwater storage of approximately 1,400 acre-feet per year.¹²³

For the current groundwater budget, the Plan estimates the total average groundwater inflow into the Subbasin to be 10,800 acre-feet per year and the total average outflow to be 13,200 acre-feet per year, resulting in a loss in groundwater storage of approximately 2,400 acre-feet per year.¹²⁴ Department staff note that the decline in groundwater storage is reflective of the drought conditions experienced during the period the current water budget is based on.

The Plan projects the future total average groundwater inflow into the Subbasin to be approximately 18,000 acre-feet per year and the total average outflow to be approximately 17,200 acre-feet per year, resulting in a gain in groundwater storage of 800 acre-feet per year.¹²⁵

The Plan provides estimates of the Subbasin’s safe yield for the historical, current, and projected timelines, rather than an estimate of the Subbasin’s sustainable yield. The Plan explains that the sustainable yield estimate for the Subbasin will be determined at a later time after an assessment of the sustainable management criteria and identification of potential undesirable results. The estimated safe yield values are considered to be a

¹²⁰ Atascadero Area GSP, Section 6.5, p. 218.

¹²¹ Atascadero Area GSP, Section 6.3.2.1, p. 196.

¹²² Atascadero Area GSP, Section 6.3.2.2, p. 197.

¹²³ Atascadero Area GSP, Section 6.3.2.1 through 6.3.2.3, pp. 196-198.

¹²⁴ Atascadero Area GSP, Section 6.4.2.1 through 6.4.2.3, pp. 210-212.

¹²⁵ Atascadero Area GSP, Section 6.5.3.2, pp. 222-223.

starting point for determining the sustainable yield. As stated by the Plan, the estimated safe yield values reflect climate, hydrologic and water resource conditions, and provide insight into the amount of groundwater pumping that could be sustained in the Subbasin to maintain a balance between groundwater inflows and outflows. The Plan estimates the safe yield for the historical, current, and projected periods to be 16,700 acre-feet per year, 10,400 acre-feet per year, and 17,200 acre-feet per year, respectively.¹²⁶

The Plan includes information about the reliability of surface water deliveries. The Plan states that a reliability study conducted for the Nacimiento reservoir in 2002 concluded that the Nacimiento Reservoir could always meet demand, even during short-term droughts. The Plan anticipates that imported surface water deliveries will remain a reliable water supply source into the future.¹²⁷

Department staff conclude that the water budgets included in the Plan substantially comply with the requirements outlined in the GSP Regulations. The Plan provides the required historical, current, and future accounting and assessment of the total annual volume of groundwater and surface water entering and leaving the Subbasin, using the best available tools and information at the time of Plan development. Staff encourage the GSA to update and refine the water budgets to reduce uncertainty during Plan implementation, as additional information becomes available (e.g., from data gap filling efforts) and a new model is developed.

4.2.4 Management Areas

The GSP Regulations provide the option for one or more management areas to be defined within a basin if the GSA has determined that the creation of the management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives, provided that undesirable results are defined consistently throughout the basin.¹²⁸

Currently, there are no management areas established in the Subbasin. However, the Plan states that management areas may be designated in the future due to existence of geologic and geographic divides in the Subbasin that results in different conditions or management actions to achieve sustainability.¹²⁹

4.3 SUSTAINABLE MANAGEMENT CRITERIA

GSP Regulations require each Plan to include a sustainability goal for the basin and to characterize and establish undesirable results, minimum thresholds, and measurable objectives for each applicable sustainability indicator, as appropriate. The GSP Regulations require each Plan to define conditions that constitute sustainable groundwater management for the basin including the process by which the GSA

¹²⁶ Atascadero Area GSP, Section 6.3.2.4, p. 204; Section 6.4.2.4, p. 218; and Section 6.5.3.3, p. 224.

¹²⁷ Atascadero Area GSP, Section 3.6.2.1, p. 83, and Section 6.3.1.1, p. 192.

¹²⁸ 23 CCR § 354.20.

¹²⁹ Atascadero Area GSP, Section 8.11.1, p. 306.

characterizes undesirable results and establishes minimum thresholds and measurable objectives for each applicable sustainability indicator.¹³⁰

4.3.1 Sustainability Goal

GSP Regulations require that GSAs establish a sustainability goal for the basin. The sustainability goal should be based on information provided in the GSP's basin setting and should include an explanation of how the sustainability goal is likely to be achieved within 20 years of Plan implementation.¹³¹

As stated in the Plan, "[t]he goal of the Atascadero Basin GSP is to sustainably manage groundwater resources over the long term for the benefit of [Subbasin] stakeholders. [The] GSP outlines the approach using information developed for [the] GSP to achieve a sustainable groundwater resource and continue to avoid undesirable results throughout the 20-year SGMA implementation horizon and beyond, while meeting the water supply needs of [Subbasin] stakeholders. In adopting [the] GSP, it is the express goal of the GSA to balance the needs of all groundwater uses and users in the [Subbasin]. [The GSA has] been and will continue to integrate projects and management actions with the natural system in the Basin to operate the Basin sustainably."¹³²

The Plan describes an approach to maintain sustainability through the planning and implementation horizon that includes continuation and improvement of existing management actions such as groundwater recharge practices using imported water and treated wastewater; improvement and expansion of monitoring network systems to fill data gaps, track hydrologic conditions, and ensure the Subbasin is operated within its sustainable yield; and implementation of projects and management actions using an adaptive management approach.¹³³

Based on the information provided in the Plan relating to the sustainability goal, Department staff conclude that the Plan substantially complies with the GSP Regulations.

4.3.2 Sustainability Indicators

Sustainability indicators are defined as any of the effects caused by groundwater conditions occurring throughout the basin that, when significant and unreasonable, cause undesirable results.¹³⁴ Sustainability indicators thus correspond with the six undesirable results – chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon, significant and unreasonable reduction of groundwater storage, significant and unreasonable seawater intrusion, significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies, land subsidence that substantially interferes with surface land uses, and depletions of interconnected surface

¹³⁰ 23 CCR § 354.22 *et seq.*

¹³¹ 23 CCR § 354.24.

¹³² Atascadero Area GSP, Section 8.3, p. 267.

¹³³ Atascadero Area GSP, Section 9.1 and 9.3, pp. 309-321.

¹³⁴ 23 CCR § 351(ah).

water that have significant and unreasonable adverse impacts on beneficial uses of the surface water¹³⁵ – but refer to groundwater conditions that are not, in and of themselves, significant and unreasonable. Rather, sustainability indicators refer to the effects caused by changing groundwater conditions that are monitored, and for which criteria in the form of minimum thresholds are established by the agency to define when the effect becomes significant and unreasonable, producing an undesirable result.

GSP Regulations require that GSAs provide descriptions of undesirable results including defining what are significant and unreasonable potential effects to beneficial uses and users for each sustainability indicator.¹³⁶ GSP Regulations also require GSPs provide the criteria used to define when and where the effects of the groundwater conditions cause undesirable results for each applicable sustainability indicator. The criteria shall be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the basin.¹³⁷

GSP Regulations require that the description of minimum thresholds include the information and criteria relied upon to establish and justify the minimum threshold for each sustainability indicator.¹³⁸ GSAs are required to describe how conditions at minimum thresholds may affect beneficial uses and users,¹³⁹ and the relationship between the minimum thresholds for each sustainability indicator, including an explanation for how the GSA has determined conditions at each minimum threshold will avoid causing undesirable results for other sustainability indicators.¹⁴⁰

GSP Regulations require that GSPs include a description of the criteria used to select measurable objectives, including interim milestones, to achieve the sustainability goal within 20 years.¹⁴¹ GSP Regulations also require that the measurable objectives be established based on the same metrics and monitoring sites as those used to define minimum thresholds.¹⁴²

The following subsections thus consolidate three facets of sustainable management criteria: undesirable results, minimum thresholds, and measurable objectives. Information, as presented in the Plan, pertaining to the processes and criteria relied upon to define undesirable results applicable to the Subbasin, as quantified through the establishment of minimum thresholds, are addressed for each applicable sustainability indicator. A submitting agency is not required to establish criteria for undesirable results that the agency can demonstrate are not present and are not likely to occur in a basin.¹⁴³

¹³⁵ Water Code § 10721(x).

¹³⁶ 23 CCR §§ 354.26 (a), 354.26 (b)(c).

¹³⁷ 23 CCR § 354.26 (b)(2).

¹³⁸ 23 CCR § 354.28 (b)(1).

¹³⁹ 23 CCR § 354.28 (b)(4).

¹⁴⁰ 23 CCR § 354.28 (b)(2).

¹⁴¹ 23 CCR § 354.30 (a).

¹⁴² 23 CCR § 354.30 (b).

¹⁴³ 23 CCR § 354.26 (d).

4.3.2.1 Chronic Lowering of Groundwater Levels

In addition to components identified in 23 CCR §§ 354.28 (a-b), for the chronic lowering of groundwater, the GSP Regulations require the minimum threshold for chronic lowering of groundwater levels to be the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results that is supported by information about groundwater elevation conditions and potential effects on other sustainability indicators.¹⁴⁴

The Plan establishes sustainable management criteria for chronic lowering of groundwater levels at 11 representative monitoring wells in the Alluvial Aquifer and at 13 representative monitoring wells in the Paso Robles Formation Aquifer.¹⁴⁵ The Plan states that the information and methodology used to establish sustainable management criteria included evaluating interested parties' input on what is considered significant and unreasonable groundwater conditions; historical and current groundwater elevation data; preferred current and future groundwater elevations; and depths and locations of existing wells in the Subbasin.¹⁴⁶

As described in the Plan, "[s]ignificant and unreasonable groundwater levels in the [Subbasin] are those that:

1. Impact ability of existing domestic wells of average depth to produce adequate water for domestic purposes
2. Causes significant financial burden to those who rely on the groundwater Basin
3. Interfere with other SGMA sustainability indicators."¹⁴⁷

The Plan quantitatively defines an undesirable result for chronic lowering of groundwater elevation as follows:

"Over the course of 2 years, no more than two exceedances for the groundwater elevation minimum thresholds within a defined area of the [Subbasin] for any single principal aquifer. A single monitoring well in exceedance for two consecutive years also represents an undesirable result for the area of the [Subbasin] represented by the monitoring well. Geographically isolated exceedances will require investigation to determine if local or [Subbasin] wide actions are required in response."¹⁴⁸

It is not clear to Department staff what "a defined area" of the Subbasin as used in the quantitative definition of undesirable results for chronic lowering of groundwater levels refers to or what it encompasses. The GSA should explain in its Plan what is meant by "a defined area" (see [Recommended Corrective Action 3](#)).

¹⁴⁴ 23 CCR § 354.28(c)(1) *et seq.*

¹⁴⁵ Atascadero Area GSP, Table 8-1, p. 275; Appendix 8B, pp. 833-843; and Appendix 8C, pp. 846-858.

¹⁴⁶ Atascadero Area GSP, Section 8.5.3, p. 271.

¹⁴⁷ Atascadero Area GSP, Section 8.5.2, p. 270.

¹⁴⁸ Atascadero Area GSP, Section 8.5.1.1, pp. 269-270.

The Plan justifies the criteria selected for defining the undesirable result by explaining that it balances the allowance for unanticipated hydrologic conditions and the avoidance of significant and unreasonable conditions for beneficial users.¹⁴⁹ The Plan includes descriptions of potential causes of undesirable results, which include localized excessive pumping clusters, expansion of de minimis pumping, and extensive drought. The Plan also discusses, in general terms, the potential effects of undesirable results on beneficial users and uses.¹⁵⁰

The Plan establishes the minimum thresholds of chronic lowering of groundwater levels at the historical low groundwater elevations.¹⁵¹ The Plan justifies the selected minimum thresholds by stating that the Subbasin is sustainably managed and has not historically had reports of impacted domestic wells during periods when groundwater levels were at their lowest elevations. The Plan states that a domestic well impact analysis was not performed because of a lack of reliable domestic wells information.¹⁵² The Plan identifies this as a data gap that will be addressed during the Plan implementation phase.¹⁵³

The Plan includes descriptions of the relationship between the established groundwater level minimum thresholds to the other sustainability indicators relevant to the Subbasin and general discussion of potential effects of the established minimum thresholds on beneficial uses and users. The GSA does not anticipate the selected minimum thresholds to negatively impact other sustainability indicators or cause significant and unreasonable impacts on beneficial uses and users.¹⁵⁴

Department staff support the GSA's intent to address data gaps related to domestic well information during Plan implementation. However, once the well information data gaps are addressed, staff recommend the GSA assess the potential impacts to supply wells, including domestic wells, at the proposed minimum thresholds for chronic lowering of groundwater levels and document the degree/extent of the potential impacts including the percentage, number, and location of potentially impacted wells (see [Recommended Corrective Action 4a](#)). The GSA may consider utilizing the Department's "Guidance for Sustainable Groundwater Management Act Implementation: Considerations for Identifying and Addressing Drinking Water Well Impacts"¹⁵⁵ to help with the data gap filling efforts.

In addition, the Plan acknowledges the potential presence of beneficial uses/users of shallow groundwater in the Subbasin such as GDEs. However, the Plan does not

¹⁴⁹ Atascadero Area GSP, Section 8.5.1.1, p. 270.

¹⁵⁰ Atascadero Area GSP, Sections 8.5.1.2 and 8.5.1.3, p. 270, and Section 8.5.2, p. 271.

¹⁵¹ Atascadero Area GSP, Section 8.5.3, p. 271.

¹⁵² Atascadero Area GSP, Section 8.5.5.3, p. 277.

¹⁵³ Atascadero Area GSP, Section 8.5.5.3, p. 277.

¹⁵⁴ Atascadero Area GSP, Section 8.5.5.4, pp. 277-278, and Section 8.5.5.6, p. 278.

¹⁵⁵ Department of Water Resources, March 2023: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Files/Considerations-for-Identifying-and-Addressing-Drinking-Water-Well-Impacts_FINAL.pdf.

describe how the established minimum thresholds would impact these shallow groundwater beneficial uses/users. Staff recommend the GSA assess potential impacts on beneficial uses and users of shallow groundwater (see [Recommended Corrective Action 4b](#)).

The Plan sets measurable objectives for chronic lowering of groundwater levels at the approximate midpoint between the historical high and historical low groundwater elevation.¹⁵⁶ The Plan states that the selected measurable objectives provide operational flexibility, represent full conditions that often exist after high flows have recharged the Alluvial Aquifer, and represent the historical groundwater elevations during non-drought periods for the Paso Robles Formation Aquifer.¹⁵⁷ The Plan sets interim milestones in increments of five years to achieve the measurable objectives by 2042. The most recent groundwater elevation data presented on the hydrographs for the representative monitoring wells show that groundwater elevations in the Subbasin are mostly at or above the established measurable objectives,¹⁵⁸ except in the northeastern portion of the Subbasin where groundwater elevations show declining trends and are below the measurable objective (based on data from representative monitoring well 27S/12E-17E001M; however, groundwater elevations in this well are above the minimum thresholds).¹⁵⁹

Despite the recommended corrective action identified, Department staff conclude that the Plan's discussion of sustainable management criteria for groundwater elevations includes sufficient information to understand the GSA's process and rationale, and substantially covers the specific items listed in the GSP Regulations. Staff consider the GSA's objective of maintaining groundwater levels above the historical low groundwater levels in the long term to be a reasonable approach that will help avoid a significant and unreasonable depletion of supply in the Subbasin. Addressing the identified recommended corrective action by the first periodic evaluation of the Plan is acceptable at this time because groundwater levels in the Subbasin are above the established minimum threshold and are not projected to decline to the minimum threshold elevations by the first periodic evaluation. Thus, groundwater conditions and other sustainability indicators are not likely to significantly deteriorate while the GSA works to address the recommended corrective action.

4.3.2.2 Reduction of Groundwater Storage

In addition to components identified in 23 CCR §§ 354.28 (a-b), for the reduction of groundwater storage, the GSP Regulations require the minimum threshold for the reduction of groundwater storage to be a total volume of groundwater that can be withdrawn from the basin without causing conditions that may lead to undesirable results. Minimum thresholds for reduction of groundwater storage shall be supported by the

¹⁵⁶ Atascadero Area GSP, Section 8.5.3, p. 271.

¹⁵⁷ Atascadero Area GSP, Section 8.5.4.1 through 8.5.4.3, p. 272.

¹⁵⁸ Atascadero Area GSP, Appendix 8B and Appendix 8C, pp. 833-858.

¹⁵⁹ Atascadero Area GSP, Appendix 8C, p. 847.

sustainable yield of the basin, calculated based on historical trends, water year type, and projected water use in the basin.¹⁶⁰

The Plan defines the undesirable result for the reduction of groundwater storage as follows: “[d]uring average hydrologic conditions, and as a long-term average over all hydrologic conditions, there shall be no reduction in groundwater storage below the historical low in cumulative groundwater storage that occurred during the historical water budget period in the early 1990’s.”¹⁶¹ The Plan further states that “[g]roundwater storage conditions that are considered significant and unreasonable would include any instance in which cumulative groundwater storage drops below the lowest level in the historic (*sic*) record, -36,000 [acre-feet]”.¹⁶²

It is not clear to Department staff what constitutes “average hydrologic conditions” or how the “long-term average” will be calculated to determine when or if an undesirable result has occurred. Department staff recommend “average hydrogeologic conditions” be defined in the Plan because, without clarification, it will be difficult to assess whether an undesirable result has occurred (see [Recommended Corrective Action 5](#)).

The Plan establishes the minimum threshold for reduction of groundwater storage as “the historical low in cumulative groundwater storage that occurred in the early 1990’s at -36,000 [acre-feet]”.¹⁶³ The Plan states that alfalfa (a high water using crop) was one of the predominate crops grown leading up to the 1990s, after which alfalfa was replaced by vineyards that require less water.¹⁶⁴ The Plan explains that the information and methodology to establish the minimum thresholds included input from interested parties and evaluation of the cumulative change in storage through the historical, current, and projected water budget periods; the sustainable management criteria established for groundwater levels; and the safe yield estimates for the Subbasin.

The Plan sets the measurable objective for reduction of storage as “a net zero change in cumulative groundwater storage”.¹⁶⁵ The Plan does not set interim milestones for the reduction of storage sustainability indicator because “cumulative groundwater storage is currently above the measurable objective value and is projected to stay above based on the future projected water budget”.¹⁶⁶

Despite the identified recommended corrective action, Department staff conclude that the Plan’s discussion and presentation of information for reduction of groundwater storage covers the specific items listed in the GSP Regulations and is commensurate with the level of understanding of the basin setting. Maintaining groundwater storage above the

¹⁶⁰ 23 CCR § 354.28(c)(2).

¹⁶¹ Atascadero Area GSP, Section 8.6.1.1, pp. 279.

¹⁶² Atascadero Area GSP, Section 8.6.2, p. 280.

¹⁶³ Atascadero Area GSP, Section 8.6.3, p. 281 and Figure 8-3, p. 282.

¹⁶⁴ Atascadero Area GSP, Section 8.6.3, p. 281.

¹⁶⁵ Atascadero Area GSP, Section 8.6.4, p. 286.

¹⁶⁶ Atascadero Area GSP, Section 8.6.4.2, p. 287.

historical low volume experienced in the Subbasin is a reasonable approach that will help avoid a significant and unreasonable reduction of groundwater storage. Staff encourage the GSA to address the identified recommended corrective action by the first periodic evaluation.

4.3.2.3 *Seawater Intrusion*

In addition to components identified in 23 CCR §§ 354.28 (a-b), for seawater intrusion, the GSP Regulations require the minimum threshold for seawater intrusion to be defined by a chloride concentration isocontour for each principal aquifer where seawater intrusion may lead to undesirable results.¹⁶⁷

The Plan states that due to the location of the Subbasin, the seawater intrusion sustainability management criteria is not applicable.¹⁶⁸ Department staff consider the GSA's rationale to not establish sustainable management criteria for seawater intrusion to be reasonable and in substantial compliance with the GSP Regulations, given the inland location of the Subbasin.

4.3.2.4 *Degraded Water Quality*

In addition to components identified in 23 CCR §§ 354.28 (a-b), for degraded water quality, the GSP Regulations require the minimum threshold for degraded water quality to be the degradation of water quality, including the migration of contaminant plumes that impair water supplies or other indicator of water quality as determined by the Agency that may lead to undesirable results. The minimum threshold shall be based on the number of supply wells, a volume of water, or a location of an isocontour that exceeds concentrations of constituents determined by the Agency to be of concern for the basin. In setting minimum thresholds for degraded water quality, the Agency shall consider local, state, and federal water quality standards applicable to the basin.¹⁶⁹

The Plan indicates that the primary beneficial uses of groundwater in the Subbasin are drinking water supply (public and private) and agriculture. The Plan leverages existing water quality data available from regulatory monitoring programs operating in the Subbasin to identify constituents of concern for the identified beneficial uses and users.¹⁷⁰ Constituents were identified as being of concern based on their presence at concentrations that exceed regulatory limits, the frequency and extent of the exceedances, the potential to negatively impact beneficial uses and users, and/or if they are a regional concern in the Subbasin.

The Plan establishes sustainable management criteria for degraded water quality for the identified constituents of concern for drinking water supply based on California's Title 22 drinking water regulations (i.e., primary Maximum Contaminant Levels [MCLs] or

¹⁶⁷ 23 CCR § 354.28(c)(3).

¹⁶⁸ Atascadero Area GSP, Section 8.7, p. 287.

¹⁶⁹ 23 CCR § 354.28(c)(4).

¹⁷⁰ Atascadero Area GSP, Section 8.8, pp. 287-288.

secondary Maximum Contaminant Levels [SMCLs]). The identified constituents of concern for drinking water supply wells include arsenic, gross alpha, nitrate, selenium, chloride, sulfate, iron, manganese, and TDS. For irrigation water supply, the Plan establishes sustainable management criteria for the identified constituents of concern – boron, chloride, nitrate, sulfate, sodium, and TDS – based on the water quality objectives (WQOs) designated in the Water Quality Control Plan for the Central Coast Basin.¹⁷¹

The Plan describes significant and unreasonable degraded water quality conditions as “[a]n increase in constituent concentrations that may result in:

- 1) reduced public water supply capacity or significant increase in costs for public or private water supply
- 2) reduced crop production.”¹⁷²

The Plan defines an undesirable result for degraded water quality as follows: “[o]n average for any year, an increase in groundwater quality minimum threshold exceedances at 10 percent of the representative monitoring sites, in relation to 2015 [Subbasin] conditions, as a result of projects and management actions implemented as part of the GSP.”¹⁷³ It is not clear to Department staff what “on average” means or how that will be determined in assessing whether undesirable results associated with degraded water have occurred. The Plan should clarify what constitutes “on average” in the context of determining whether an undesirable result for degraded water has occurred (see [Recommended Corrective Action 6a](#)).

Additionally, the Plan’s definition of undesirable results for degraded water quality, which solely focuses on water quality impacts caused directly by the GSA implementing projects and management actions, is contrary to what is required by SGMA and its regulations. SGMA includes in its definition of undesirable results the “significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.”¹⁷⁴ SGMA specifies that the significant and unreasonable effects are those “caused by groundwater conditions occurring throughout the basin,” but does not limit them to impacts caused by basin management under the Plan. As currently defined, if, for instance, a minimum threshold exceedance occurs because of mobilization of naturally occurring constituents or migration of a contaminant plume to supply wells caused by groundwater pumping, but the GSA has not implemented any pumping regulations, the GSA would not identify this as an undesirable result. Staff consider this to be inconsistent with the intent of SGMA, which requires GSAs to ensure management of groundwater conditions in the Subbasin, including any action taken by the GSA, will not significantly and unreasonably degrade water quality. Therefore, degraded water quality caused by groundwater pumping, whether the GSA have implemented pumping

¹⁷¹ Atascadero Area GSP, Section 8.8, pp. 287-288.

¹⁷² Atascadero Area GSP, Section 8.8.1.1, p. 289.

¹⁷³ Atascadero Area GSP, Section 8.8.1, p. 289.

¹⁷⁴ Water Code § 10721(x)(4).

regulations or not, should be considered in the assessment of undesirable results in the Subbasin. Department staff recommend that the GSA revise the definition of undesirable results such that groundwater pumping, whether due to action or inaction of the GSA with respect to Subbasin management, is considered in the undesirable result definition, or the GSA should explain why it excludes minimum threshold exceedances that may result from unregulated groundwater pumping in the Subbasin, in the definition of undesirable results (see [Recommended Corrective Action 6b](#)).

The Plan includes descriptions of groundwater conditions that would lead to undesirable results associated with degraded water quality¹⁷⁵ and potential effects of undesirable results associated with degraded water quality on beneficial uses and users.¹⁷⁶

The Plan sets the minimum thresholds for degraded water quality for public and private drinking water supply wells at the drinking water MCLs or SMCLs and for irrigation water supply wells at the WQOs.¹⁷⁷ The Plan includes in tabular format, the regulatory standards that will be used as minimum thresholds at each representative monitoring well.¹⁷⁸

The measurable objectives for degraded water quality are set “above state and federal drinking water standards as well as WQOs as defined in the Water Quality Control Plan (RWQCB 2019) or current conditions.”¹⁷⁹ The Plan states that the Subbasin is currently considered sustainable and the minimum thresholds and measurable objectives are set to maintain current conditions; thus, interim milestones are not required.

The Plan does not provide the concentration values that will be used as measurable objectives at each representative monitoring well, nor does the Plan provide the concentration values at the “current conditions” that will be used to assess sustainability. Furthermore, the measurable objective for degraded water quality as defined in the Plan is unclear to staff because the language “above state and federal drinking standards as well as WQOs” may imply that the measurable objectives are set at concentration values higher than, or exceeding, the MCLs or WQOs values, which would not support beneficial use as intended by the Plan.¹⁸⁰ For clarity, the Plan should include the concentration values (i.e., numerical values) that will be used as the measurable objective at each representative monitoring well (see [Recommended Corrective Action 6c](#)).

Despite the recommended corrective actions identified, the Plan’s discussion of the established sustainable management criteria for degraded water quality appears to use the best available information and science and substantially covers the specific items listed in the GSP regulations. Addressing the recommended corrective actions by the first

¹⁷⁵ Atascadero Area GSP, Section 8.8.1.2, p. 290.

¹⁷⁶ Atascadero Area GSP, Section 8.8.1.3, p. 290.

¹⁷⁷ Atascadero Area GSP, Section 8.8.2, p. 291.

¹⁷⁸ Atascadero Area GSP, Table 8-2, p. 291, Table 8-3, pp. 292-294, and Table 8-4, p. 295.

¹⁷⁹ Atascadero Area GSP, Section 8.8.3, p. 297 and 8.8.3.1, p. 298.

¹⁸⁰ Atascadero Area GSP, Section 8.8.3.1, p. 298.

periodic evaluation is considered acceptable at this time because the GSA has set the minimum thresholds for degraded water quality at regulatory standards that are intended to be protective of beneficial uses and users. Additionally, the GSA is not planning to lower groundwater levels in the Subbasin; thus, groundwater conditions and other sustainability indicators such as degraded water quality are not likely to significantly deteriorate while the GSA works to address the recommended corrective actions.

4.3.2.5 Land Subsidence

In addition to components identified in 23 CCR §§ 354.28 (a-b), the GSP Regulations require the minimum threshold for land subsidence to be the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results.¹⁸¹ Minimum thresholds for land subsidence shall be supported by identification of land uses and property interests that have been affected or are likely to be affected by land subsidence in the basin, including an explanation of how the Agency has determined and considered those uses and interests, and the Agency's rationale for establishing minimum thresholds in light of those effects and maps and graphs showing the extent and rate of land subsidence in the basin that defines the minimum thresholds and measurable objectives.¹⁸²

As stated in the Plan, significant and unreasonable conditions of land subsidence are “[p]ermanent land subsidence, as a result of groundwater management under the GSP, that adversely effects critical infrastructure or land use.”¹⁸³ The Plan qualitatively defines an undesirable result for land subsidence as: “[o]bserved subsidence within the [Subbasin], as a result groundwater management under [the] GSP, that interferes with critical infrastructure or surface land use.”¹⁸⁴ It is unclear to Department staff what “as a result of groundwater management under the GSP” means or what aspects of groundwater management are being considered in this context. However, based on the Plan's discussion of how land subsidence will be assessed in relation to the minimum threshold, Department staff infer that “as a result of groundwater management under the GSP” means land subsidence that is caused by the lowering of groundwater levels in the Subbasin due to groundwater pumping.

The Plan does not describe the critical infrastructure or land uses in the Subbasin that may be impacted by land subsidence nor does the Plan define criteria that will be used to determine whether undesirable results due to land subsidence have occurred or are occurring. Department staff recommend the GSA include in its Plan, descriptions of critical infrastructure and surface land uses in the Subbasin that may be impacted by land subsidence (see [Recommended Corrective Action 7a](#)). Staff also recommend the GSA define criteria that will be used to determine when and where effects of land subsidence cause undesirable results, which should be based on a quantitative description of the

¹⁸¹ 23 CCR § 354.28(c)(5).

¹⁸² 23 CCR §§ 354.28(c)(5)(A-B).

¹⁸³ Atascadero Area GSP, Section 8.9.1.1, p. 299.

¹⁸⁴ Atascadero Area GSP, Section 8.9.1, p. 299.

combination of minimum threshold exceedances that cause significant and unreasonable effects in the Subbasin (see [Recommended Corrective Action 7b](#))

The Plan identifies increased pumping or changes in the location of pumping that results in groundwater declining below the historical lows as potential causes of land subsidence that could lead to undesirable results.¹⁸⁵ Potential effects of undesirable results related to land subsidence on beneficial users and land uses identified in the Plan include damage to critical infrastructure that limits use and adversely affects surface land uses.¹⁸⁶ The Plan does not anticipate land subsidence occurring in the Subbasin as the planned groundwater management objective is to maintain groundwater levels above historical lows.¹⁸⁷

The Plan states that because the Subbasin has not historically experienced land subsidence, the minimum threshold for land subsidence shall be any observed subsidence as a result of groundwater management.¹⁸⁸ The Plan explains that observed changes in land surface of 0.1 feet (InSAR measurement error) or greater will be considered potential subsidence. The Plan adds that “[i]f any subsidence is observed, there must be a correlation to lowering groundwater levels for a minimum threshold to be exceeded. Since there is no historical evidence of subsidence within the Basin, groundwater levels would need to drop below historic lows for pumping for subsidence to occur. Minimum thresholds for subsidence shall be evaluated by lowering land surface elevations by 0.1 feet and a decline in water levels below historic lows (or a groundwater levels minimum threshold exceedance).”¹⁸⁹

The Plan quantitatively defines the minimum threshold for land subsidence as follows: “[m]easured subsidence, using InSAR data, between June of 1 year and June of the subsequent year shall be no more than 0.1 foot in any 1-year and a cumulative 0.5 foot in any 5-year period, as a result of groundwater management under the GSP, and shall not result in long-term permanent subsidence.”¹⁹⁰ Department staff consider the use of the word “and” in the definition of the minimum threshold for land subsidence to be problematic as it seems to imply that both conditions (i.e., “no more than 0.1 foot in any 1-year” and “a cumulative 0.5 foot in any 5-year period”) must be met for the GSA to acknowledge that the minimum threshold for land subsidence has been exceeded. As defined, a land subsidence measurement of 0.4 foot that occurs in one year would not be considered an exceedance of the minimum threshold because the second condition (i.e., cumulative of 0.5 foot in any 5-year period) has not been met. Staff recommend the GSA change “and” to “or”, or clarify the relevance of the first condition (i.e., no more than 0.1

¹⁸⁵ Atascadero Area GSP, Section 8.9.1.2, p. 299.

¹⁸⁶ Atascadero Area GSP, Section 8.9.1.3, p. 299.

¹⁸⁷ Atascadero Area GSP, Section 8.9.1.2 and 8.9.1.3, p. 299.

¹⁸⁸ Atascadero Area GSP, Section 8.9.2, p. 300.

¹⁸⁹ Atascadero Area GSP, Section 8.9.2.1, p. 301.

¹⁹⁰ Atascadero Area GSP, Section 8.9.2, p. 300.

foot in any 1-year) in the minimum threshold definition (see [Recommended Corrective Action 7c](#)).

The Plan includes discussion of effects of the selected minimum threshold on other sustainability indicators and on beneficial uses and users. Because the minimum threshold is set to avoid any long-term subsidence, the Plan does not expect a negative impact on other sustainable indicators and on beneficial users and uses of groundwater.¹⁹¹

The Plan defines the measurable objective for land subsidence as “managing subsidence at a rate of 0 feet/year as a result of groundwater management.”¹⁹² Because there has been no historical subsidence observed in the Subbasin and the measurable objectives are set to maintain current conditions, the Plan states that interim milestones are not necessary to reach sustainability.¹⁹³

Department staff conclude that the Plan’s discussion of land subsidence substantially covers the specific items listed in the GSP regulations and is based on the best available information and science. Department staff are aware of no significant inconsistencies or contrary information to that presented in the Plan and, therefore, have no significant concerns regarding the discussion of this subject in the Plan. Staff encourage the GSA to revise or clarify the minimum threshold definition as identified in the recommended corrective action, by the first periodic evaluation of the Plan.

4.3.2.6 Depletions of Interconnected Surface Water

SGMA defines undesirable results for the depletion of interconnected surface water as those that have significant and unreasonable adverse impacts on beneficial uses of surface water and are caused by groundwater conditions occurring throughout the basin.¹⁹⁴ The GSP Regulations require that a Plan identify the presence of interconnected surface water systems in the basin and estimate the quantity and timing of depletions of those systems.¹⁹⁵ The GSP Regulations further require that minimum thresholds be set based on the rate or volume of surface water depletions caused by groundwater use, supported by information including the location, quantity, and timing of depletions, that adversely impact beneficial uses of the surface water and may lead to undesirable results.¹⁹⁶

The Plan acknowledges the presence of interconnected surface waters in the Subbasin and identifies their location by evaluating groundwater levels adjacent to the Salinas

¹⁹¹ Atascadero Area GSP, Section 8.9.2.2 and 8.9.2.4, p. 301.

¹⁹² Atascadero Area GSP, Section 8.9.3, p. 302.

¹⁹³ Atascadero Area GSP, Section 8.9.3.2, p. 302.

¹⁹⁴ Water Code § 10721(x)(6).

¹⁹⁵ 23 CCR § 354.16 (f).

¹⁹⁶ 23 CCR § 354.28 (c)(6).

River. Department staff are satisfied that the GSA has adopted a reasonable approach to identify the location of interconnected surface waters in the Subbasin.

The Plan estimates the annual average stream percolation into the groundwater system to be 7,100 acre-feet (with a minimum of 1,100 acre-feet and a maximum of 27,200 acre-feet).¹⁹⁷ However, the Plan does not quantify the rate or volume of surface water depletions due to groundwater pumping as the sustainable management criteria, as required by the GSP Regulations.¹⁹⁸ Instead, the Plan proposes to use the chronic lowering of groundwater levels sustainability indicator as a proxy for depletions of interconnected surface water

The Plan justifies the use of groundwater levels a proxy for depletions of interconnected surface water based on the following reasons: the “Live Stream” requirements for the Salinas River and managing the Subbasin within historical groundwater levels are unlikely to lead to undesirable results for depletions of interconnected surface water. In addition, the future percolation of surface water as determined by the water budget is expected to be less than historical percolation values. Therefore, the Plan deems the minimum thresholds and measurable objectives established for groundwater levels to be appropriate as a proxy for depletions of interconnected surface water.¹⁹⁹ However, the Plan has not provided an analysis to show the correlation between groundwater levels and depletions of interconnected surface water, nor provided technical data/justification for the use of groundwater levels as a proxy for quantifying the location, quantity, and timing of depletions of interconnected surface water due to groundwater pumping. Therefore, the Plan has not demonstrated by adequate evidence that groundwater elevation can serve as a sustainability indicator for the depletions of interconnected surface water.

According to the Plan, “[s]ignificant and unreasonable conditions as it pertains to interconnected surface water are lowering of groundwater levels below minimum thresholds that significantly impacts interconnected surface water and the ability to meet stream level and flow requirements or interfere with SGMA sustainability indicators.”²⁰⁰ Undesirable results associated with depletions of interconnected surface water due to pumping described in the Plan include reduced ability of surface water flows to meet in-stream flow requirements; negative impacts on riparian habitat, fisheries, and migration, spawning, and rearing of aquatic organisms; and negative impacts on recreational opportunities.

Staff understand that quantifying depletions of surface water from groundwater pumping is a complex task that likely requires developing new, specialized tools, models, and methods to understand local hydrogeologic conditions, interactions, and responses.

¹⁹⁷ Atascadero Area GSP, Table 6-2, p. 193.

¹⁹⁸ 23 CCR § 354.28 (c)(6).

¹⁹⁹ Atascadero Area GSP, Section 8.10.3, p. 304.

²⁰⁰ Atascadero Area GSP, Section 8.10.2, p. 304.

During the initial review of GSPs, Department staff have observed that most GSAs have struggled with this new requirement of SGMA. However, staff believe that most GSAs will more fully comply with regulatory requirements after several years of Plan implementation that includes projects and management actions to address the data gaps and other issues necessary to understand, quantify, and manage depletions of interconnected surface waters. Accordingly, Department staff believes that affording GSAs adequate time to refine their Plans to address interconnected surface waters is appropriate and remains consistent with SGMA's timelines and local control preferences.

The Department will continue to support GSAs in this regard by providing, as appropriate, financial and technical assistance to GSAs, including the available technical papers²⁰¹ which describe the appropriate methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water caused by groundwater pumping. Once the Department's guidance related to depletions of interconnected surface water is publicly available, the GSA, where applicable, should consider incorporating appropriate guidance approaches into their future periodic evaluations to the GSP (see [Recommended Corrective Action 8a](#)). GSAs should consider availing themselves of the Department's financial or technical assistance, but in any event must continue to fill data gaps, collect additional monitoring data, and implement strategies to better understand and manage depletions of interconnected surface water caused by groundwater pumping and define segments of interconnectivity and timing within their jurisdictional area (see [Recommended Corrective Action 8b](#)). Furthermore, GSAs should coordinate with local, state, and federal resources agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion (see [Recommended Corrective Action 8c](#)).

4.4 MONITORING NETWORK

The GSP Regulations describe the monitoring network that must be developed for each sustainability indicator including monitoring objectives, monitoring protocols, and data reporting requirements. Collecting monitoring data of a sufficient quality and quantity is necessary for the successful implementation of a groundwater sustainability plan. The GSP Regulations require a monitoring network of sufficient quality, frequency, and distribution to characterize groundwater and related surface water conditions in the basin and evaluate changing conditions that occur through implementation of the Plan.²⁰² Specifically, a monitoring network must be able to monitor impacts to beneficial uses and users,²⁰³ monitor changes in groundwater conditions relative to measurable objectives and minimum thresholds,²⁰⁴ capture seasonal low and high conditions,²⁰⁵ include required information such as location and well construction and include maps and tables

²⁰¹ Department of Water Resources, 2024: [Paper 1](#), [Paper 2](#), and [Paper 3](#).

²⁰² 23 CCR § 354.32.

²⁰³ 23 CCR § 354.34(b)(2).

²⁰⁴ 23 CCR § 354.34(b)(3).

²⁰⁵ 23 CCR § 354.34(c)(1)(B).

clearly showing the monitoring site type, location, and frequency.²⁰⁶ Department staff encourage GSAs to collect monitoring data as specified in the Plan, follow SGMA data and reporting standards,²⁰⁷ fill data gaps identified in the Plan prior to the first periodic evaluation,²⁰⁸ update monitoring network information as needed, follow monitoring best management practices,²⁰⁹ and submit all monitoring data to the Department's Monitoring Network Module immediately after collection including any additional groundwater monitoring data that is collected within the Plan area that is used for groundwater management decisions. Department staff note that if GSAs do not fill their identified data gaps, the GSA's basin understanding may not represent the best available science for use to monitor basin conditions.

The Plan describes monitoring networks for the five sustainability indicators relevant to the Subbasin: chronic lowering of groundwater levels, reduction in groundwater storage, degraded water quality, land subsidence, and depletions of interconnected surface water. The Plan relies on existing monitoring networks and programs operating in the Subbasin to establish monitoring networks for evaluating sustainable management criteria established for the Subbasin.²¹⁰ Representative monitoring wells are a subset of existing wells and were selected based on their geographic distribution, whether they are currently being monitored, have available well construction information and a reasonably long historical monitoring record, and are not subject to confidentiality agreements.²¹¹

According to the Plan, the groundwater level monitoring network consists of 26 wells: 12 wells in the Alluvial Aquifer and 14 wells in the Paso Robles Formation Aquifer.²¹² However, Department staff note that the information uploaded to the Department's Monitoring Network Module shows a total of 24 wells within the groundwater level monitoring network. Staff recommend the GSA reconcile this discrepancy.

The Plan recognizes that although the number of representative monitoring wells selected for monitoring groundwater levels exceeds the range of density of monitoring wells recommended by the Department's Best Management Practices,²¹³ additional monitoring sites are necessary to improve spatial coverage within the Paso Robles Formation Aquifer (in the northwestern and southern portions of the Subbasin) and within the Alluvial Aquifer (near Garden Farms in the southern portion of the Subbasin). The Plan identifies the lack of sufficient spatial coverage in these areas as data gaps that will be addressed during Plan implementation.²¹⁴

²⁰⁶ 23 CCR §§ 354.34(g-h).

²⁰⁷ 23 CCR § 352.4 *et seq.*

²⁰⁸ 23 CCR § 354.38(d).

²⁰⁹ Department of Water Resources, 2016, [Best Management Practices and Guidance Documents](#).

²¹⁰ Atascadero Area GSP, Section 7.1.1, pp. 229-230.

²¹¹ Atascadero Area GSP, Section 7.2, pp. 231-232.

²¹² Atascadero Area GSP, Section 7.2, p. 232 and Table 7-1, p. 233.

²¹³ Department of Water Resources, 2016, [Monitoring Networks and Identification of Data Gaps BMP](#).

²¹⁴ Atascadero Area GSP, Section 7.2, p. 232 and Figure 7-1, p. 235.

The Plan indicates that groundwater level monitoring in the Subbasin is currently conducted twice a year, in April and October. A program to increase monitoring frequency may be considered during Plan implementation to better determine seasonal high and low groundwater elevations and monitor groundwater response to management actions. The monitoring frequency could potentially be increased by installing continuous dataloggers in wells. The Plan also aims to improve accuracies of reference point elevation for the monitoring wells during the Plan implementation phase.²¹⁵

The Plan will use the monitoring network established for groundwater levels to monitor and evaluate reduction of groundwater storage in the Subbasin.²¹⁶ The GSA intends to estimate and track changes in cumulative groundwater storage by using changes in groundwater elevation data and the best available estimate of specific yield for the Subbasin's aquifer material (i.e., multiplying the volumetric storage difference between contoured groundwater elevations by the specific yield of the aquifer material). The cumulative groundwater storage for each year will be reported in relation to the minimum threshold established for reduction of groundwater storage.²¹⁷

The monitoring network and frequency for evaluating degradation of groundwater water quality are established based on existing water quality regulatory programs operating in the Subbasin: State Water Resource Control Board's (SWRCB's) Division of Drinking Water Program, Central Coast Water Board's Irrigated Lands Regulatory Program (ILRP), and SWRCB's/Central Coast Water Board's Site Cleanup Program.²¹⁸ The Plan proposes to use four sets of wells (i.e., public supply wells, domestic supply wells, irrigation supply wells, and monitoring wells) that are routinely sampled under the respective regulatory program. Within each set of wells, a specific number of constituents of concern will be monitored. In total, the monitoring network consists of 54 public water supply wells (26 wells in the Alluvial Aquifer and 28 wells in the Paso Robles Formation Aquifer); 24 domestic supply wells; 49 irrigation supply wells; and 55 monitoring wells (completed in the Alluvial Aquifer). The Plan states that well completion information for the ILRP wells (i.e., domestic wells and irrigation supply wells) is unknown and identifies this as a data gap that will be addressed during the first five years of Plan implementation.²¹⁹

The GSA intends to utilize the Department's InSAR remote sensing dataset to monitor and evaluate land subsidence in the Subbasin.²²⁰ Department staff believe the InSAR dataset provides good spatial coverage and is likely the best available tool for monitoring land subsidence in the Subbasin at this time.

For monitoring and evaluating depletions of interconnected surface water, the GSA plans to use a subset of the groundwater level monitoring wells adjacent to the Salinas River.

²¹⁵ Atascadero Area GSP, Section 7.2.1, pp. 237-238.

²¹⁶ Atascadero Area GSP, Section 7.3, p. 241.

²¹⁷ Atascadero Area GSP, Section 8.6.3.1, 285.

²¹⁸ Atascadero Area GSP, Section 7.4, p. 242.

²¹⁹ Atascadero Area GSP, Section 7.4, pp. 242-243, and Section 9.1.1.2, p. 311.

²²⁰ Atascadero Area GSP, Section 7.5, p. 257.

The monitoring network proposed consists of nine Alluvial Aquifer wells and five Paso Robles Formation Aquifer wells (for a total of 14 wells) that will be used to obtain groundwater level data adjacent to the Salinas River.²²¹

Department staff note that the majority of groundwater level monitoring wells proposed for monitoring depletions of interconnected surface water have relatively deep well screens and may not provide reliable indication of the water table near the ground surface. As additional data is gathered to improve understanding of depletions of interconnected surface water in the Subbasin and sustainable management criteria for depletions of interconnected surface water are potentially revised (per [Recommended Corrective Actions 8a, 8b, and 8c](#)), the GSA will need to refine and/or expand the monitoring network as necessary, to adequately characterize the spatial and temporal exchanges between surface water and groundwater in the Subbasin.

The GSA intends to incorporate information for surface water conditions that is obtained by the county of San Luis Obispo for the Salinas Reservoir releases and the “Live Stream” surveys, to assess depletion of interconnected surface water.²²² The Plan states that currently, there are no surface water gaging stations located within the Subbasin; an existing USGS stream gauge station is located outside the Subbasin’s boundary, in the city of Atascadero. The Plan identifies this as a data gap that will be evaluated during Plan implementation.²²³ The Plan also identifies the potential need to increase the monitoring frequency for groundwater levels, especially during spring months, as something that will be evaluated during GSP implementation.²²⁴

Department staff conclude that the description of the monitoring networks included in the Plan substantially complies with the requirements outlined in the GSP Regulations. At this time, the Plan describes in sufficient detail an initial monitoring network that promotes the collection of data of sufficient quality, frequency, and distribution, to characterize groundwater conditions in the Subbasin and evaluate changing conditions that occur through Plan implementation. The Plan also describes existing data gaps and the GSA’s intention to fill the data gaps and improve the monitoring networks. Department staff will evaluate the GSA’s progress of filling data gaps through annual reporting and periodic evaluations.

4.5 PROJECTS AND MANAGEMENT ACTIONS

The GSP Regulations require a description of the projects and management actions the submitting Agency has determined will achieve the sustainability goal for the basin, including projects and management actions to respond to changing conditions in the basin.²²⁵ Each Plan’s description of projects and management actions must include

²²¹ Atascadero Area GSP, Section 7.6.1, p. 258.

²²² Atascadero Area GSP, Section 7.6.1, p. 258.

²²³ Atascadero Area GSP, Section 7.6.1, p. 258.

²²⁴ Atascadero Area GSP, Section 7.6.1, p. 258.

²²⁵ 23 CCR § 354.44 (a).

details such as: how projects and management actions in the GSP will achieve sustainability, the implementation process and expected benefits, and prioritization and criteria used to initiate projects and management actions.²²⁶

The Plan states that the Subbasin is currently managed sustainably; therefore, projects and management actions are not currently required to achieve sustainability.²²⁷ Nonetheless, the Plan includes projects and management actions that are ongoing or will be implemented/improved as needed to adaptively respond to changing conditions and avoid undesirable results from occurring. The projects and management actions focus largely on data gap filling efforts to improve understanding of the groundwater system; enhancing overall water management in the Subbasin; and continuing the existing groundwater recharge practices through the use of imported water from the Nacimiento Water Project.

The projects described in the Plan include the following:

- Supplement the Monitoring Network:
 - Groundwater Level Monitoring Improvements²²⁸
 - Groundwater Quality Monitoring Improvements²²⁹
 - Identify New Monitoring Wells for Incorporation into the Groundwater Level Monitoring Network²³⁰
- Develop a Groundwater Model²³¹

The management actions described in the Plan include:

- Basin-Wide Management Actions:
 - Monitoring, Reporting, and Outreach²³²
 - De Minimis Self-Certification²³³
 - Non-De Minimis Extraction and Reporting Program²³⁴
 - Annual Reports²³⁵
 - 5-Year GSP Updates and Amendments²³⁶
 - Develop Public Data Portals and Coordinate on Data²³⁷
 - Continued Groundwater Dependent Ecosystems Evaluation²³⁸

²²⁶ 23 CCR § 354.44 (b) *et seq.*

²²⁷ Atascadero Area GSP, Section 9, p. 309.

²²⁸ Atascadero Area GSP, Section 9.1.1.1, pp. 310-311.

²²⁹ Atascadero Area GSP, Section 9.1.1.2, p. 311.

²³⁰ Atascadero Area GSP, Section 9.1.1.3, pp. 311-312.

²³¹ Atascadero Area GSP, Section 9.1.2, p. 312.

²³² Atascadero Area GSP, Section 9.2.1.1, pp. 313-314.

²³³ Atascadero Area GSP, Section 9.2.1.2, p. 314.

²³⁴ Atascadero Area GSP, Section 9.2.1.3, p. 314.

²³⁵ Atascadero Area GSP, Section 9.2.1.4, p. 314.

²³⁶ Atascadero Area GSP, Section 9.2.1.5, p. 314.

²³⁷ Atascadero Area GSP, Section 9.2.1.6, pp. 314-315.

²³⁸ Atascadero Area GSP, Section 9.2.1.7, p. 315.

- Estimation of Groundwater Uses²³⁹
- Specific Management Actions:
 - Supplemental Supplies from Nacimiento Water Project²⁴⁰

Consistent with the GSP Regulations, the descriptions for the projects and management actions contain information regarding the circumstances for implementation, permitting and regulatory process requirements (where applicable), public noticing process, timetable for implementation, estimated costs, legal authority under which the projects and management action will be implemented, and expected benefits.

The expected benefits described are primarily qualitative, except for the “Supplemental Supplies from the Nacimiento Water Project” management action, which has quantifiable benefits. The Plan states that during the current water budget period (2012 to 2016), deliveries from the Nacimiento Water Project have ranged from 730 to 4,790 acre-feet per year, averaging 2,160 acre-feet per year.²⁴¹ The Plan further states that additional supplies, up to the allocated amounts, could be imported to support groundwater pumping during dry years – the Atascadero Mutual Water Company has an allocation of 3,244 acre-feet per year, the Templeton Community Services District an allocation of 406 acre-feet per year, the City of Paso Robles an allocation of 6,488 acre-feet per year, and the Santa Margarita Ranch Mutual Water Company has an allocation of 80 acre-feet per year.²⁴² A reliability study conducted for the Nacimiento Reservoir concluded that the reservoir could always meet the Nacimiento Water Project demands even during short-term droughts.²⁴³ Therefore, the Plan deems the Nacimiento Water Project to be a reliable water supply source for the Subbasin.

Department staff conclude that generally, the Plan describes projects and management actions in a manner that substantially complies with the GSP Regulations. The projects and management actions present what appears to be a feasible approach to help manage groundwater sustainably in the Subbasin. The Subbasin has not historically been in overdraft, nor is the Subbasin projected to be in overdraft in the future. The Subbasin relies on water obtained from the Salinas River and the Nacimiento Water Project to recharge and maintain groundwater levels. However, because groundwater levels in the Subbasin are also influenced by pumping, in addition to climate and recharge from the Salinas River and Nacimiento Water Project, staff recommend the GSA consider incorporating other measures such as demand reduction projects/management actions as a contingency plan to respond to unexpected extreme climate conditions and/or changes in imported water supplies, especially in areas of the Subbasin where declining

²³⁹ Atascadero Area GSP, Section 9.2.1.8, p. 315.

²⁴⁰ Atascadero Area GSP, Section 9.2.2.1, pp. 315-316.

²⁴¹ Atascadero Area GSP, Section 9.2.2.1, pp. 315-316.

²⁴² Atascadero Area GSP, Section 4.7.1, p. 127.

²⁴³ Atascadero Area GSP, Section 3.6.2.1, p. 83.

groundwater level trends are observed, such as in the northeastern portion of the Subbasin (based on the information presented in the Plan).

4.6 CONSIDERATION OF ADJACENT BASINS/SUBBASINS

SGMA requires the Department to "...evaluate whether a groundwater sustainability plan adversely affects the ability of an adjacent basin to implement their groundwater sustainability plan or impedes achievement of sustainability goals in an adjacent basin."²⁴⁴ Furthermore, the GSP Regulations state that minimum thresholds defined in each GSP be designed to avoid causing undesirable results in adjacent basins or affecting the ability of adjacent basins to achieve sustainability goals.²⁴⁵

The Atascadero Area Subbasin has one adjacent subbasin – the Paso Robles Area Subbasin. The Paso Robles Area Subbasin is designated as high-priority and thus is subject to SGMA and required to be managed under a GSP. The Atascadero Area Subbasin is separated from the Paso Robles Area Subbasin by the Rinconada Fault, which is reported to form a leaky hydraulic barrier between the two subbasins. The Plan includes an analysis of potential impacts to the adjacent subbasin with the defined minimum thresholds for each applicable sustainability indicator. The Plan does not anticipate any negative impacts to the adjacent subbasin resulting from the minimum thresholds defined in the Plan.

Department staff will continue to review periodic evaluations of the Plan to assess whether implementation of the Atascadero Area Subbasin GSP is potentially impacting the adjacent subbasin.

4.7 CONSIDERATION OF CLIMATE CHANGE AND FUTURE CONDITIONS

The GSP Regulations require a GSA to consider future conditions and project how future water use may change due to multiple factors including climate change.²⁴⁶

Since the GSP was adopted and submitted, climate change conditions have advanced faster and more dramatically. It is anticipated that the hotter, drier conditions will result in a loss of 10% of California's water supply. As California adapts to a hotter, drier climate, GSAs should be preparing for these changing conditions as they work to sustainably manage groundwater within their jurisdictional areas. Specifically, the Department encourages GSAs to:

1. Explore how their proposed groundwater level thresholds have been established in consideration of groundwater level conditions in the basin based on current and future drought conditions.

²⁴⁴ Water Code § 10733(c).

²⁴⁵ 23 CCR § 354.28(b)(3).

²⁴⁶ 23 CCR § 354.18.

2. Explore how groundwater level data from the existing monitoring network will be used to make progress towards sustainable management of the basin given increasing aridification and effects of climate change, such as prolonged drought.
3. Take into consideration changes to surface water reliability and that impact on groundwater conditions.
4. Evaluate updated watershed studies that may modify assumed frequency and magnitude of recharge projects, if applicable, and
5. Continually coordinate with the appropriate groundwater users, including but not limited to domestic well owners and state small water systems, and the appropriate overlying county jurisdictions developing drought plans and establishing local drought task forces to evaluate how their Plan's groundwater management strategy aligns with drought planning, response, and mitigation efforts within the basin.

5 STAFF RECOMMENDATION

Department staff recommend approval of the GSP with the recommended corrective actions listed below. The Atascadero Area GSP conforms with Water Code Sections 10727.2 and 10727.4 of SGMA and substantially complies with the GSP Regulations. Implementation of the GSP will likely achieve the sustainability goal for the Atascadero Area Basin. The GSA has identified several areas for improvement of its Plan and Department staff concur that those items are important and should be addressed as soon as possible. Department staff have also identified additional recommended corrective actions that should be considered by the GSA for the first periodic evaluation of its GSP. Addressing these recommended corrective actions will be important to demonstrate that implementation of the Plan is likely to achieve the sustainability goal.

The recommended corrective actions include:

RECOMMENDED CORRECTIVE ACTION 1

Provide a timeline for addressing data gaps related to improving understanding of the Rinconada Fault as a barrier to groundwater flow and vertical gradients in the Subbasin.

RECOMMENDED CORRECTIVE ACTION 2

Provide supporting data for the groundwater elevation and elevations of the Salinas River thalweg used in the analysis of interconnected surface water.

RECOMMENDED CORRECTIVE ACTION 3

Explain what "a defined area" as used in the criteria to quantitatively define undesirable results for chronic lowering of groundwater levels refers to.

RECOMMENDED CORRECTIVE ACTION 4

Address the following items related to the minimum thresholds established for chronic lowering of groundwater levels:

- a. Assess potential impacts to supply wells, including domestic wells, at the proposed minimum thresholds for chronic lowering of groundwater levels and document the degree/extent of the potential impacts including the percentage, number, and location of potentially impacted wells.
- b. Assess potential impacts on beneficial uses and users of shallow groundwater (e.g., GDEs) that may be impacted by the established minimum thresholds for chronic lowering of groundwater levels.

RECOMMENDED CORRECTIVE ACTION 5

Define what constitutes “average hydrogeologic conditions” and how the “long-term average over all hydrogeologic conditions” will be calculated for the consideration of undesirable results for reduction of groundwater storage.

RECOMMENDED CORRECTIVE ACTION 6

Address the following items related to the sustainable management criteria for degraded water quality:

- a. Define what constitutes “on average” and how it will be determined for the evaluation of undesirable results for degraded water quality.
- b. Revise the definition of undesirable results for degraded groundwater quality so that exceedances of minimum thresholds caused by groundwater pumping, whether the GSA has implemented pumping regulations or not, are considered in the assessment of undesirable results in the Subbasin.
- c. Provide the concentration values (i.e., numerical values) that will be used as the measurable objective at each representative monitoring well for the identified constituents of concern.

RECOMMENDED CORRECTIVE ACTION 7

Address the following items related to sustainable management criteria for land subsidence:

- a. Describe critical infrastructure and surface land uses in the Subbasin that may be impacted by land subsidence.
- b. Define criteria that will be used to define when and where the effects of land subsidence cause undesirable results, which should be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the Subbasin.

- c. Revise “and” to “or” in the definition of the minimum threshold for land subsidence or explain why an exceedance of 0.1 foot in any one year would not be considered an exceedance (by itself) unless a cumulative exceedance of 0.5 foot over a 5-year period has also occurred.

RECOMMENDED CORRECTIVE ACTION 8

Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department’s ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.

In addition, the GSA should work to address the following items by the first periodic evaluation of the Plan:

- a. Consider using, as appropriate, the technical papers released by the Department on methods for determining the location, quantity, and timing of interconnected surface water depletion due to ongoing Subbasin-wide groundwater pumping, and guidance when issued by the Department, to establish quantifiable minimum thresholds, measurable objectives, and management actions.
- b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.
- c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSA’s jurisdictional area.

Attachment C. Annual Report Letter

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CALIFORNIA DEPARTMENT OF WATER RESOURCES

SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

715 P Street, 8th Floor | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

July 18, 2025

John Neil
Atascadero Area Subbasin – Plan Manager
5005 El Camio Real
Atascadero, CA 93422
jneil@amwc.us

RE: Review of Annual Report for the Atascadero Area Subbasin, Water Year 2024

Dear John Neil,

As the basin point of contact for the groundwater sustainability plan (GSP) in the Atascadero Area Subbasin (Subbasin), this letter is to inform you that the Department of Water Resources (Department) has completed the review of the annual report for the Subbasin for Water Year 2024 and determined that no further information or action is required at this time.

The Sustainable Groundwater Management Act (SGMA) requires on April 1, following the adoption of a GSP and annually thereafter, an annual report be submitted to the Department. (Wat. Code § 10728). Once an annual report has been submitted, the Department is required: to notify the submitting agency of receipt within 20 days, review the information to determine whether the basin's GSP is being implemented in a manner likely to achieve its established sustainability goal, and notify the submitting agency in writing if additional information is required (23 CCR § 355.8).

Here, the submitted information appears to satisfy the requirements of the GSP Regulations (23 CCR § 356.2), so the Department does not require additional information at this time. Previously, following a comprehensive evaluation of the GSP for the Subbasin, the Department issued an assessment that the GSP was likely to achieve the sustainability goal for the Subbasin. Following review of the 2024 annual report, the Department has determined that the GSP continues to be implemented in a manner consistent with achieving the Subbasin's sustainability goal as described in the GSP. The Department reached this conclusion based on a review of information in the annual report, any public comments submitted to the Department regarding this annual report, and other relevant information regarding Subbasin conditions available to the Department.

The Department noted that the annual report provided an update on all the applicable sustainable management criteria for the Subbasin, as required by GSP Regulations (23 CCR § 356.2). The Department will require that you continue to include this information

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in your subsequent annual report, including a description of progress towards implementing the Plan for each of the applicable sustainable indicators.

The Department's review of this and other annual reports noted information contained in the annual report may not precisely match the schedules, projections, or estimates reported in the initial GSP as approved by the Department because of numerous factors over which the GSA has varying levels of knowledge and control (e.g., annual hydrology, actions of other private or public entities, unforeseen delays or events, and unexpected physical or geologic processes, etc.).

The approved GSP for the Subbasin is still in the early years of its implementation and it is State policy that sustainable groundwater management is best achieved locally through the development, implementation, and updating of plans and programs (Wat. Code §113, §10720.1). Accordingly, for this Subbasin, the Department concluded that any discrepancies between information in the annual report and the GSP as approved by the Department, did not at this time create an appreciable concern regarding GSP implementation and its continued likelihood of achieving the Subbasin's sustainability goal.

The Department anticipates conducting a review of GSP implementation as part of its periodic review of the GSP, which, in contrast to annual report reviews that consider information about only one year, will look at the periodic evaluation and the collective annual reports that provide the Department with numerous years of reporting data to better assess trends, issues or conditions of concern in the basin, and whether GSP implementation remains on track to achieve sustainability.

Please contact the assigned DWR basin point-of-contact or sgmps@water.ca.gov if you have questions about this notice or the annual reporting process. The Department looks forward to receiving your Water Year 2025 Annual Report by April 1, 2026.

Thank You,

Paul Gosselin

Paul Gosselin
Deputy Director
Sustainable Groundwater Management

**Attachment D. Groundwater Sustainability Plan
Regulations - 356.2. Annual Reports**

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§ 356.2. Annual Reports

Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:

- (a) General information, including an executive summary and a location map depicting the basin covered by the report.
- (b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:
 - (1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:
 - (A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.
 - (B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.
 - (2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.
 - (3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.
 - (4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.
 - (5) Change in groundwater in storage shall include the following:
 - (A) Change in groundwater in storage maps for each principal aquifer in the basin.
 - (B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.
- (c) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.

Note: Authority cited: Section 10733.2, Water Code. Reference:

Sections 10727.2, 10728, and 10733.2, Water Code.

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Attachment E. Historical Precipitation Records

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Monthly Precipitation at the Atascadero Mutual Water Company Station 34

(inches)

Source: Atascadero Mutual Water Company

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	WY Total
1915							0.00	0.00	0.00	0.00	0.25	3.81	---
1916	15.51	1.72	1.55	0.15	0.00	0.00	0.00	0.08	0.82	1.52	0.36	10.02	23.89
1917	3.62	8.11	0.95	0.08	0.13	0.00	0.00	0.00	0.00	0.04	0.52	0.11	24.79
1918	0.40	9.37	5.59	0.00	0.00	0.00	0.01	0.02	0.16	0.52	1.33	2.48	16.22
1919	3.15	3.02	2.39	1.05	0.24	0.03	0.00	0.00	0.45	0.75	3.34	1.19	14.66
1920	0.57	4.14	2.97	0.26	0.67	0.00	0.00	0.00	0.16	0.12	0.00	5.23	14.05
1921	0.54	2.30	4.85	2.27	0.00	0.00	0.00	0.00	0.70	0.17	0.03	7.32	16.01
1922	5.65	5.61	3.37	0.31	0.91	0.00	0.00	0.00	0.00	0.33	4.16	6.11	23.37
1923	3.43	0.91	0.09	2.59	0.00	0.19	0.00	0.00	0.17	0.16	0.27	0.28	17.98
1924	1.27	0.56	3.57	0.41	0.23	0.00	0.00	0.00	0.00	1.64	2.34	1.84	6.75
1925	1.33	2.75	3.57	1.86	2.66	0.00	0.00	0.00	0.00	0.40	0.11	1.90	17.99
1926	3.12	5.26	0.28	3.67	0.00	0.00	0.00	0.00	0.00	0.00	7.23	1.39	14.74
1927	1.91	7.53	1.93	1.21	0.00	0.08	0.00	0.00	0.00	1.66	1.88	2.53	21.28
1928	0.00	2.19	5.04	0.54	0.13	0.00	0.00	0.00	0.00	0.00	3.58	5.48	13.97
1929	1.60	2.79	1.82	0.53	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.26	16.05
1930	4.86	2.66	2.52	0.54	0.97	0.14	0.00	0.00	0.00	0.00	1.58	0.50	11.95
1931	4.98	1.54	0.43	0.38	2.02	0.13	0.00	0.00	0.00	0.00	1.90	9.10	11.56
1932	3.58	4.98	0.59	0.16	0.11	0.00	0.00	0.00	0.03	0.00	0.14	1.13	20.45
1933	7.79	0.09	0.72	0.14	0.65	0.93	0.00	0.00	0.00	0.36	0.00	4.38	11.59
1934	2.44	3.17	0.17	0.00	1.00	0.00	0.00	0.00	0.00	0.99	2.85	1.56	11.52
1935	4.92	0.68	2.66	3.84	0.00	0.00	0.00	0.00	0.08	0.20	1.35	1.85	17.58
1936	2.00	9.68	1.13	1.25	0.00	0.15	0.00	0.00	0.00	1.47	0.00	5.98	17.61
1937	4.12	4.87	4.86	0.05	0.00	0.00	0.00	0.00	0.00	0.10	0.80	5.29	21.35
1938	1.88	8.97	6.63	0.77	0.03	0.00	0.00	0.00	0.53	0.20	0.48	0.93	25.00
1939	2.70	1.38	1.39	0.14	0.00	0.00	0.00	0.00	0.23	1.02	0.90	1.22	7.45
1940	6.72	5.73	1.81	0.30	0.02	0.00	0.00	0.00	0.00	0.40	0.23	7.91	17.72
1941	5.06	11.22	7.78	3.51	0.00	0.00	0.00	0.00	0.00	1.26	0.84	7.57	36.11
1942	3.00	0.59	2.63	4.28	0.00	0.15	0.00	0.00	0.00	0.66	2.20	2.25	20.32
1943	11.85	2.01	6.85	1.20	0.00	0.00	0.00	0.00	0.00	0.46	0.36	3.73	27.02
1944	1.47	7.67	1.54	1.08	0.00	0.00	0.00	0.00	0.00	0.05	2.87	1.30	16.31
1945	1.54	3.84	4.25	0.15	0.00	0.00	0.01	0.03	0.16	0.51	1.30	2.43	14.20
1946	3.08	2.96	2.34	1.04	0.24	0.03	0.00	0.00	0.00	0.30	6.78	2.20	13.93
1947	0.60	1.42	1.38	0.47	0.91	0.00	0.00	0.00	0.04	0.51	0.16	0.95	14.10
1948	0.00	2.07	4.72	3.30	0.60	0.00	0.00	0.00	0.00	0.06	0.00	3.48	12.31
1949	1.70	2.28	4.47	0.31	0.40	0.00	0.00	0.00	0.00	0.00	1.65	3.14	12.70
1950	4.01	3.52	2.39	1.70	0.00	0.00	0.00	0.00	0.00	1.71	3.27	2.28	16.41
1951	1.91	1.87	0.59	1.58	0.28	0.00	0.00	0.00	0.02	0.81	2.96	7.06	13.51
1952	7.16	0.81	6.65	1.57	0.00	0.00	0.00	0.00	0.00	0.00	2.65	5.98	27.02
1953	1.73	0.00	1.38	2.05	0.25	0.00	0.00	0.00	0.00	0.00	2.29	0.08	14.04
1954	5.16	2.85	4.50	0.74	0.08	0.00	0.00	0.00	0.00	0.00	2.44	1.83	15.70
1955	4.10	2.37	0.15	1.89	1.44	0.00	0.00	0.09	0.00	0.00	1.22	7.88	14.31
1956	5.35	0.94	0.08	2.00	1.39	0.00	0.00	0.00	0.01	1.21	0.00	0.43	18.87
1957	4.38	2.68	0.80	2.77	1.99	0.18	0.00	0.00	0.00	0.82	0.16	5.29	14.44
1958	4.76	7.48	6.56	7.21	0.27	0.00	0.00	0.13	1.02	0.18	0.02	0.28	33.70
1959	2.39	4.84	0.01	0.26	0.02	0.00	0.00	0.00	0.63	0.00	0.00	0.38	8.63

Monthly Precipitation at the Atascadero Mutual Water Company Station 34

(inches)

Source: Atascadero Mutual Water Company

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	WY Total
1960	2.57	5.51	1.31	1.31	0.05	0.00	0.00	0.00	0.00	0.31	4.17	1.57	11.13
1961	1.66	0.56	1.03	0.30	0.80	0.00	0.00	0.00	0.00	0.00	2.43	2.05	10.40
1962	2.14	11.18	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	1.71	19.90
1963	2.10	5.28	3.68	4.21	0.29	0.06	0.00	0.03	0.16	0.95	3.04	0.05	18.26
1964	2.64	0.14	1.48	1.18	0.51	0.13	0.00	0.00	0.13	0.94	2.95	3.76	10.25
1965	2.15	0.68	2.17	3.17	0.00	0.00	0.00	0.00	0.00	0.00	6.92	3.74	15.82
1966	1.59	0.58	0.18	0.09	0.00	0.05	0.00	0.00	0.13	0.00	3.06	9.27	13.28
1967	5.90	0.61	5.43	5.71	0.05	0.10	0.00	0.00	0.76	0.10	2.09	2.50	30.89
1968	1.83	0.99	2.35	1.17	0.00	0.00	0.00	0.00	0.00	2.25	1.12	3.34	11.03
1969	16.62	12.16	0.76	1.63	0.18	0.00	0.30	0.00	0.00	0.13	0.46	0.82	38.36
1970	5.97	1.11	4.07	0.11	0.00	0.00	0.00	0.00	0.00	0.00	4.59	5.69	12.67
1971	1.63	0.22	1.10	0.94	0.30	0.00	0.00	0.00	0.07	0.27	0.81	4.46	14.54
1972	0.80	0.30	0.00	0.44	0.00	0.04	0.00	0.00	0.03	1.30	4.21	1.35	7.15
1973	6.20	7.17	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.80	3.75	2.34	22.68
1974	6.20	0.08	5.28	1.25	0.00	0.00	0.00	0.00	0.00	0.86	0.47	3.19	19.70
1975	0.09	5.00	4.39	1.58	0.00	0.00	0.00	0.00	0.00	1.15	0.00	0.10	15.58
1976	0.00	2.87	1.59	0.85	0.11	0.00	0.00	1.19	2.67	0.39	1.56	1.87	10.53
1977	1.71	0.16	1.37	0.00	1.99	0.00	0.00	0.00	0.00	0.16	0.33	7.57	9.05
1978	7.92	7.79	6.78	3.21	0.02	0.00	0.00	0.00	1.06	0.00	2.08	1.22	34.84
1979	4.48	4.73	3.91	0.11	0.00	0.00	0.00	0.00	0.15	0.68	0.89	3.37	16.68
1980	6.41	11.55	3.05	1.00	0.73	0.00	0.16	0.00	0.00	0.11	0.01	0.74	27.84
1981	4.07	1.57	6.64	0.93	0.02	0.00	0.00	0.00	0.00	1.20	1.21	1.50	14.09
1982	4.15	1.15	5.93	4.91	0.00	0.12	0.00	0.00	1.36	1.61	5.13	3.79	21.53
1983	9.21	5.72	8.70	3.11	0.21	0.00	0.00	0.80	1.35	0.47	3.61	5.26	39.63
1984	0.20	0.36	1.03	0.64	0.00	0.00	0.00	0.00	0.00	1.03	3.58	3.03	11.57
1985	0.85	1.69	2.77	0.15	0.00	0.00	0.00	0.00	0.00	0.57	3.37	1.12	13.10
1986	2.13	10.07	6.59	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.24	0.95	24.58
1987	1.80	2.44	3.10	0.00	0.00	0.00	0.00	0.00	0.00	1.75	2.71	3.67	8.53
1988	3.01	2.60	1.50	2.20	0.00	0.15	0.00	0.00	0.00	0.00	1.13	5.22	17.59
1989	1.57	0.87	1.26	0.49	0.20	0.00	0.00	0.00	1.55	1.09	0.50	0.00	12.29
1990	2.69	2.85	0.45	0.26	0.80	0.00	0.00	0.00	0.70	0.00	0.25	0.40	9.34
1991	0.97	4.09	11.10	0.20	0.00	0.00	0.00	0.05	0.10	0.85	0.25	4.30	17.16
1992	1.98	10.47	2.75	0.00	0.00	0.05	0.00	0.00	0.00	2.35	0.00	5.38	20.65
1993	9.51	7.65	3.39	0.15	0.00	0.25	0.00	0.00	0.15	0.81	2.07	2.09	28.83
1994	1.99	0.65	0.20	0.31	0.00	0.00	0.00	0.00	1.17	0.90	0.60	0.10	9.29
1995	13.98	0.25	13.10	0.07	0.75	0.23	0.00	0.00	0.00	0.00	0.20	2.67	29.98
1996	3.40	9.32	2.70	0.75	0.10	0.00	0.00	0.00	0.00	2.54	2.78	7.67	19.14
1997	9.60	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	3.99	4.27	22.69
1998	5.50	11.49	2.25	2.82	2.77	0.00	0.00	0.00	0.17	0.25	1.29	0.88	33.31
1999	3.07	2.02	3.25	1.25	0.00	0.00	0.00	0.00	0.28	0.00	0.72	0.10	12.29
2000	3.91	7.99	1.73	2.03	0.30	0.10	0.00	0.00	0.10	2.30	0.10	0.30	16.98
2001	5.03	5.60	4.15	1.55	0.00	0.00	0.00	0.00	0.00	0.33	2.70	2.42	19.03
2002	0.35	0.30	1.27	0.33	0.18	0.00	0.00	0.00	0.07	0.00	1.88	4.38	7.95
2003	0.13	1.30	1.10	1.00	0.83	0.00	0.07	0.00	0.00	0.00	0.58	1.72	10.69
2004	1.00	4.97	0.37	0.00	0.00	0.00	0.00	0.00	0.00	5.89	2.32	9.38	8.64

Monthly Precipitation at the Atascadero Mutual Water Company Station 34

(inches)

Source: Atascadero Mutual Water Company

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	WY Total
2005	6.07	5.71	3.12	1.09	1.04	0.00	0.00	0.07	0.00	0.07	0.35	1.78	34.69
2006	8.21	1.64	5.39	3.76	1.20	0.00	0.00	0.00	0.00	0.36	0.36	1.97	22.40
2007	0.91	3.14	0.26	0.60	0.00	0.00	0.00	0.26	0.00	0.43	0.03	3.21	7.86
2008	9.20	2.68	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.26	1.41	1.72	15.56
2009	0.85	4.15	1.84	0.60	0.12	0.00	0.00	0.00	0.04	5.87	0.08	4.71	10.99
2010	8.34	3.70	0.70	3.00	0.11	0.00	0.00	0.00	0.00	1.45	2.28	8.86	26.51
2011	2.65	3.63	5.75	0.08	0.82	0.38	0.00	0.00	0.01	1.21	2.14	0.16	25.91
2012	3.09	0.27	2.20	2.60	0.07	0.00	0.00	0.00	0.00	0.61	1.25	4.24	11.74
2013	1.12	0.49	0.47	0.00	0.23	0.00	0.00	0.00	0.00	0.35	0.15	0.54	8.41
2014	0.00	3.48	3.14	1.55	0.00	0.00	0.02	0.00	0.00	0.00	1.12	4.93	9.23
2015	0.57	3.04	0.21	0.67	0.02	0.01	1.28	0.00	0.06	0.16	1.41	1.34	11.91
2016	5.40	1.31	4.30	0.24	0.00	0.00	0.00	0.00	0.00	2.36	2.19	2.02	14.16
2017	12.74	7.51	1.32	1.38	0.28	0.00	0.00	0.00	0.14	0.07	0.11	0.11	29.94
2018	2.62	0.29	8.53	0.30	0.00	0.00	0.00	0.00	0.00	0.16	3.58	1.24	12.03
2019	5.82	9.12	3.75	0.07	0.98	0.00	0.00	0.00	0.00	0.00	1.55	4.96	24.72
2020	0.73	0.05	3.92	1.95	0.29	0.00	0.00	0.05	0.00	0.00	0.36	1.10	13.50
2021	6.10	0.04	1.10	0.02	0.00	0.00	0.01	0.00	0.00	2.01	0.15	8.34	8.73
2022	0.12	0.00	0.94	0.50	0.00	0.00	0.00	0.00	0.63	0.00	1.70	7.67	12.69
2023	15.12	4.19	8.13	0.00	0.14	0.00	0.00	0.09	0.00	0	1.15	4.62	37.04
2024	3.47	7.48	3.71	2.23	0.13	0.00	0.00	0.00	0.06				22.85
1916-2024 WY Average:													17.61
1968-2024 WY Average:													18.08

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Attachment F. Monitoring Network Inventory

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	Local Well Name	State Well Number	Well Depth	Ground Surface Elevation	Reference Point Elevation	Screen Interval Range	Spring 2025 Water Surface Elevation	Fall 2025 Water Surface Elevation	Proposed MT	Proposed MO	Interim Milestones				Comments
			(ft)	(ft)	(ft)	(ft btoc)	ft msl	ft msl	(ft)	(ft)	2027	2032	2037	2042	
Alluvial Aquifer (Qa)	27S/12E-29H03	27S12E29H003M	65	753.01	753	35-55	735.31	729.41	709	724	713	717	720	724	
	28S/12E-04J04	28S12E04J004M	70	802.37	802.4	30-70	787.67	763.27	729	761	737	745	753	761	
	28S/12E-05AX2		60	796.21	796.2	25-55	782.61	776.71	774	778	775	776	777	778	
	28S/12E-04J02	28S12E04J002M	86	801.99	795.8	21-86	776.63	752.73	742	764	748	753	759	764	
	28S/12E-10R04	28S12E10R004M	75	825.02	820	46-75	799.4	788.8	770	787	774	779	783	787	
	28S/12E-14K04	28S12E14K004M	105	838.78	835	50-100	811.1	811.1	785	801	789	793	797	801	
	28S/12E-25B03	28S12E25B003M	120	866.78	867.8	100-120	852.4	847.3	832	844	835	838	841	844	
	29S/13E-19H04	29S13E19H004M	57	1002.5	1005	29-49	997.75	985.95	979	989	982	984	987	989	
Paso Robles Formation Aquifer (Qtp)	27S/12E-17B02	27S12E17B002M	400	828.31	828.3	200-360 380-400	679.71	656.61	570	676	597	623	650	676	
	27S/12E-17E01	27S12E17E001M	310	842.4	842.4	190-300	694.4	683.7	636	716	656	676	696	716	
	27S/12E-20A02	27S12E20A002M	205	779.35	776	105-195	722.2	696.8	698	726	705	712	719	726	
	27S/12E-20R01	27S12E20R001M	230	771	771	110-230	733.4	713.4	673	710	682	692	701	710	
	27S/12E-33G01	27S12E33G001M	460	901.46	892	200-460	761.05	723.92	678	730	691	704	717	730	
	28S/12E-04J06	28S12E04J006M	153	800.51	800.5	93-153	776.81	749.51	709	750	719	730	740	750	
	28S/12E-10A03	28S12E10A003M	500	810.95	808.3	157-500	777.39	716.09	631	712	651	672	692	712	
	28S/12E-11K02	28S12E11K002M	603	820	882	300-600	817.1	815.1	707	736	714	722	729	736	
	28S/13E-31F02	28S13E31F002M	310	878.54	884.3	55-300	869.1	856.2	786	829	797	808	818	829	
	27S/12E-21XX5		360	752.46	752.5	110-140 180-250 300-360	736.66	697.46	661	699	671	680	690	699	
	27S/12E-33F01	27S12E33F001M	340	882.13	880	140-340	763.12	733.18	689	739	702	714	727	739	Pump installed, new RP
	28S/12E-04J05	28S12E04J005M	360	803.13	803.1	145-190 210-360	786.83	753.53	697	746	709	722	734	746	

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Attachment G. Monitoring Well Hydrographs

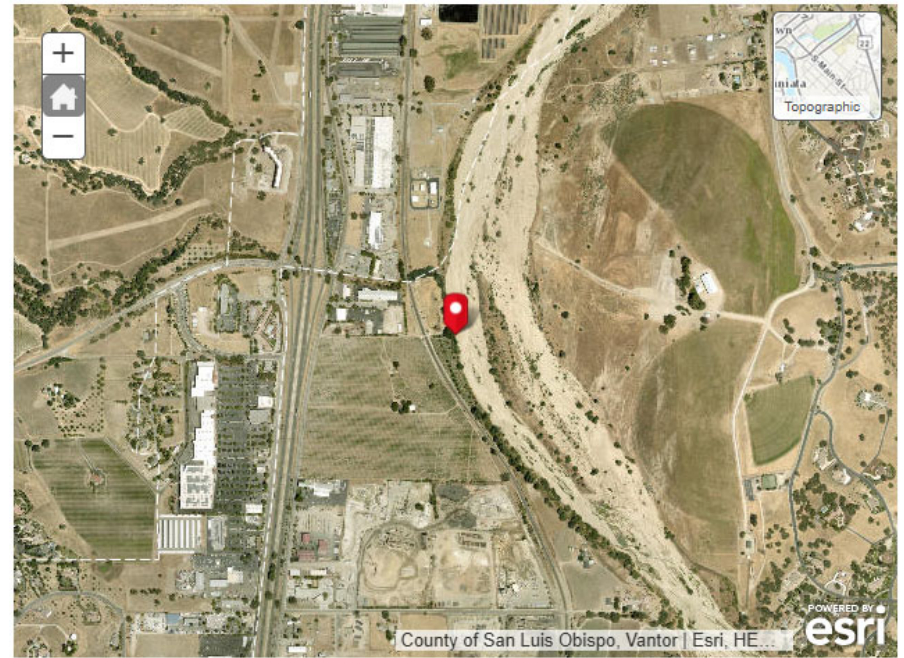
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Figure F-1. 27S/12E-09N02

Site Code: 355878N1206914W001
Local Well Name: 27S/12E-09N02
Monitoring Network Type: SGMA Representative
Station ID: 50530
Latitude: 35.5878
Longitude: -120.691
Well Depth (feet bgs): 85.0
Top Perforation (feet bgs): 44.0
Bottom Perforation (feet bgs): 90.0
Ground Surface Elevation: 721.0
Reference Point Elevation: 721.0
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



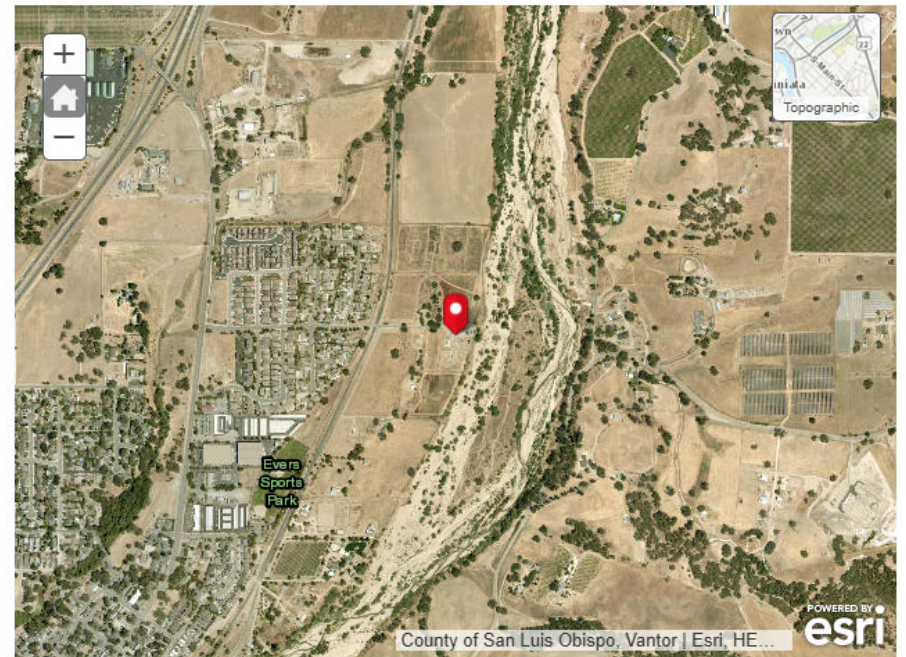
SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical



Figure F-2. 27S/12E-21XX6

Site Code: 355593N1206929W001
Local Well Name: 27S/12E-21XX6
Monitoring Network Type: SGMA Representative
Station ID: 57802
Latitude: 35.5594
Longitude: -120.693
Well Depth (feet bgs): 61.0
Top Perforation (feet bgs): 31.0
Bottom Perforation (feet bgs): 51.0
Ground Surface Elevation: 754.18
Reference Point Elevation: 754.18
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

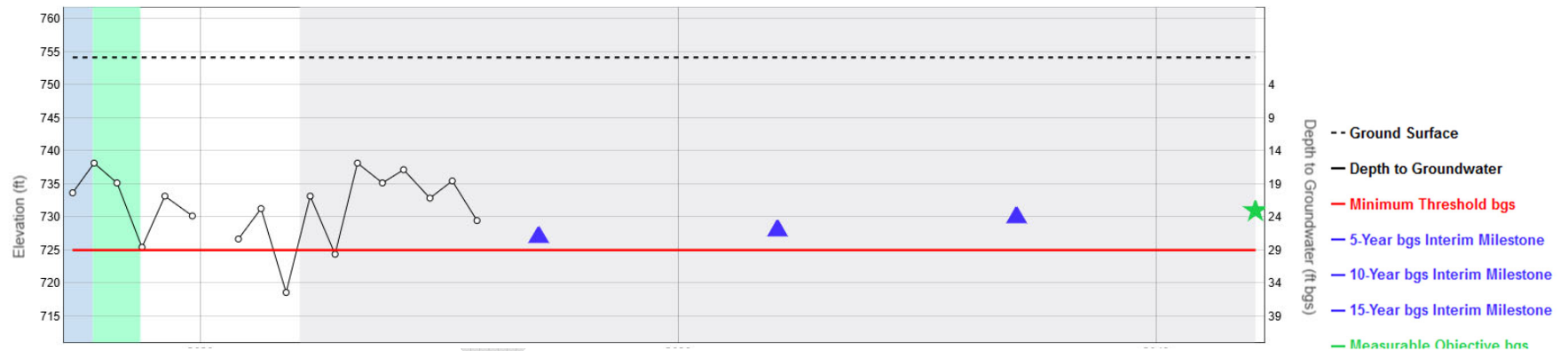
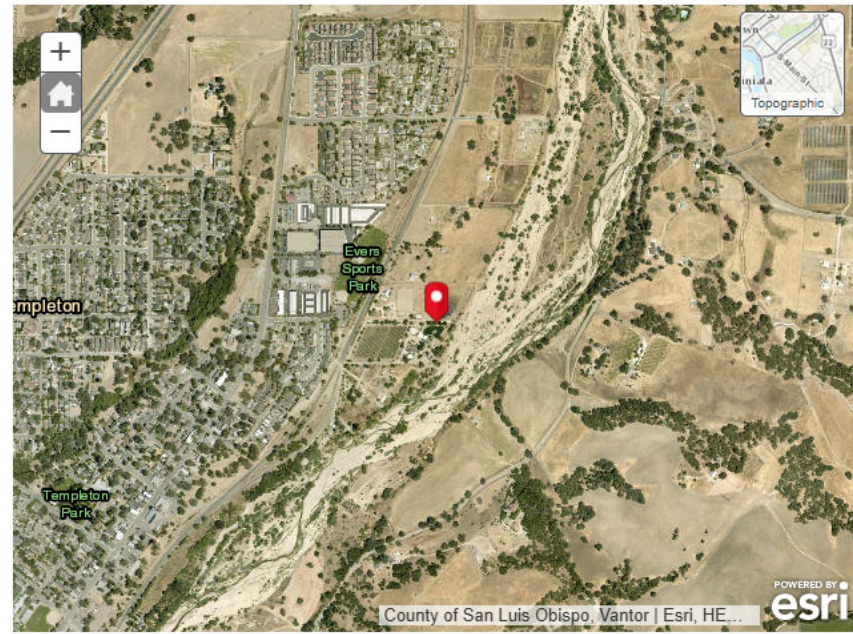


Figure F-3. 27S/12E-29H03

Site Code: 355543N1206961W001
Local Well Name: 27S/12E-29H03
Monitoring Network Type: SGMA Representative
Station ID: 57804
Latitude: 35.5543
Longitude: -120.696
Well Depth (feet bgs): 65.0
Top Perforation (feet bgs): 35.0
Bottom Perforation (feet bgs): 55.0
Ground Surface Elevation: 753.01
Reference Point Elevation: 753.01
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

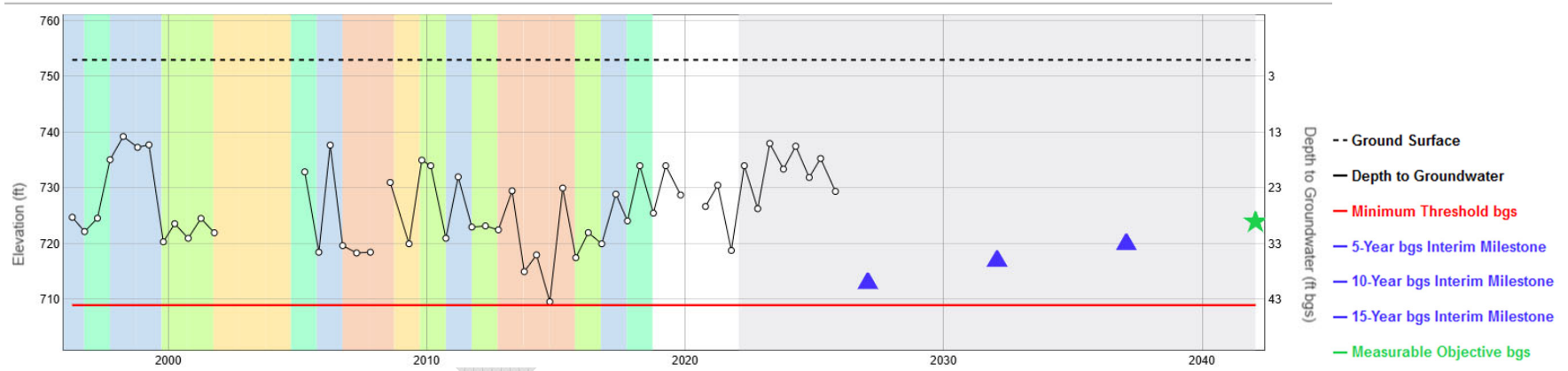
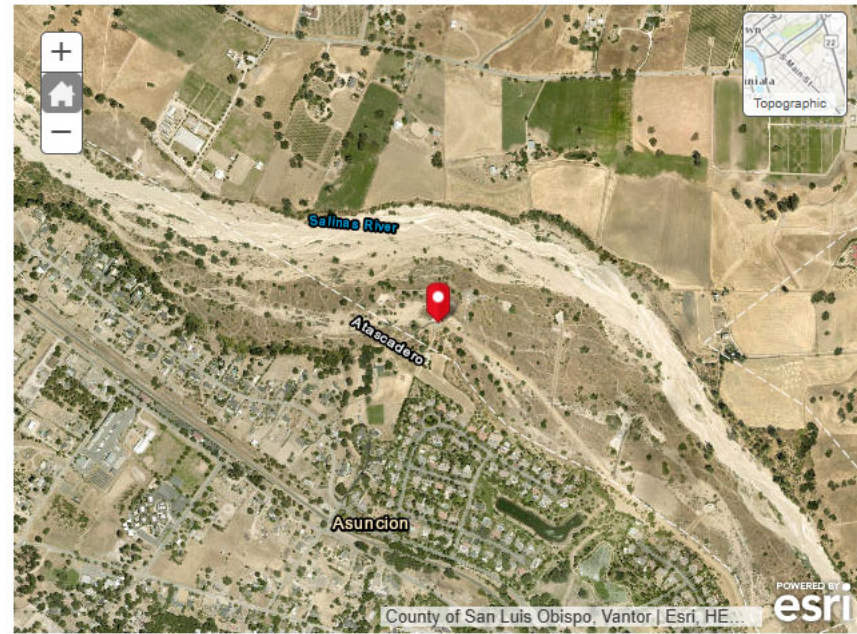


Figure F-4. 28S/12E-04J02

Site Code: 355202N1206761W001
Local Well Name: 28S/12E-04J02
Monitoring Network Type: SGMA Representative
Station ID: 57807
Latitude: 35.5203
Longitude: -120.676
Well Depth (feet bgs): 86.0
Top Perforation (feet bgs): 21.0
Bottom Perforation (feet bgs): 86.0
Ground Surface Elevation: 795.83
Reference Point Elevation: 795.83
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

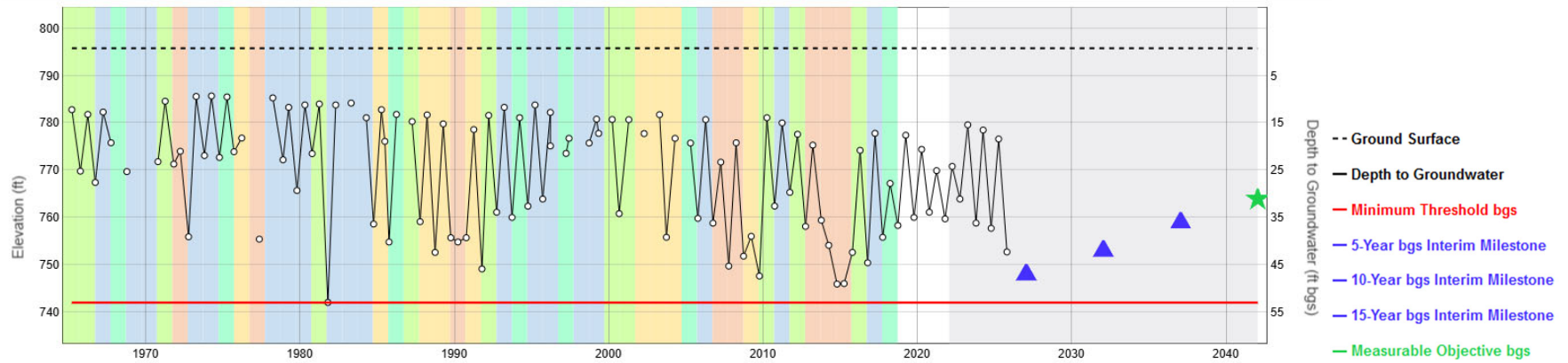


Figure F-5. 28S/12E-04J04

Site Code: 355199N1206749W001
Local Well Name: 28S/12E-04J04
Monitoring Network Type: SGMA Representative
Station ID: 57808
Latitude: 35.52
Longitude: -120.675
Well Depth (feet bgs): 70.0
Top Perforation (feet bgs): 30.0
Bottom Perforation (feet bgs): 70.0
Ground Surface Elevation: 802.37
Reference Point Elevation: 802.37
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

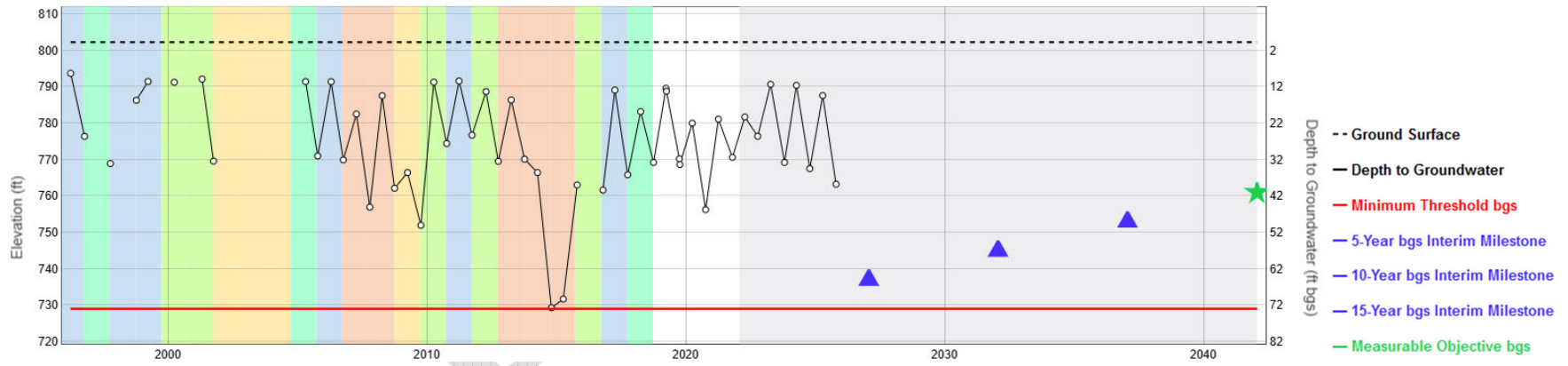
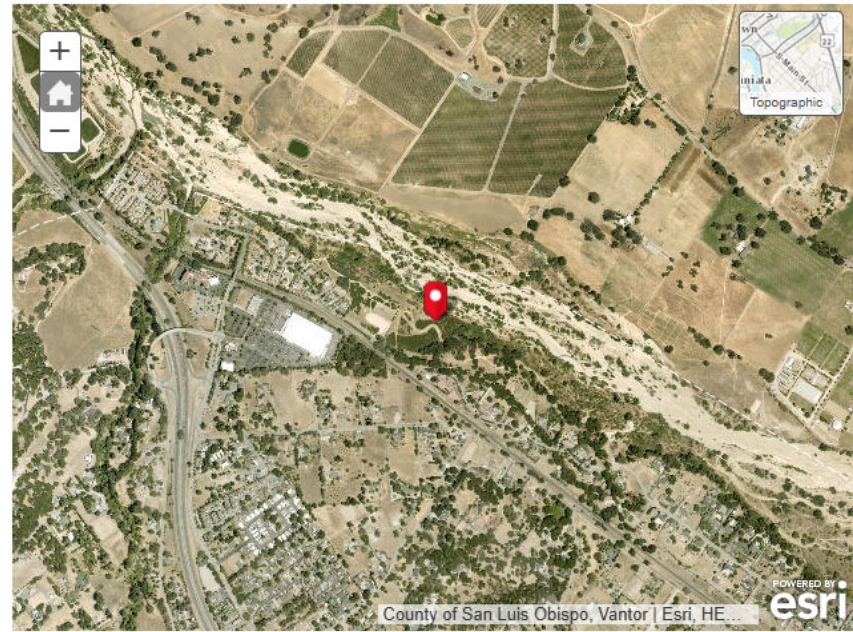


Figure F-6. 28S/12E-05AX2

Site Code: 355269N1206959W001
Local Well Name: 28S/12E-05AX2
Monitoring Network Type: SGMA Representative
Station ID: 57810
Latitude: 35.5269
Longitude: -120.696
Well Depth (feet bgs): 60.0
Top Perforation (feet bgs): 25.0
Bottom Perforation (feet bgs): 55.0
Ground Surface Elevation: 796.21
Reference Point Elevation: 796.21
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical



Figure F-7. 28S/12E-10R04

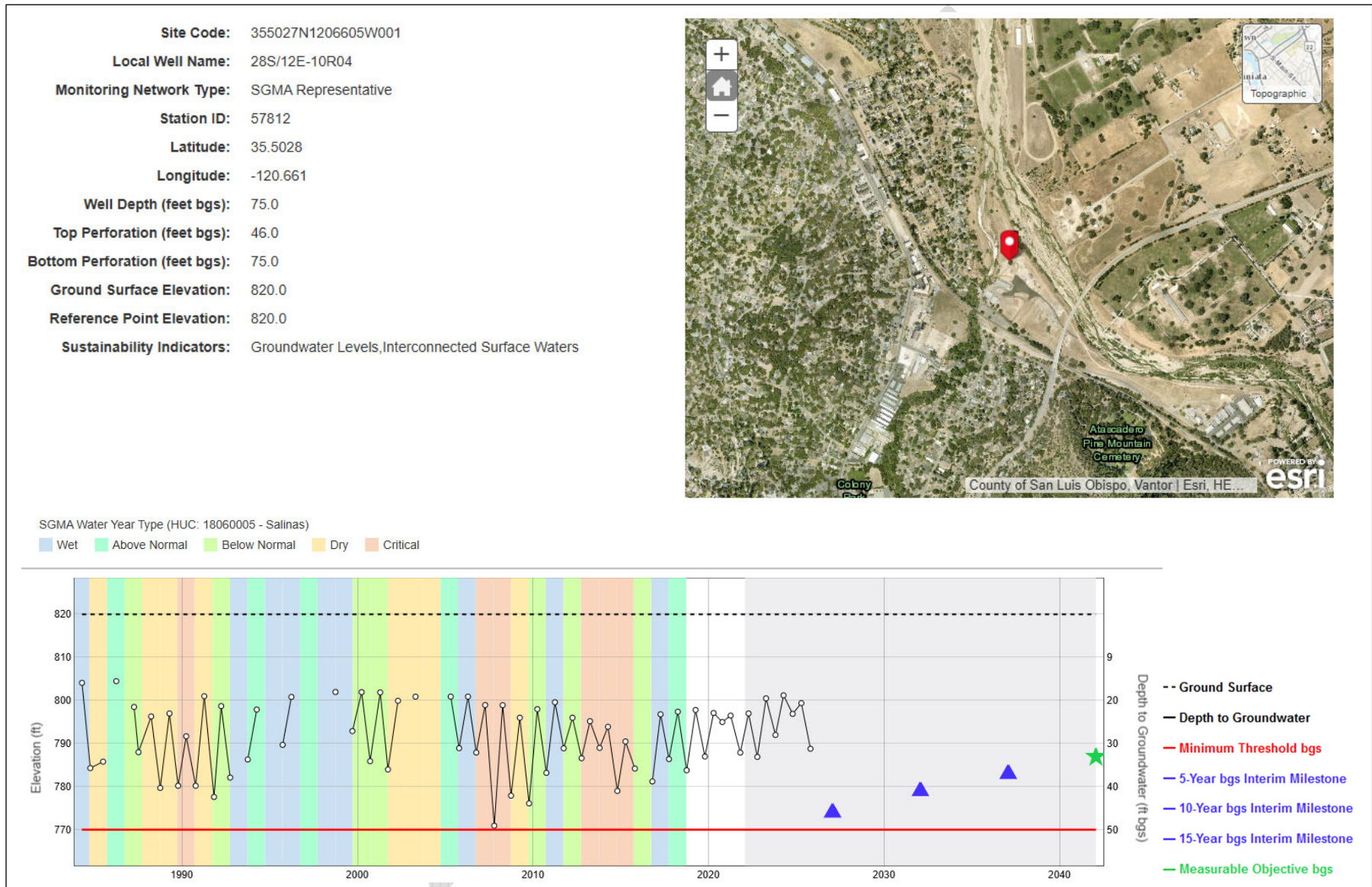
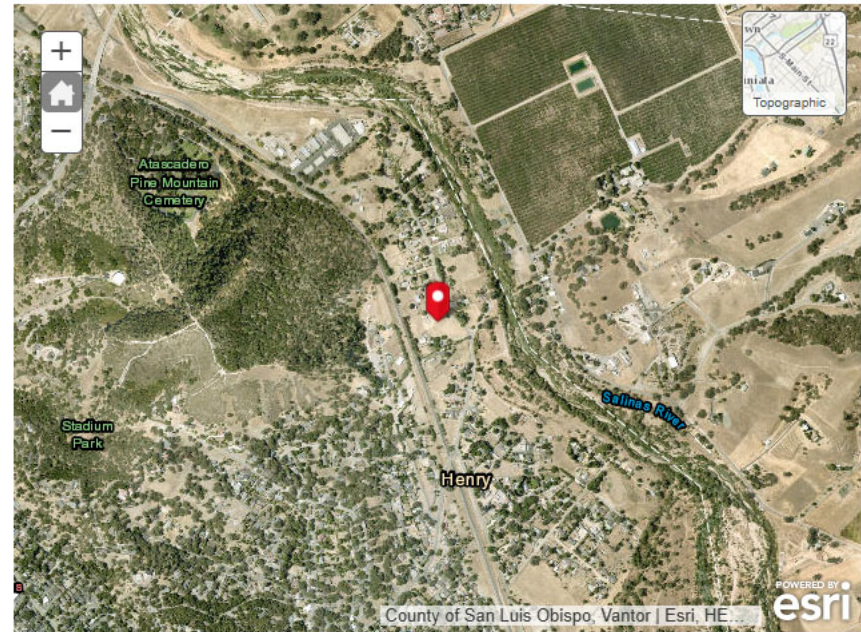


Figure F-8. 28S/12E-14K04

Site Code: 354928N1206484W001
Local Well Name: 28S/12E-14K04
Monitoring Network Type: SGMA Representative
Station ID: 57813
Latitude: 35.4929
Longitude: -120.648
Well Depth (feet bgs): 105.0
Top Perforation (feet bgs): 50.0
Bottom Perforation (feet bgs): 100.0
Ground Surface Elevation: 835.0
Reference Point Elevation: 835.0
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

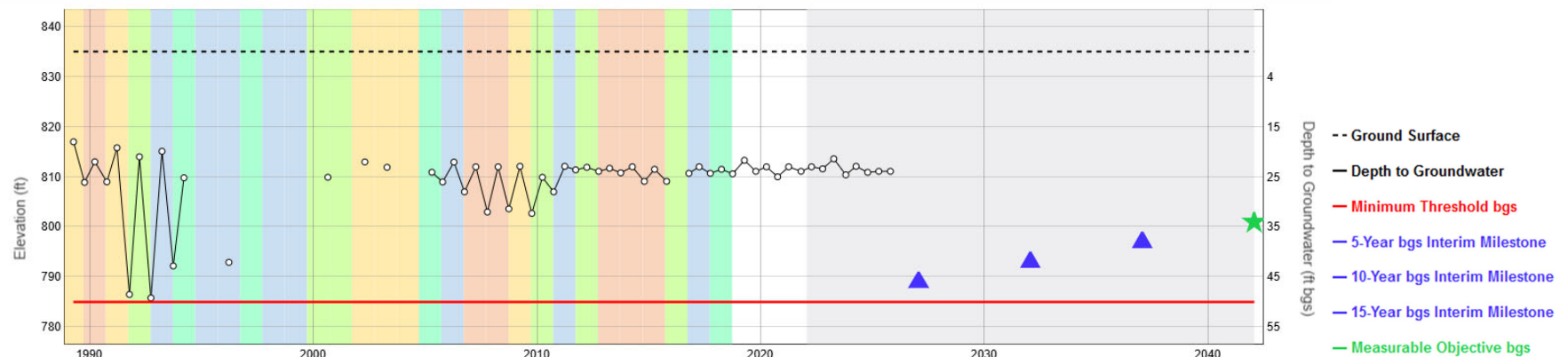
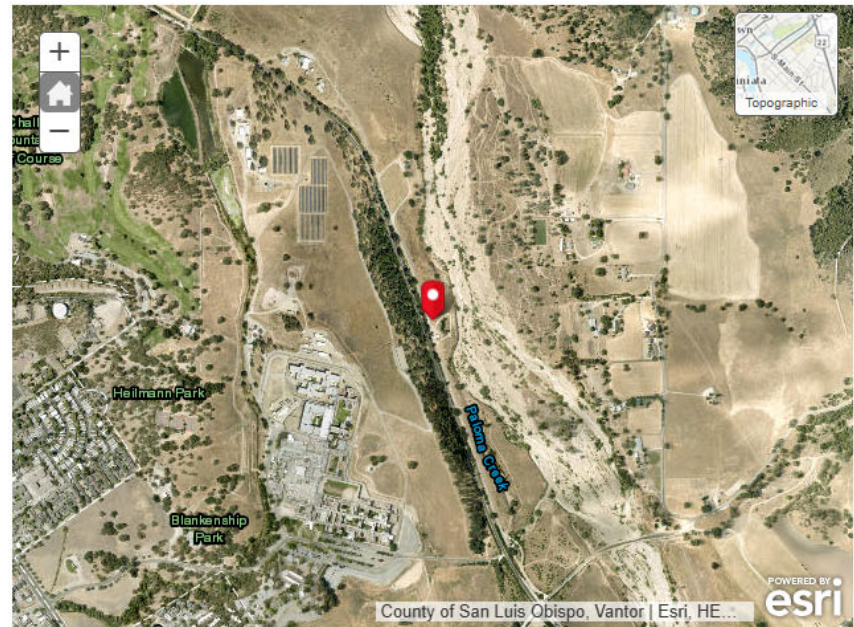


Figure F-9. 28S/12E-25B03

Site Code: 354676N1206305W001
Local Well Name: 28S/12E-25B03
Monitoring Network Type: SGMA Representative
Station ID: 57814
Latitude: 35.4676
Longitude: -120.631
Well Depth (feet bgs): 120.0
Top Perforation (feet bgs): 100.0
Bottom Perforation (feet bgs): 120.0
Ground Surface Elevation: 866.25
Reference Point Elevation: 867.8
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

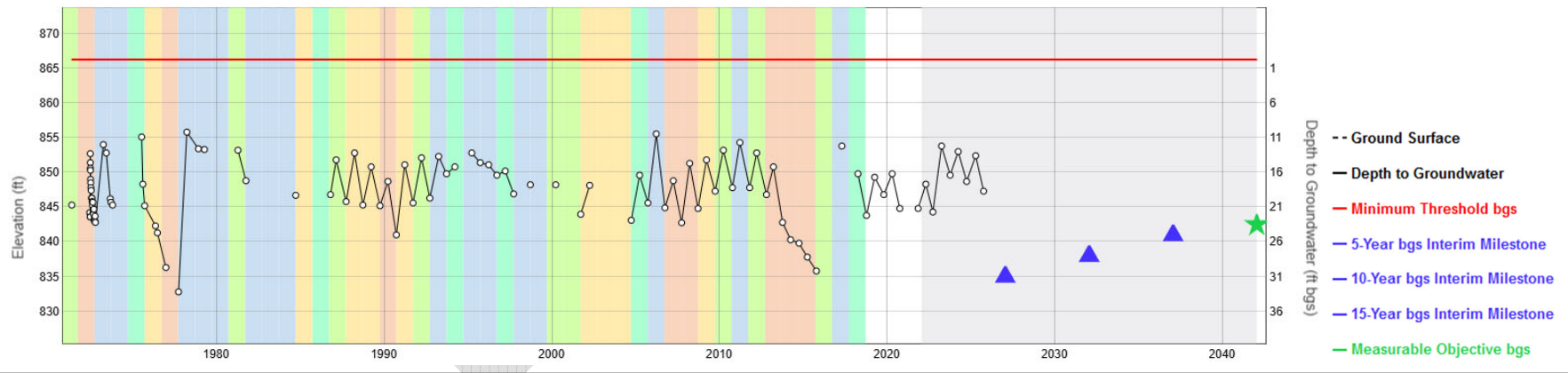
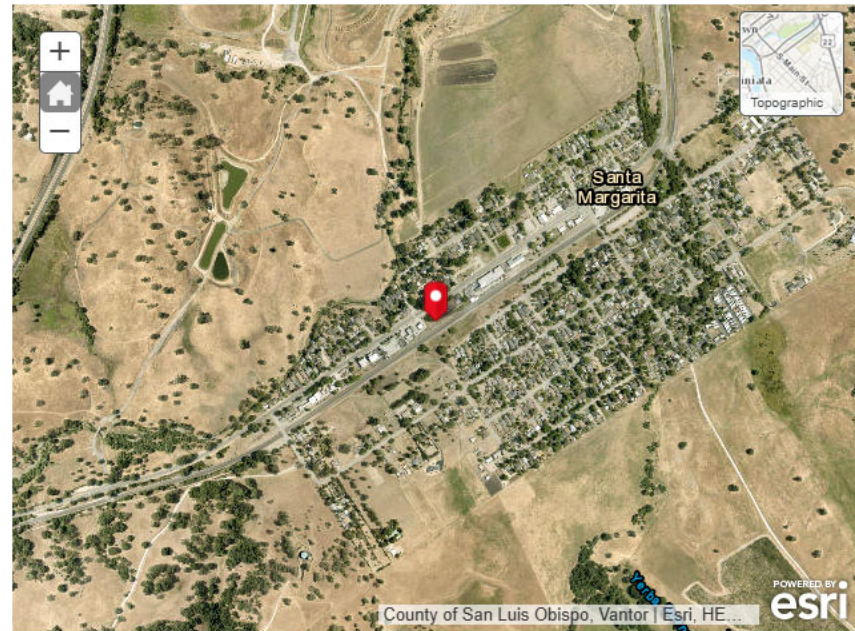


Figure F-10. 29S/13E-19H04

Site Code: 353889N1206123W001
Local Well Name: 29S/13E-19H04
Monitoring Network Type: SGMA Representative
Station ID: 50536
Latitude: 35.3889
Longitude: -120.612
Well Depth (feet bgs): 57.0
Top Perforation (feet bgs): 29.0
Bottom Perforation (feet bgs): 49.0
Ground Surface Elevation: 1003.0
Reference Point Elevation: 1005.0
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

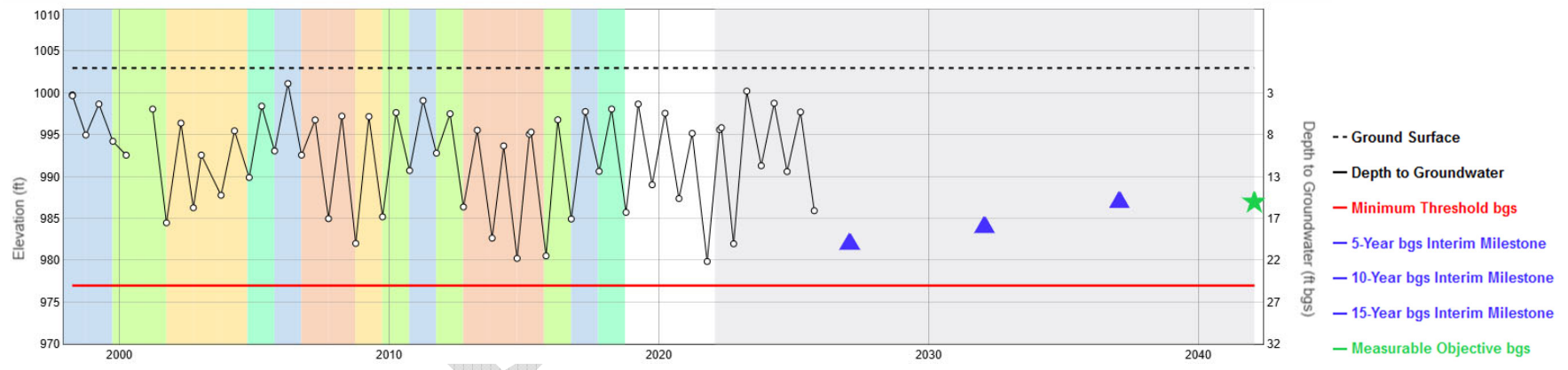
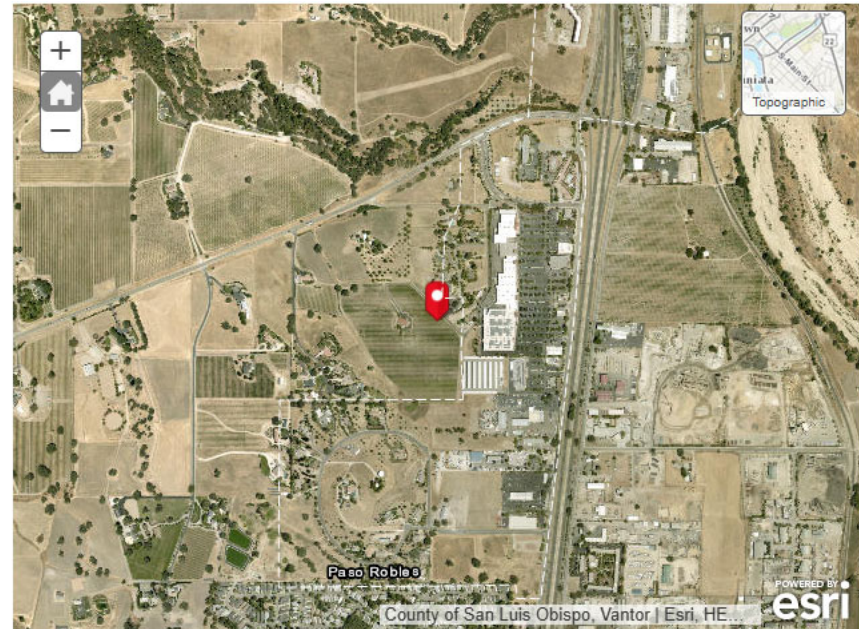


Figure F-11. 27S/12E-17B02

Site Code: 355842N1207006W001
Local Well Name: 27S/12E-17B02
Monitoring Network Type: SGMA Representative
Station ID: 57799
Latitude: 35.5842
Longitude: -120.701
Well Depth (feet bgs): 400.0
Top Perforation (feet bgs): 200.0
Bottom Perforation (feet bgs): 400.0
Ground Surface Elevation: 828.31
Reference Point Elevation: 828.31
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

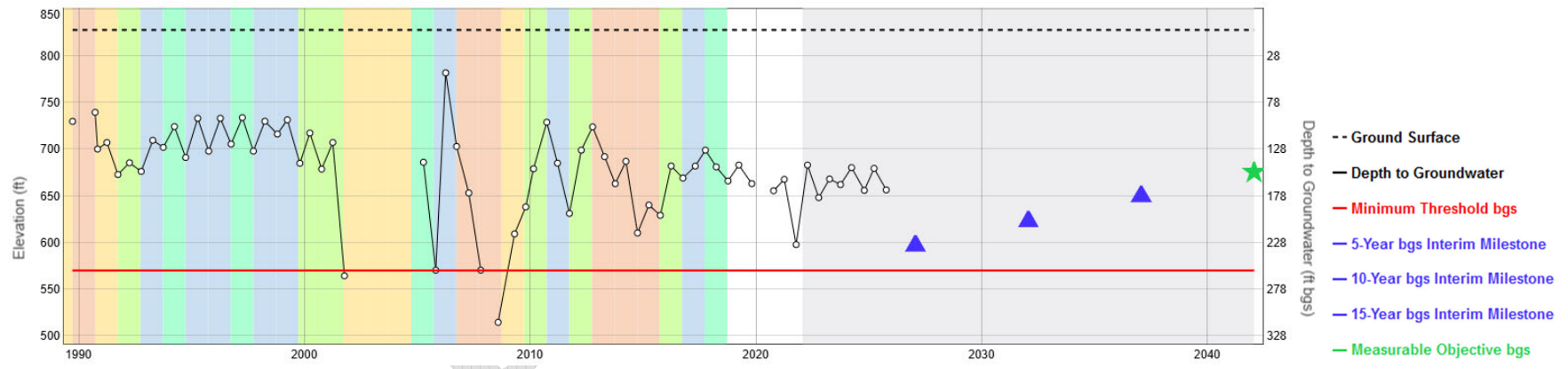
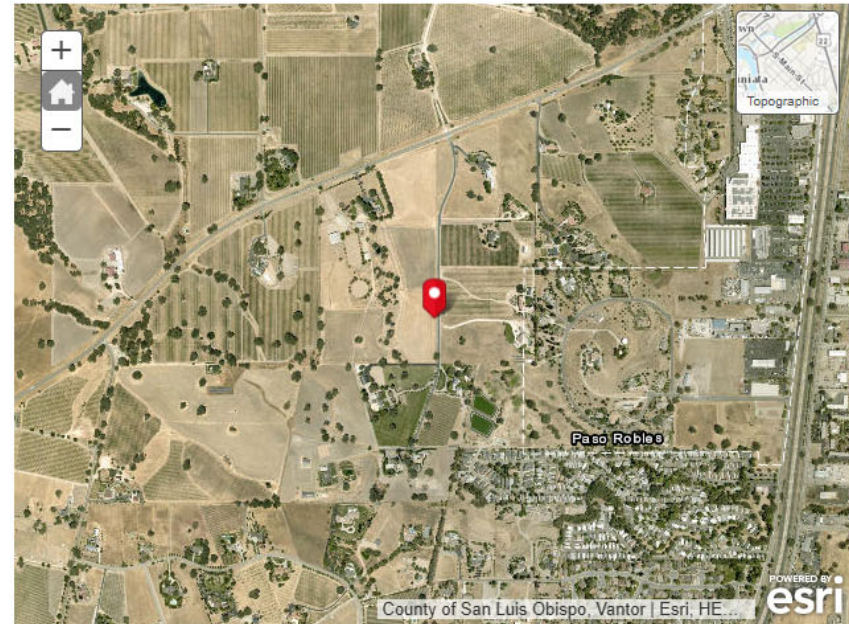


Figure F-12. 27S/12E-17E01

Site Code: 355808N1207086W001
Local Well Name: 27S/12E-17E01
Monitoring Network Type: SGMA Representative
Station ID: 50531
Latitude: 35.5808
Longitude: -120.709
Well Depth (feet bgs): 310.0
Top Perforation (feet bgs): 190.0
Bottom Perforation (feet bgs): 300.0
Ground Surface Elevation: 842.4
Reference Point Elevation: 842.4
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

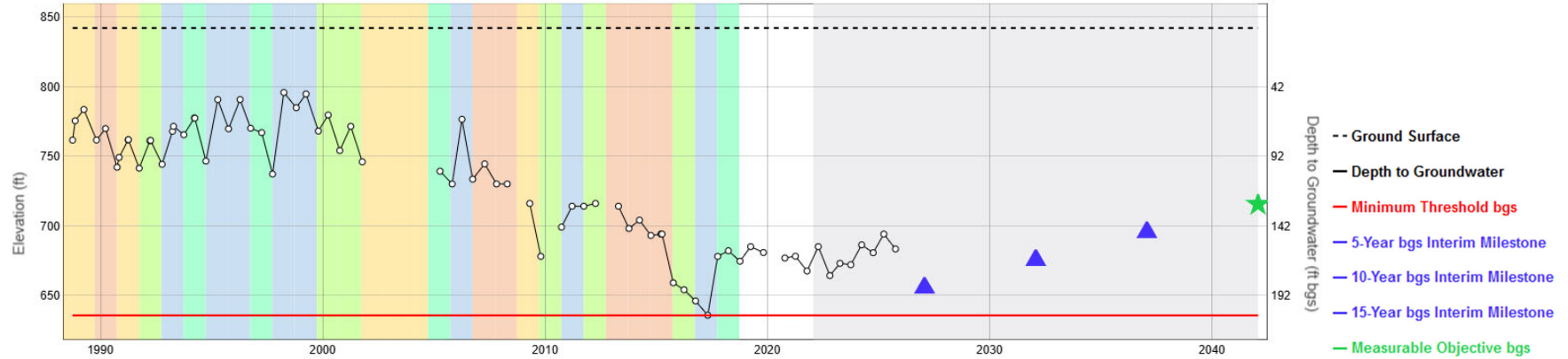
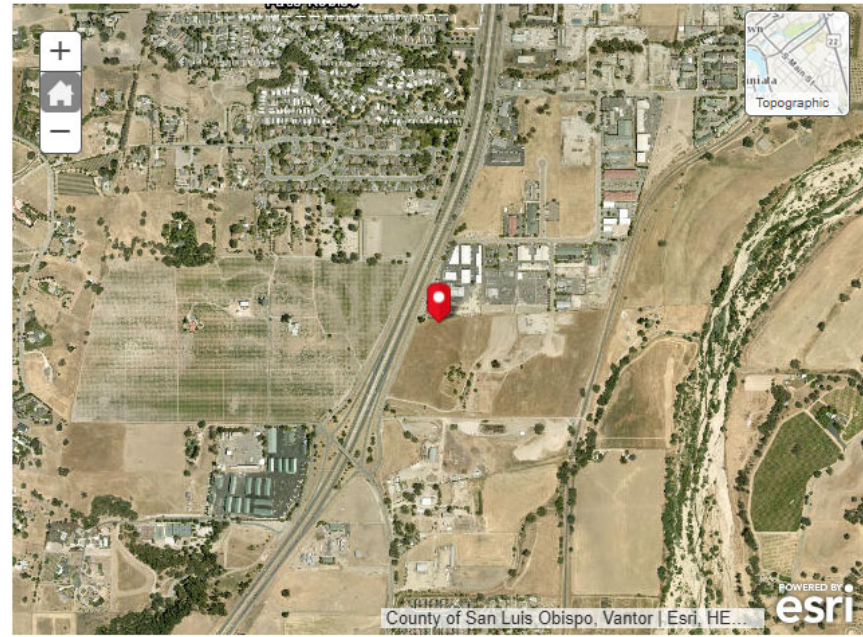


Figure F-13. 27S/12E-20A02

Site Code: 355693N1206994W001
Local Well Name: 27S/12E-20A02
Monitoring Network Type: SGMA Representative
Station ID: 57800
Latitude: 35.5693
Longitude: -120.699
Well Depth (feet bgs): 205.0
Top Perforation (feet bgs): 105.0
Bottom Perforation (feet bgs): 195.0
Ground Surface Elevation: 776.0
Reference Point Elevation: 776.0
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

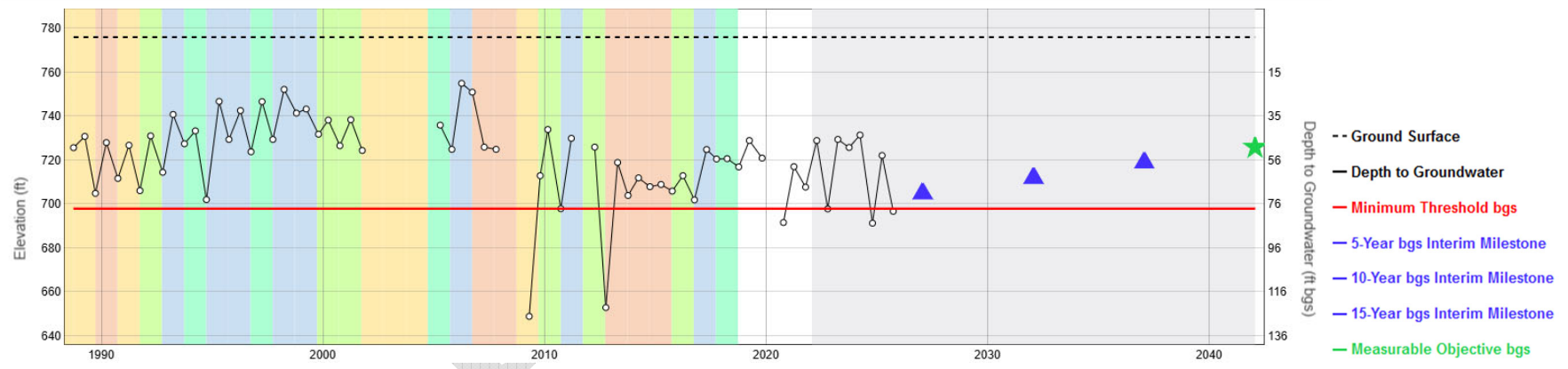
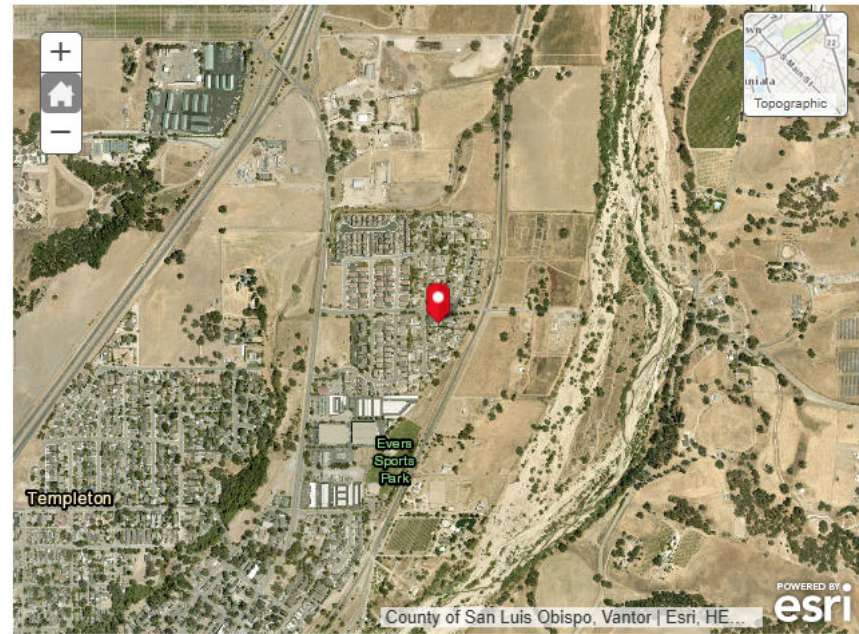


Figure F-14. 27S/12E-20R01

Site Code: 355593N1206969W001
Local Well Name: 27S/12E-20R01
Monitoring Network Type: SGMA Representative
Station ID: 50532
Latitude: 35.5593
Longitude: -120.697
Well Depth (feet bgs): 230.0
Top Perforation (feet bgs): 110.0
Bottom Perforation (feet bgs): 230.0
Ground Surface Elevation: 771.0
Reference Point Elevation: 771.0
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

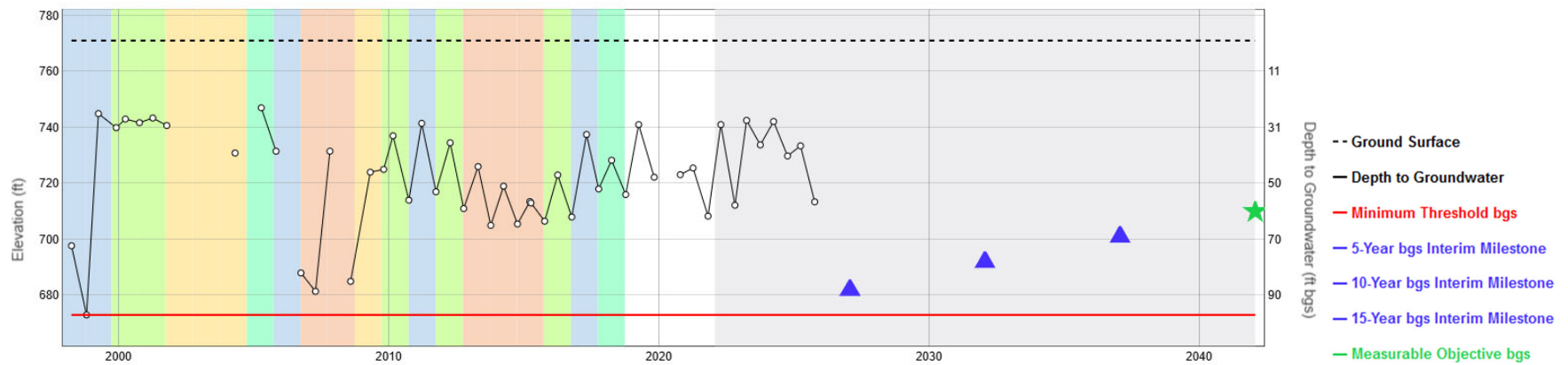
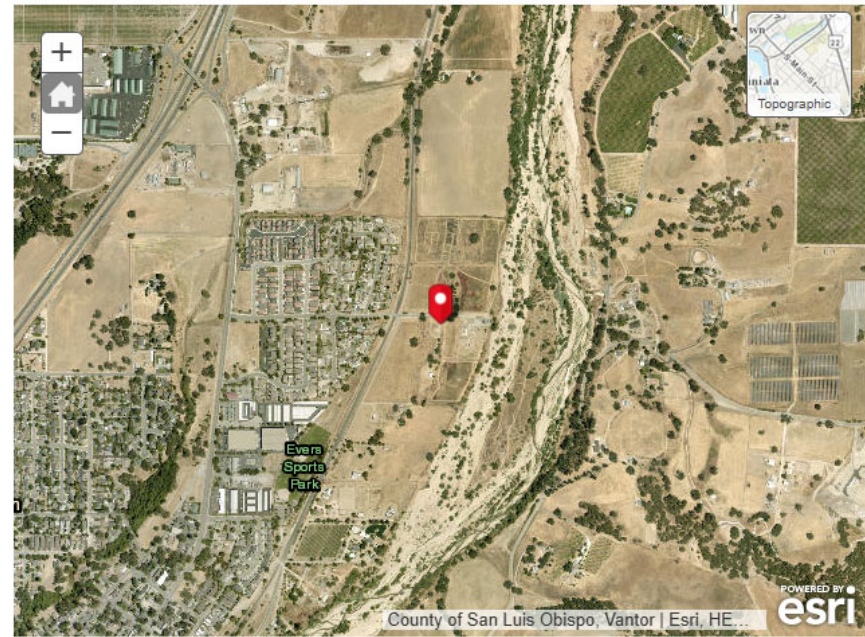


Figure F-15. 27S/12E-21XX5

Site Code: 355593N1206942W001
Local Well Name: 27S/12E-21XX5
Monitoring Network Type: SGMA Representative
Station ID: 57801
Latitude: 35.5594
Longitude: -120.694
Well Depth (feet bgs): 360.0
Top Perforation (feet bgs): 110.0
Bottom Perforation (feet bgs): 360.0
Ground Surface Elevation: 752.46
Reference Point Elevation: 752.46
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



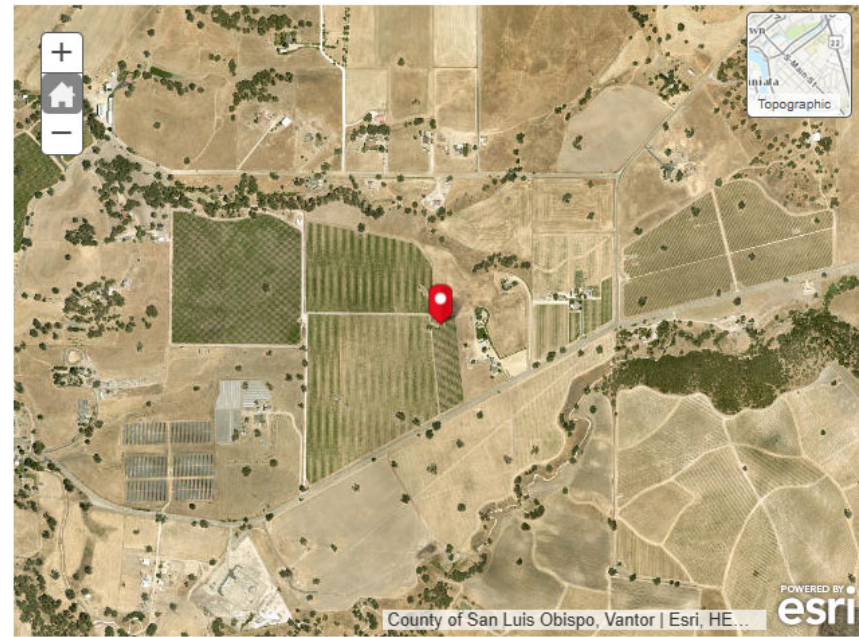
SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical



Figure F-16. 27S/12E-22M01

Site Code: 355619N1206741W001
Local Well Name: 27S/12E-22M01
Monitoring Network Type: SGMA Representative
Station ID: 57803
Latitude: 35.562
Longitude: -120.674
Well Depth (feet bgs): 550.0
Top Perforation (feet bgs):
Bottom Perforation (feet bgs):
Ground Surface Elevation: 850.0
Reference Point Elevation: 850.5
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

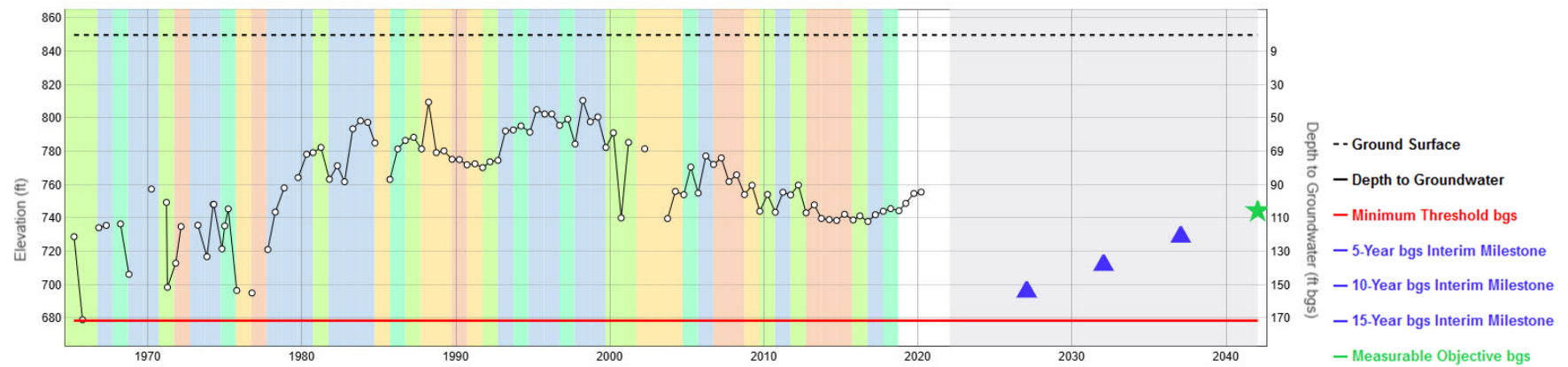
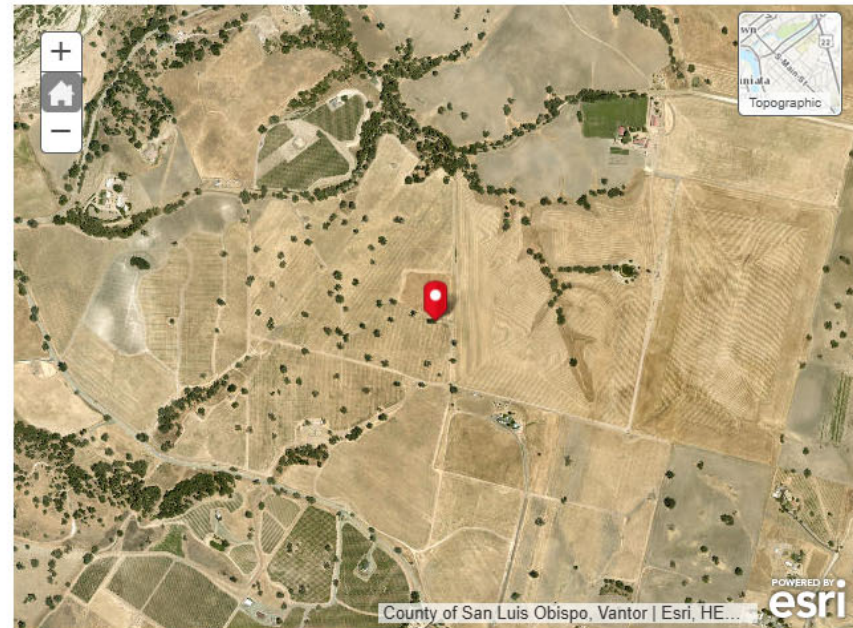


Figure F-17. 27S/12E-33F01

Site Code: 355406N1206885W001
Local Well Name: 27S/12E-33F01
Monitoring Network Type: SGMA Representative
Station ID: 57805
Latitude: 35.5407
Longitude: -120.689
Well Depth (feet bgs): 340.0
Top Perforation (feet bgs): 140.0
Bottom Perforation (feet bgs): 340.0
Ground Surface Elevation: 879.5
Reference Point Elevation: 880.0
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

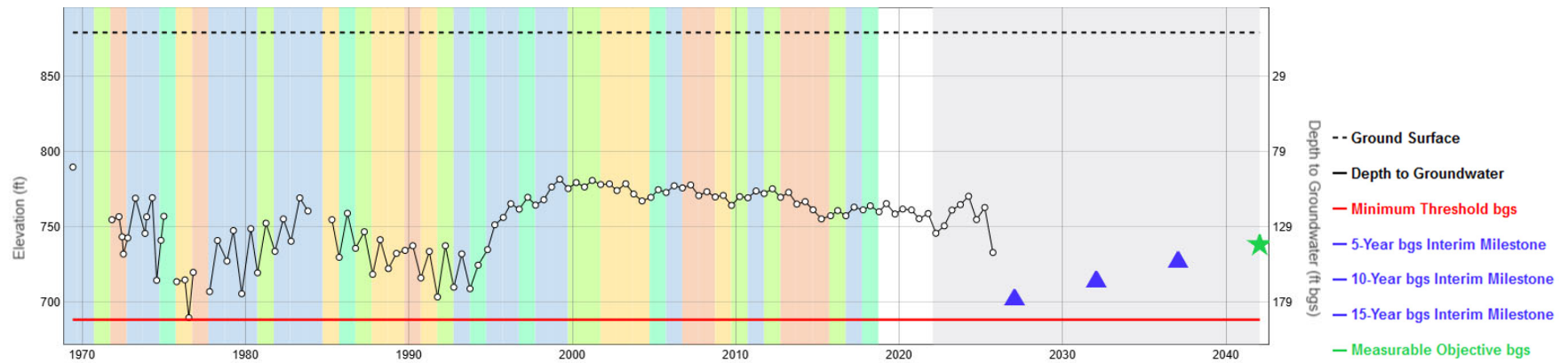
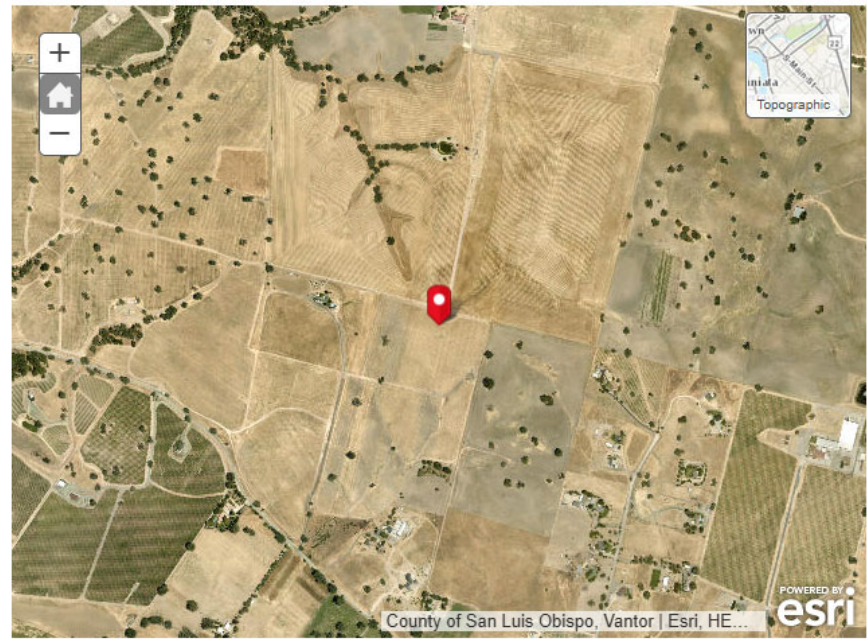


Figure F-18. 27S/12E-33G01

Site Code: 355374N1206827W001
Local Well Name: 27S/12E-33G01
Monitoring Network Type: SGMA Representative
Station ID: 57806
Latitude: 35.5374
Longitude: -120.683
Well Depth (feet bgs): 460.0
Top Perforation (feet bgs): 200.0
Bottom Perforation (feet bgs): 460.0
Ground Surface Elevation: 891.0
Reference Point Elevation: 892.0
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

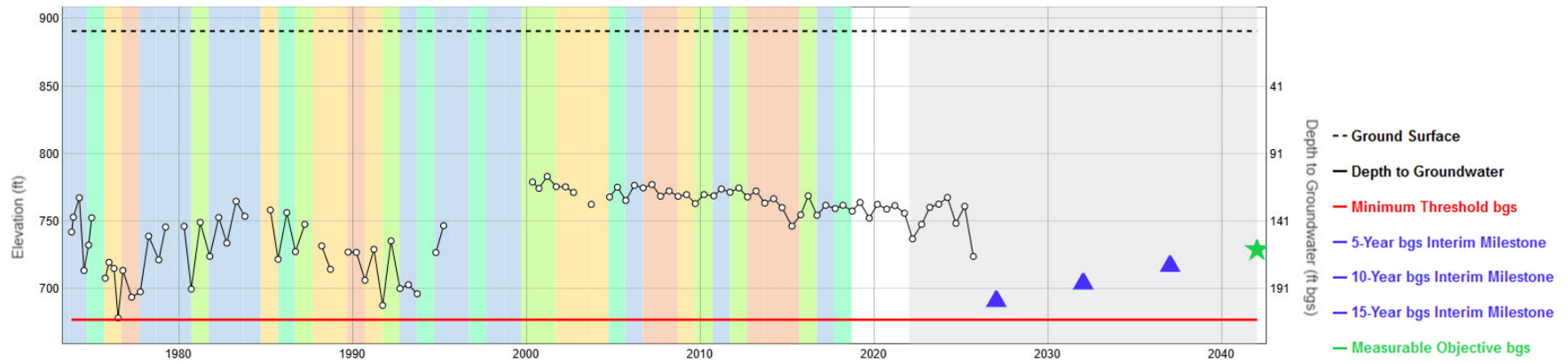
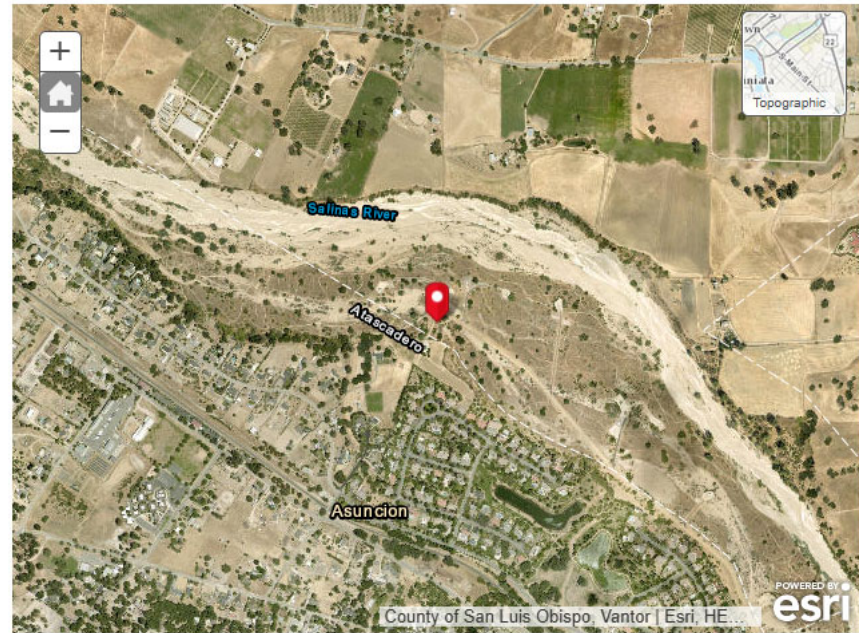


Figure F-19. 28S/12E-04J05

Site Code: 355200N1206760W001
Local Well Name: 28S/12E-04J05
Monitoring Network Type: SGMA Representative
Station ID: 57809
Latitude: 35.52
Longitude: -120.676
Well Depth (feet bgs): 360.0
Top Perforation (feet bgs): 145.0
Bottom Perforation (feet bgs): 360.0
Ground Surface Elevation: 803.13
Reference Point Elevation: 803.13
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

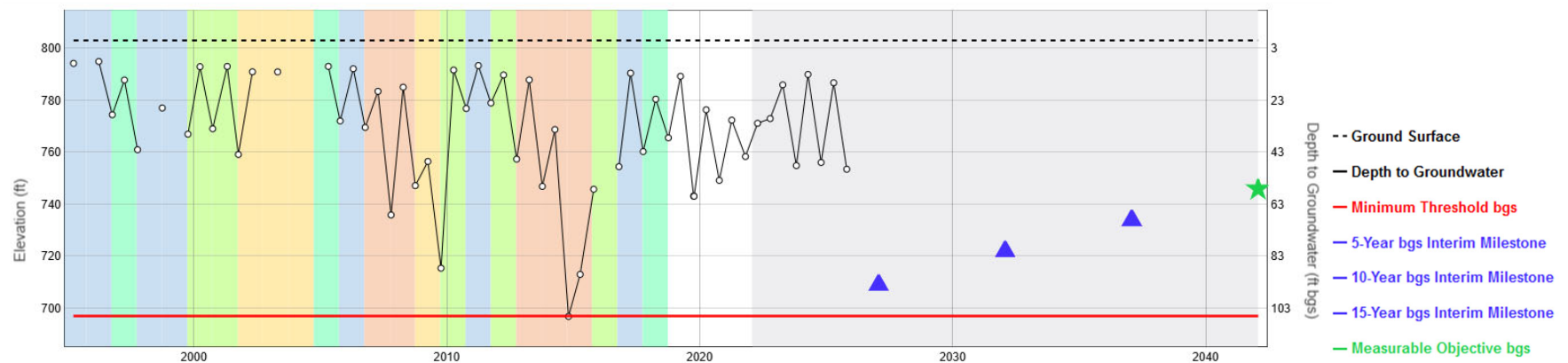


Figure F-20. 28S/12E-04J06

Site Code: 355192N1206764W001
Local Well Name: 28S/12E-04J06
Monitoring Network Type: SGMA Representative
Station ID: 50533
Latitude: 35.5192
Longitude: -120.676
Well Depth (feet bgs): 153.0
Top Perforation (feet bgs): 93.0
Bottom Perforation (feet bgs): 153.0
Ground Surface Elevation: 800.51
Reference Point Elevation: 800.51
Sustainability Indicators: Groundwater Levels



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

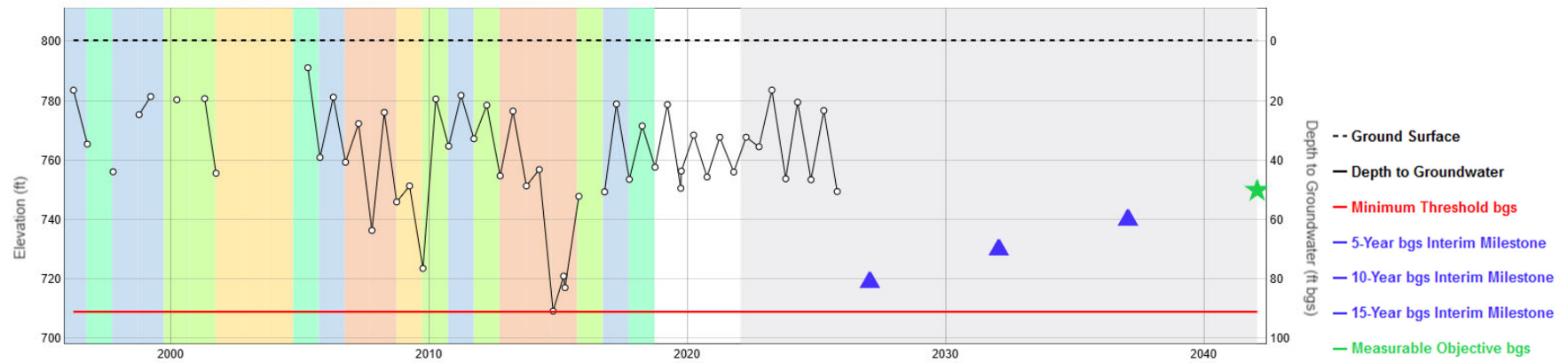
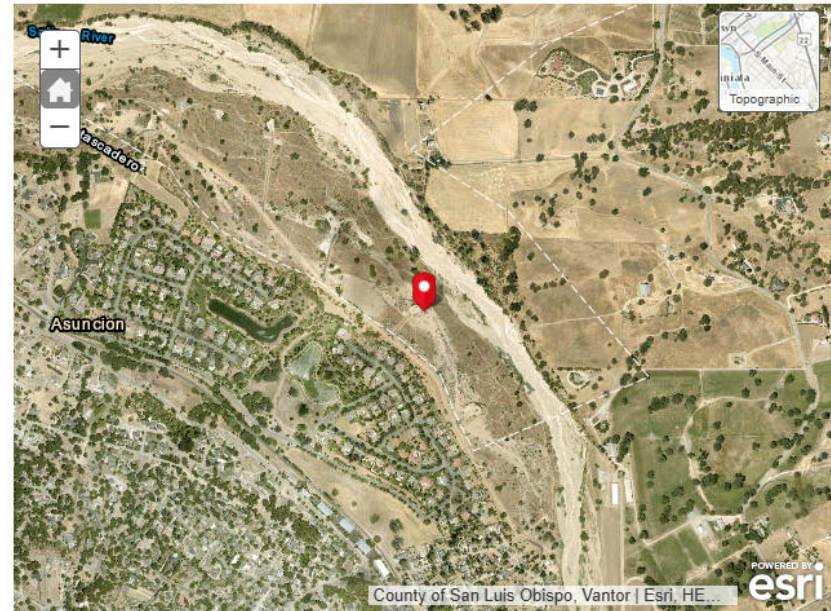


Figure F-21. 28S/12E-10A03

Site Code: 355154N1206672W001
Local Well Name: 28S/12E-10A03
Monitoring Network Type: SGMA Representative
Station ID: 57811
Latitude: 35.5154
Longitude: -120.667
Well Depth (feet bgs): 500.0
Top Perforation (feet bgs): 157.0
Bottom Perforation (feet bgs): 500.0
Ground Surface Elevation: 808.29
Reference Point Elevation: 808.29
Sustainability Indicators: Groundwater Levels, Interconnected Surface Waters



SGMA Water Year Type (HUC: 18060005 - Salinas)

■ Wet
 ■ Above Normal
 ■ Below Normal
 ■ Dry
 ■ Critical

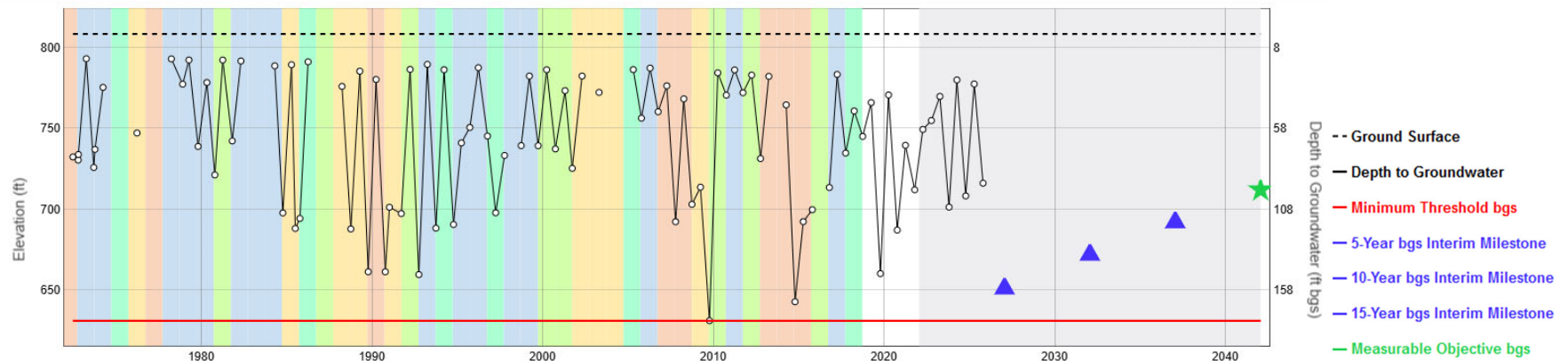


Figure F-22. 28S/12E-11K02

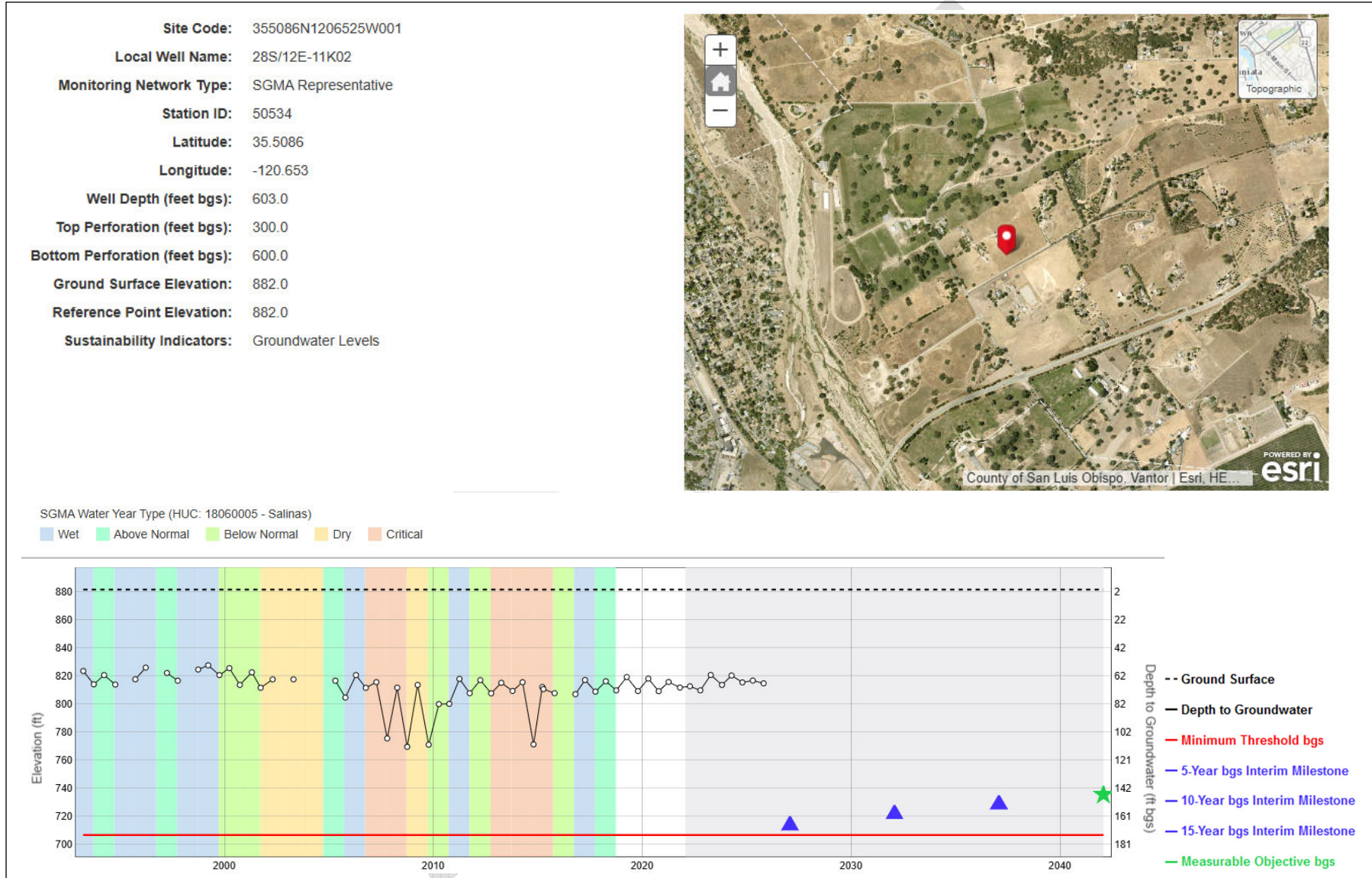
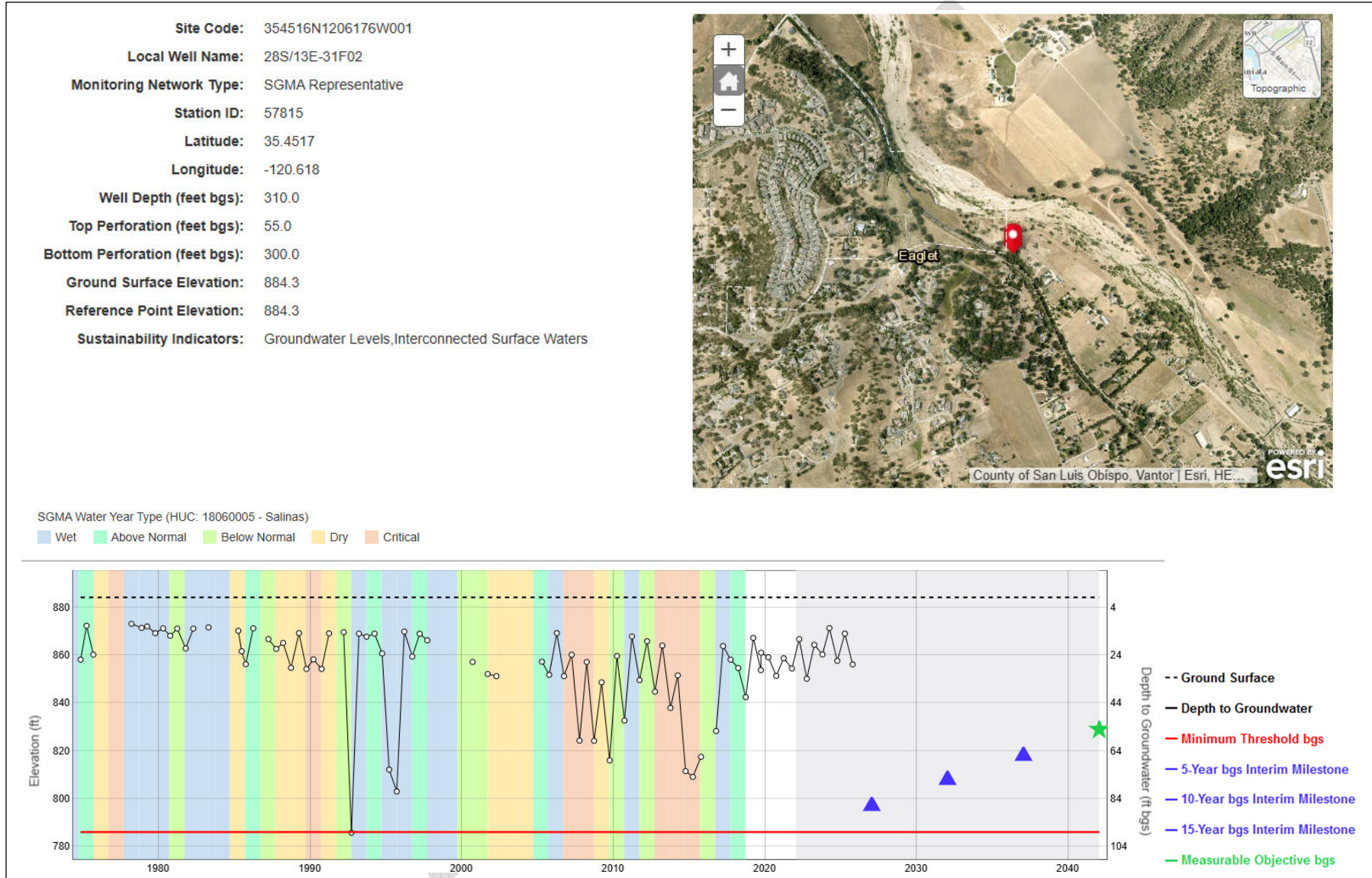


Figure F-23. 28S/13E-31F02



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Attachment H. Paso Robles Storage Coefficient Derivative

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APPENDIX X

**Paso Robles Formation Aquifer Storage Coefficient
Derivation and Sensitivity Analysis (GSI, 2020)**

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Paso Robles Formation Aquifer Storage Coefficient Derivation and Sensitivity Analysis

The annual changes in groundwater in storage calculated for water years 2017, 2018, and 2019 in the Paso Robles Formation Aquifer presented in this first annual report are based on a fixed storage coefficient (S) value derived from groundwater modeling and groundwater elevation data presented in the Groundwater Sustainability Plan (GSP) for water year 2016. The derivation of S for the Paso Robles Formation Aquifer and a sensitivity analysis are presented below. It should be noted that while the GSP groundwater model utilizes a spatially variable S (both laterally and vertically) the S value derived here and used in this first annual report is a single average value representing the Paso Robles Formation Aquifer within the Subbasin.

1.1 Derivation of the Storage Coefficient Term

Derivation of S was accomplished through a back calculation using the change in groundwater in storage in the Paso Robles Formation Aquifer determined from the GSP groundwater model for water year 2016 and the total volume change represented by a Paso Robles Formation Aquifer groundwater elevation change map prepared for water year 2016. The change in groundwater in storage for water year 2016 in the Paso Robles Formation Aquifer is -59,459 acre-feet (AF) based on the GSP groundwater model.

The Paso Robles Formation Aquifer groundwater elevation change map for water year 2016 was prepared for this annual report by comparing the fall 2015 groundwater elevation contour map to the fall 2016 groundwater elevation contour map. The fall 2015 groundwater elevations were subtracted from the fall 2016 groundwater elevations resulting in a map depicting the changes in groundwater elevations in the Paso Robles Formation Aquifer that occurred during the 2016 water year (not pictured, but similar to Figures 12, 13, and 14 in this first annual report).

The groundwater elevation change map for water year 2016 represents a total volume change within the Paso Robles Formation Aquifer of -807,490 AF. As described in Section 7.2 of this annual report, this total volume change includes the volume displaced by the aquifer material and the volume of groundwater stored within the void space of the aquifer. The portion of void space in the aquifer that can be utilized for groundwater storage is represented by S. The change in groundwater in storage is equivalent to the product of S and the total volume change, as shown here:

$$\text{Change of Groundwater in Storage} = S \times \text{Total Volume Change}$$

This equation can be re-arranged and solved for S:

$$S = \frac{\text{Change of Groundwater in Storage}}{\text{Total Volume Change}} = \frac{-59,459 \text{ AF}}{-807,490 \text{ AF}} = 0.07$$

Therefore, based on analysis of data for water year 2016, an average S value for the Paso Robles Formation Aquifer in the Paso Robles Subbasin is 0.07.

1.2 Sensitivity Analysis

The annual changes in groundwater in storage in the Paso Robles Formation Aquifer calculated for water years 2017, 2018, and 2019 presented in this first annual report are 60,106, 6,398, and 59,682 AF, respectively. These values, calculated using an S value of 0.07, appear reasonable when compared to historical changes in groundwater in storage (see Figure 15 in this first annual report). While the calculated value of S, presented above, is based on sound science and using the best readily available information, it is

necessary to acknowledge that the true value of S in the Paso Robles Formation Aquifer is spatially variable (as indicated in the GSP groundwater model) and ranges in value both above and below the calculated value of 0.07. A sensitivity analysis was performed to demonstrate the range of annual changes in groundwater in storage that result from using a range of S values. Table F1 shows that the annual change in groundwater in storage volumes can range from 27 percent less to 27 percent more than presented in this first annual report based on S values ranging from 0.05 to 0.09. This shows the sensitivity of the S value to determination of annual change in groundwater in storage. However, neither the 27 percent lower nor the 27 percent higher annual change in groundwater in storage volumes seem reasonable when compared to historical changes in groundwater in storage (as shown in Figure 15 in this first annual report). Based on this sensitivity analysis, GSI believes that the calculated value of S (0.07) is reasonable and defensible for the purposes of this first annual report.

Table F 1. Change in Groundwater in Storage Sensitivity Analysis

Water Year	Total Volume of Change (AF)	Change in Groundwater in Storage (AF), based on:								
		S = 0.05		S = 0.06		Calculated S [0.07]	S = 0.08		S = 0.09	
		(AF)	% Diff	(AF)	% Diff	(AF)	(AF)	% Diff	(AF)	% Diff
2017	816,274	43,781		51,943		60,106	68,269		76,432	
2018	86,885	4,660	-27%	5,529	-14%	6,398	7,267	14%	8,135	27%
2019	810,508	43,471		51,577		59,682	67,787		75,892	

notes:

AF = acre-feet, S = storage coefficient, % Diff = percent difference from calculated S