To the extent that this MOU conflicts with or does not accurately reflect any applicable statutes, laws, or regulations now existing or as amended or promulgated from time to time, the laws, statutes, and regulations shall govern.

To the extent that any applicable statutes, laws, or regulations are amended or newly promulgated in such a manner that causes this MOU to conflict with or no longer accurately reflect such statutes, laws, or regulations, this MOU shall be modified, in writing, by all Parties, in order to comport with the newly amended or promulgated statutes, laws, or regulations.

8. **Entire Agreement.** This MOU and items incorporated herein contain all of the agreements of the Parties with respect to the matters contained herein, and no prior agreement or understanding pertaining to any such matter shall be effective for any purpose.

9. **Amendments.** No provisions of this MOU may be amended or modified in any manner whatsoever except by an agreement in writing duly authorized by representatives of all Parties.

10. **No Assignment.** The rights and obligations of the Parties to this MOU may not be assigned or delegated, and any attempt to assign or delegate such rights or duties in contravention of this section shall be null and void.

11. **Binding Effect.** This MOU shall apply to and bind successors, assignees, contractors, subcontractors, transferees, agents, employees, and representatives of the respective Parties hereto.

12. **Governing Law.** This MOU and all documents provided for herein and the rights and obligations of the Parties hereto shall be governed in all respects, including validity, interpretation and effect, by the laws of the State of California (without giving effect to any choice of law principles).

13. **Waiver.** The failure of any Party to insist on strict compliance with any provision of this MOU shall not be considered a waiver of any right to do so, whether for that breach or any subsequent breach. The acceptance by any Party of either performance or payment shall not be considered to be a waiver of any preceding breach of the MOU by any other Party.

14. **Severability.** If any term or provision of this MOU is, to any extent, held invalid or unenforceable, the remainder of this MOU shall not be affected.

15. **Headings.** The subject headings of the sections of this MOU are included for purposes of convenience only and shall not affect the construction or interpretation of any of the provisions herein.

16. **Counterparts.** This MOU may be executed in any number of counterparts, each of which shall be an original, but all of which shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this MOU as of the day and year first above written.

PLEASANT VALLEY WATER DISTRICT, a California Water District

By: _____

Name: Bradford E. Gleason

Title: Board President

COUNTY OF FRESNO

By: _____

Ernest "Buddy" Mendes, Chairman of the Board of Supervisors of the County of Fresno

ATTEST:
Bernice E. Seidel, Clerk of the Board of Supervisors
County of Fresno, State of California

By: _____
Deputy

Appendix B – Stakeholder Communication and Engagement Plan

List of Public Meetings *(Reg. § 354.10)*

Regulation Requirements:

§ 354.10. Notice and Communication

Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.

(b) A list of public meetings at which the Plan was discussed or considered by the Agency.

(c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.

(d) A communication section of the Plan that includes the following:

- **(1)** An explanation of the Agency's decision-making process.
- **(2)** Identification of opportunities for public engagement and a discussion of how public input and response will be used.
- **(3)** A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.
- **(4)** The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.2, 10727.8, 10728.4, and 10733.2, Water Code

Pleasant Valley Subbasin

Communication & Engagement Plan

Fresno County, California
September 2020
Updated February 2022

Prepared for:
Pleasant Valley Subbasin Groundwater Sustainability Agencies
Pleasant Valley GSA • City of Coalinga GSA • Fresno County Pleasant Valley GSA Area

Prepared by:
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286 W. Cromwell Avenue, Fresno, CA 93711

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Note: This Communication & Engagement Plan will be updated as necessary throughout the GSP development, public review, and implementation phases.

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Abbreviations

AB ..... Assembly Bill
BLM ..... U.S. Bureau of Land Management
CASGEM ..... California Statewide Groundwater Elevation Monitoring
C&E ..... Communication & Engagement
CDCR ..... California Department of Corrections & Rehabilitation
CDFW ..... California Department of Fish and Wildlife
City ..... City of Coalinga
CVP ..... Central Valley Project
DA ..... Disadvantaged Areas
DAC ..... Disadvantaged Community
DWR ..... Department of Water Resources
EDA ..... Economically Distressed Areas
EIA ..... U.S. Energy Information Administration
GSA ..... Groundwater Sustainability Agency
GSP ..... Groundwater Sustainability Plan
ILRP ..... Irrigated Lands Regulatory Program
MOU ..... Memorandum of Understanding
PSA ..... Public service announcement
PVGSA ..... Pleasant Valley GSA
PVWD ..... Pleasant Valley Water District
SB ..... Senate Bill
SDAC ..... Severely Disadvantaged Community
SGMA ..... Sustainable Groundwater Management Act
USBR ..... U.S. Bureau of Reclamation

Introduction

SGMA Overview

The Sustainable Groundwater Management Act (**SGMA**) is a combination of three bills signed by California Governor Jerry Brown in 2014: Assembly Bill (**AB**) 1739, Senate Bill (**SB**) 1168, and SB 1319. SGMA provides local agencies with the authority to manage groundwater basins in a sustainable manner. The legislation recognizes that groundwater is most effectively managed at the local level, and local agencies will need to achieve groundwater sustainability within 20 years of submitting groundwater sustainability plans.

In SGMA, sustainable groundwater management is defined as management of groundwater supplies in a manner that can be maintained in planning and implementation phases without causing undesirable results. Undesirable results include the following significant and unreasonable indicators:

- Chronic lowering of groundwater levels
- Reduction of groundwater storage
- Seawater intrusion
- Degraded water quality
- Land subsidence
- Depletion of interconnected surface waters

Implementation of SGMA and outreach requirements (**Figure 0-1**) are broken down into four phases:

- **Phase 1: GSA Formation and Coordination –** Phase 1 ranged from 2015 to 2019, and during this phase, local agencies created groundwater sustainability agencies (**GSA**). The responsibility of a GSA is to develop and implement a groundwater sustainability plan (**GSP**) that will consider all beneficial uses and groundwater users within the basin. GSAs were required to be formed by June 30, 2017.
- **Phase 2: GSP Preparation and Submission –** Phase 2 ranges from 2017 to 2022, and during this phase, the GSAs must develop a subbasin-wide GSP with measurable objectives and milestones that ensure basin sustainability. A basin may be managed by a single GSP or multiple-coordinated GSPs. The California Department of Water Resources (**DWR**) developed regulations for evaluating GSPs and alternatives to GSPs by June 1, 2016. When Pleasant Valley Water District (**PVWD**) formed the Pleasant Valley GSA (**PVGSA**), the boundary originally included all of the subbasin, but DWR indicated the district could not serve as the GSA for areas outside of its jurisdictional boundary. Following notification from the DWR, the City of Coalinga and County of Fresno formed their respective GSAs in 2019. The priority for this subbasin was finalized during Phase 1 of the SGMA 2019 Basin Prioritization, the GSP is due for the basin on January 4, 2024. However, since PVGSA received Sustainable Groundwater Management funding for GSP preparation, the GSP is due earlier as discussed below.
- **Phase 3: GSP Review and Evaluation –** Phase 3 will be held in 2021 and consists of a public review period. The public review period will be held 90 days prior to the subbasin-wide public hearing and subsequent adoption of the GSP. Once the GSP has been submitted to the DWR by February 28, 2022, DWR will hold another 60-day review and comment period for stakeholders.

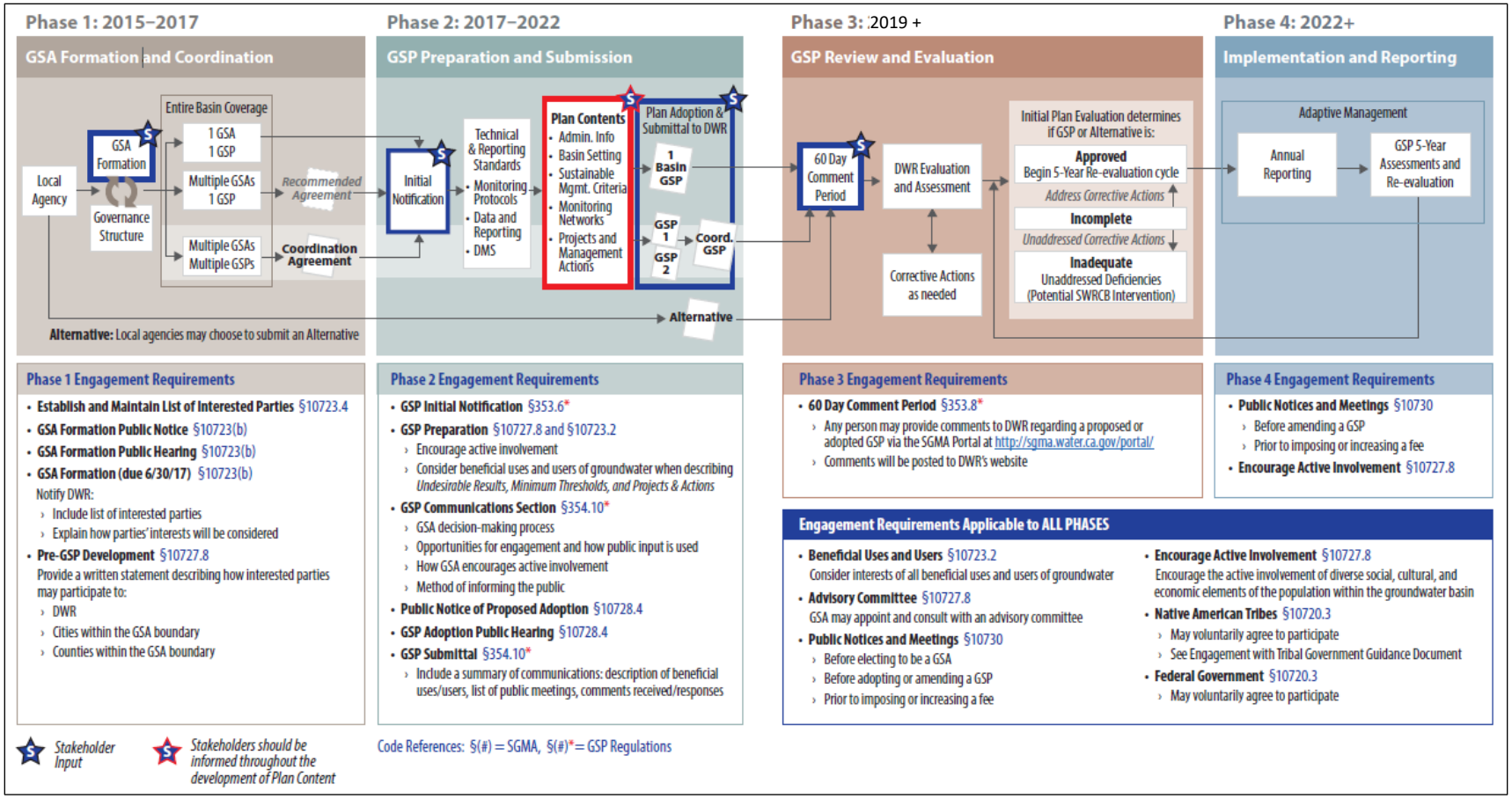
- **Phase 4: Implementation and Reporting –** Following the submission of the GSP in 2022, the Pleasant Valley Subbasin GSAs will immediately begin the implementation of efforts described in the GSP to reach sustainability within the basin. This will be an ongoing phase, as the goal of SGMA is to reach sustainability as described in the GSP by 2042.

Communication & Engagement Plan

As required by SGMA, GSAs must consider the interests of all beneficial uses and users of groundwater and include them in the GSP development process. The GSAs within the Pleasant Valley Subbasin have developed a joint Communication & Engagement (**C&E**) Plan to address how stakeholders within the individual GSA boundaries (and when collaboration is plausible at the subbasin-level) will be engaged through stakeholder education and opportunities for input and public review during the development and implementation of the GSP. This plan provides an overview of the Pleasant Valley Subbasin GSAs, their stakeholders, and decision-making process; identifies opportunities for public engagement and discussion of how public input and responses will be used; describes how the Pleasant Valley Subbasin GSAs encourage the active involvement of diverse, social, cultural, and economic elements of the population within their individual boundaries and subbasin boundary; and the methods to be used to inform the public stakeholders about the progress of GSP development, public review and implementation.

As outlined by the DWR in the GSP Stakeholder Communication and Engagement Guidance Document, this Communication & Engagement Plan defines the Pleasant Valley Subbasin GSAs' process for accomplishing the seven general steps in stakeholder communication and engagement:

- **Set Goals and Desired Outcomes –** Description of the situation at a high level with clear goals and objectives, identifying overriding concerns
- **Identify Stakeholders –** Development of a broad list of individuals, groups and organizations who need to be engaged in the process
- **Stakeholder Survey and Mapping –** Conducting a stakeholder survey to develop a "Lay of the Land" overview
- **Messages and Talking Points –** Definition of the key messages needed to effectively convey to the various subbasin stakeholders
- **Venues for Engaging –** Identification of opportunities (venues and methods) to engage stakeholders
- **Implementation Timeline –** Creation of a timeline to inform the process and highlight when to engage with stakeholders
- **Evaluation and Assessment –** Definition of a process to evaluate if communication and engagement goals are being met at the individual GSA level and through collaborative subbasin efforts



Source: GSP Stakeholder Communication and Engagement Guidance Document, California Department of Water Resources, January 2018

Figure 0-1. Stakeholder Engagement Requirements by Phase

I. Goals and Desired Outcomes

This section of the Communication & Engagement Plan provides a description of the Pleasant Valley Subbasin and the individual GSAs, defines the goals of how to address the challenges, regulatory requirements and opportunities, and how to reach the desired outcomes of communication efforts.

A. Description and Background of the Pleasant Valley Subbasin

SGMA requires all high- and medium-priority groundwater basins, as designated by the DWR Bulletin 118, to be managed by a GSA or multiple GSAs. In November 2018, DWR reclassified the Pleasant Valley Subbasin's groundwater overdraft conditions (part of the San Joaquin Valley Groundwater Basin 5-022.10) from a low-priority basin to a medium-priority basin. The Pleasant Valley Subbasin consists of three GSAs (listed in **Table I-1**), and is located entirely within the County of Fresno (**Figure I-1**).

Table I-1. GSAs in the Pleasant Valley Subbasin

GSA	GSA Member Agencies
Pleasant Valley GSA	Pleasant Valley Water District
City of Coalinga GSA	City of Coalinga
Fresno County Pleasant Valley GSA Area	County of Fresno

Under SGMA, the Pleasant Valley Subbasin GSAs are responsible for submitting a GSP to the DWR by January 4, 2024. However, with the Sustainable Groundwater Management Planning Grant, the funding requirements require submittal of the GSP by February 28, 2022. The three GSAs are committed to working collaboratively to jointly manage groundwater and develop a single GSP for the Pleasant Valley Subbasin. Representatives from these agencies communicate routinely for the purpose of developing a cooperative, comprehensive basin-wide plan that meets the requirements of SGMA and reaches the overall goal of groundwater sustainability by 2040.

Throughout the SGMA phases, the Pleasant Valley Subbasin GSAs' Boards of Directors and technical teams will be responsible for collecting and organizing data, engaging and retaining experts and consultants, and soliciting feedback from beneficial users of groundwater and interested parties within the subbasin boundary. The specific roles of the Boards of Directors and any GSA committees are described in **Section II.A**.

I.A.1 Subbasin Industries and DACs

I.A.1.1 Industries

Collaboration meetings may be held with the companies and organizations within the following industries to make sure their organizational visions and groundwater needs for facility operations are taken into consideration during GSP development and implementation phases. While an overview of the main industries within the Pleasant Valley Subbasin are described below, the industries specific to each GSA are indicated in **Section I.B**.

I.A.1.1.1 Agriculture

Agriculture is one of the top industries within the Pleasant Valley area of Fresno County. Pistachios, beef cattle, and a variety of vegetables, including carrots, garlic and tomatoes, are among the primary crops grown and processed within the Pleasant Valley subbasin.

As one of the primary industries, agriculture is the largest private employer in the county. Harris Farms is one of the largest agricultural producers within the San Joaquin Valley and has a significant presence in the area near Interstate 5 in the Coalinga area, though they are not located within the subbasin. Another major agricultural producer, The Wonderful Company, owns or manages over 3,000 acres of pistachios, and operates one of their packing facilities within the Coalinga area. Sequoia Packing Company has the largest garlic packing capacity in the world, processing, packaging, and shipping thousands of tons of garlic worldwide from their Coalinga facility.

Because of the significant presence of agriculture production within the Pleasant Valley Subbasin, agriculture industry stakeholders need to be involved and informed during the development and public review phases of the GSP. Implementation will have a significant direct impact on the industry, and ultimately the local, state, and national economies. The Pleasant Valley Subbasin GSAs will engage with agriculture stakeholders primarily at a subbasin level, as many growers may have land within multiple GSA boundaries.

I.A.1.1.2 Oil Production

Oil production is a main industry in certain areas of Fresno County and the Pleasant Valley Subbasin, primarily within the Fresno County Pleasant Valley GSA Area. First discovered in 1887, Coalinga oilfield is the single largest oilfield in Fresno County and has been ranked 76th among the top 100 producing oil fields in the United States having produced more than 5.6 million barrels of oil in 2013, according to the U.S. Energy Information Administration's (**EIA**) Top 100 U.S. Oil and Gas Fields March 2015 Report.

The oil industry is considered a beneficial user of groundwater, though the majority of groundwater is from oil extraction and not from the usable aquifer. Pleasant Valley Subbasin GSAs will include oil companies within the subbasin boundary in the stakeholder education/outreach process, notifying them of outreach meetings, meeting with them on an individual basis, and including them on the Interested Parties List. This will give representatives of the industry opportunities to provide direct input and feedback during the GSP development, public review and implementation phases.

I.A.1.2 DACs

Communication and educational outreach efforts with disadvantaged communities (**DAC**) and severely disadvantaged communities (**SDAC**) are needed for the development and implementation of the Pleasant Valley Subbasin's GSP according to the Department of Water Resources' Best Management Practices. Pleasant Valley Subbasin also consists of economically distressed areas (**EDA**), which will be covered in communications with landowners in the areas.

Information will be used to communicate to and engage the disadvantaged areas in the GSP process, will include an explanation of SGMA and soliciting feedback. A composite listing of the disadvantaged communities, along with their populations (according to the US Census American Community Survey (ACS) 5-Year Data: 2012 – 2016 accessed from the DWR website https://water.ca.gov/Work-With-Us/Grants-And-Loans/Mapping-Tools), within the subbasin boundary are listed in **Table I-2** and shown by subbasin and GSA in **Figure I-2**. There are several economically distressed areas that are not included in **Table I-2**, as they each have a population of "zero."

By including disadvantaged areas in communication efforts during the development, public review and implementation phases of the GSP, residents will be more likely to participate and provide feedback that could be crucial to long-term solutions for groundwater sustainability within their communities. Any feedback received from residents of disadvantaged areas will be reviewed and evaluated by the Pleasant Valley Subbasin GSAs during the GSP development phase.

Table I-2. Disadvantaged Communities within the Pleasant Valley Subbasin

Disadvantaged Community/Area	Population	DAC/EDA	GSA
Coalinga	16,609	DAC	City of Coalinga GSA

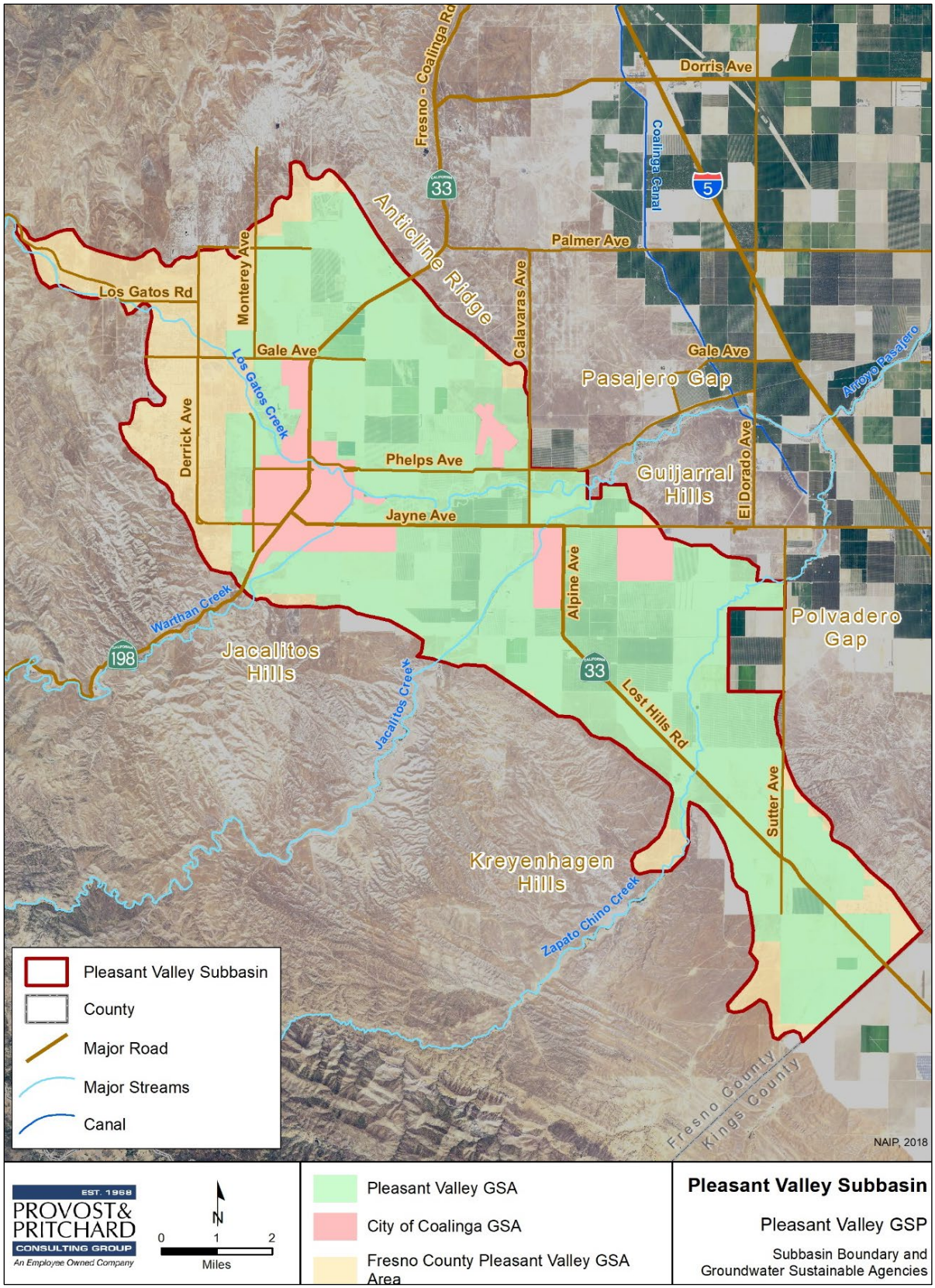


Figure I-1. Pleasant Valley Subbasin Boundary & Groundwater Sustainability Agencies

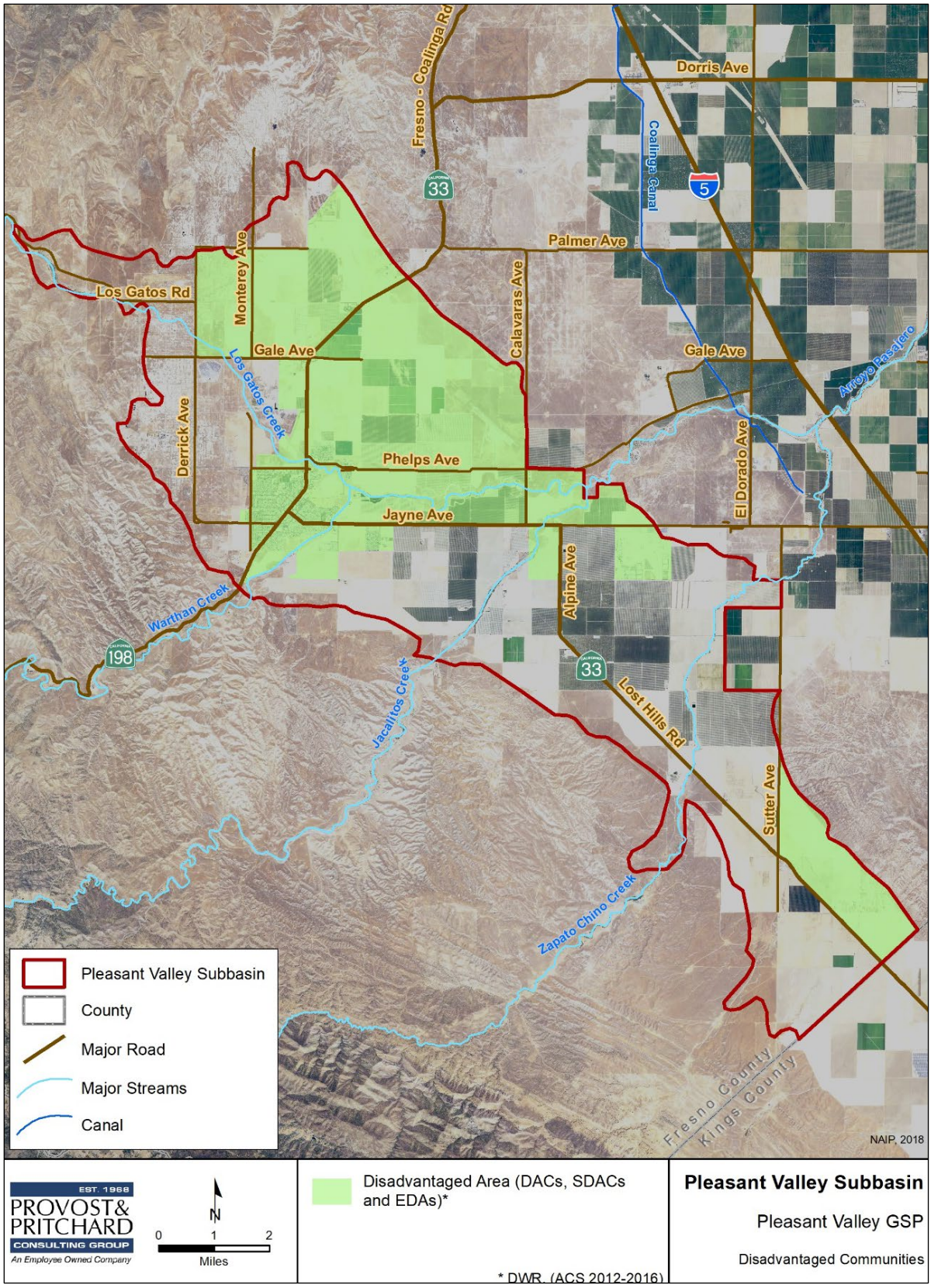


Figure I-2. Disadvantaged Communities within Pleasant Valley Subbasin

B. Description of the GSAs & Their Boundaries

I.B.1 Pleasant Valley GSA

The Pleasant Valley GSA was officially formed by the Pleasant Valley Water District (PVWD) on January 24, 2017 to meet the compliance requirements of California's SGMA legislation. The GSA's boundaries overlays the boundaries of the PVWD (**Figure I-3**).

PVWD was formed in 1963 to provide agricultural surface water to landowners, though a contracted supply was not obtained, and includes approximately 38,000 total acres, of which around 30,000 are in agriculture production, with nearly 10,000 of those acres of pistachios. With over 80 active landowner-owned water wells, many of which are monitored electronically, studies conducted by the district indicate a potential water storage capacity of 1 million acre-feet. Landowners within the district's GSA have already begun importing surface supplies to help offset the overdraft of groundwater supplies.

Pleasant Valley GSA has a Memorandum of Understanding (**MOU**) with City of Coalinga GSA and Fresno County Pleasant Valley GSA Area to take the lead in preparing the subbasin-wide GSP, while communicating and collaborating with management of the other two GSAs throughout the development, public review and implementation phases.

I.B.1.1 GSA Industry

The primary industry within the Pleasant Valley GSA is agriculture, with nearly one/third of the producing acreage in pistachios.

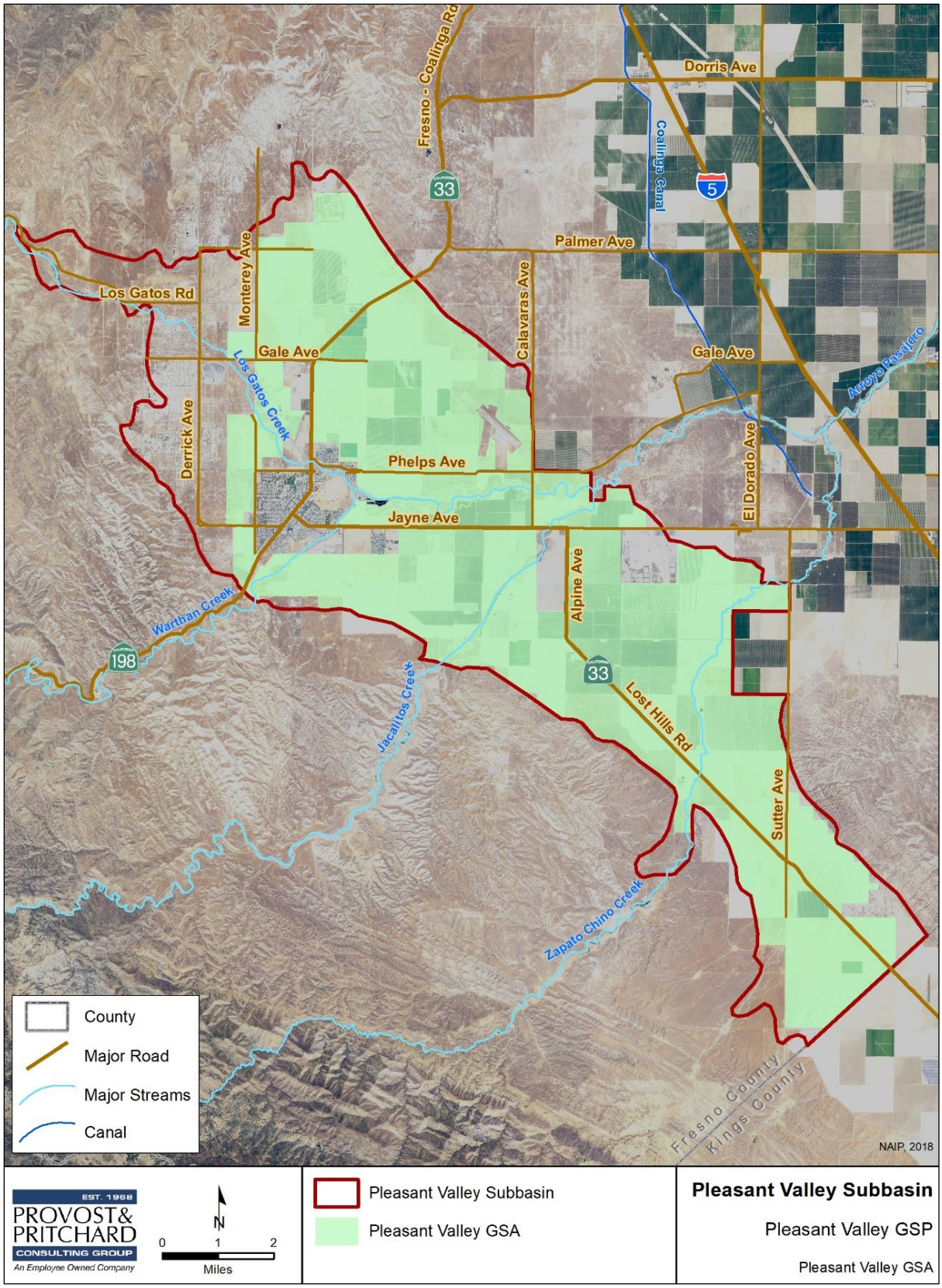


Figure I-3. Pleasant Valley GSA Boundary

I.B.2 City of Coalinga GSA

The City of Coalinga (**City**) is one of three GSAs within the Pleasant Valley Subbasin, representing the groundwater interests within the City's boundary (**Figure I-4**). The City Council officially voted to form the GSA on April 25, 2019, citing in an MOU with Pleasant Valley GSA that will provide advisory input to the Pleasant Valley GSA to prepare and implement a GSP for the subbasin.

The City's water supply is imported from Central Valley Project (**CVP**) water, which they receive under a water service contract with the U.S. Bureau of Reclamation (**USBR**), and ultimately the City does not rely on groundwater supplies. However, within the City limits, there are some agricultural entities that do pump groundwater. The City also manages the treatment and distribution of the surface water for municipal use, and for the Pleasant Valley State Prison and Coalinga State Hospital.

I.B.2.1 GSA Industry

Industry within the City of Coalinga is diverse, with the economy being driven by surrounding agricultural interests; small businesses; schools, including West Hills Community College; Coalinga State Hospital; Pleasant Valley State Prison, and a library, museum, airport and other recreational facilities.

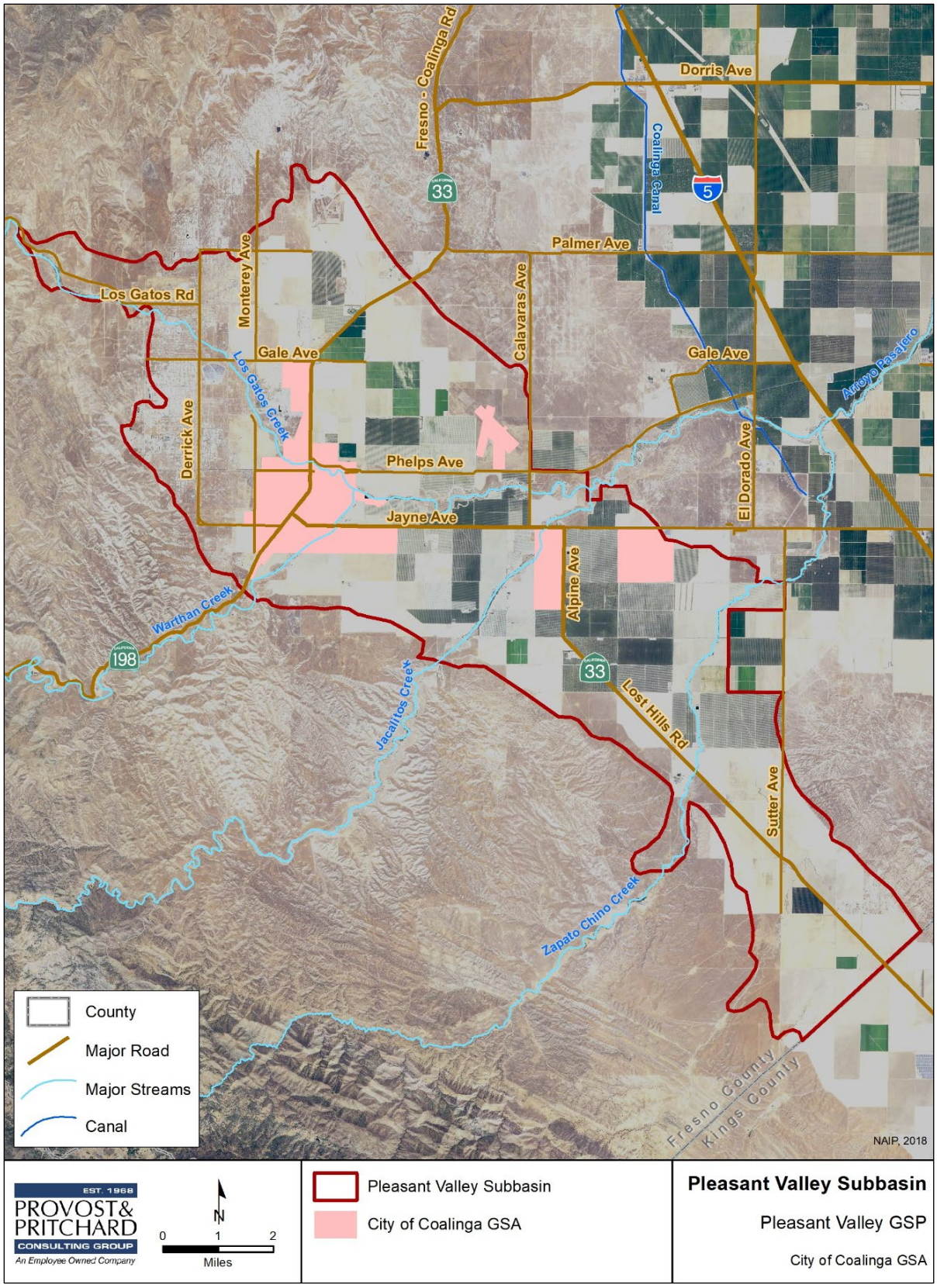


Figure I-4. City of Coalinga GSA Boundary

I.B.3 Fresno County Pleasant Valley GSA Area

When the Pleasant Valley GSA was formed, the agency originally included all the areas in the subbasin outside of the City of Coalinga, including those areas in Fresno County not within another agency (i.e. "white areas") and the area within PVWD. However, the Department of Water Resources indicated the PVGSA may not serve as the GSA for areas outside of the jurisdictional boundary of the forming agency (PVWD). The Fresno County Board of Supervisors determined it to be in the best interest of the County to serve as a GSA for the areas within the Pleasant Valley Subbasin not included within the boundaries of the Pleasant Valley GSA or City of Coalinga GSA. On May 7, 2019, the County of Fresno Board of Supervisors made it official by signing a resolution to form a GSA to represent the white area of the Pleasant Valley Subbasin (**Figure I-5**). Fresno County also has an MOU with Pleasant Valley GSA and will provide advisory input to the Pleasant Valley GSA to prepare and implement a GSP for the subbasin.

A small rural residential community, called the "Lost Hills Community" by Fresno County staff, is located toward the southern end of the GSA area that relies exclusively on groundwater.

I.B.3.1 GSA Industry

The primary industries within the Fresno County Pleasant Valley GSA Area is oil production and agriculture.

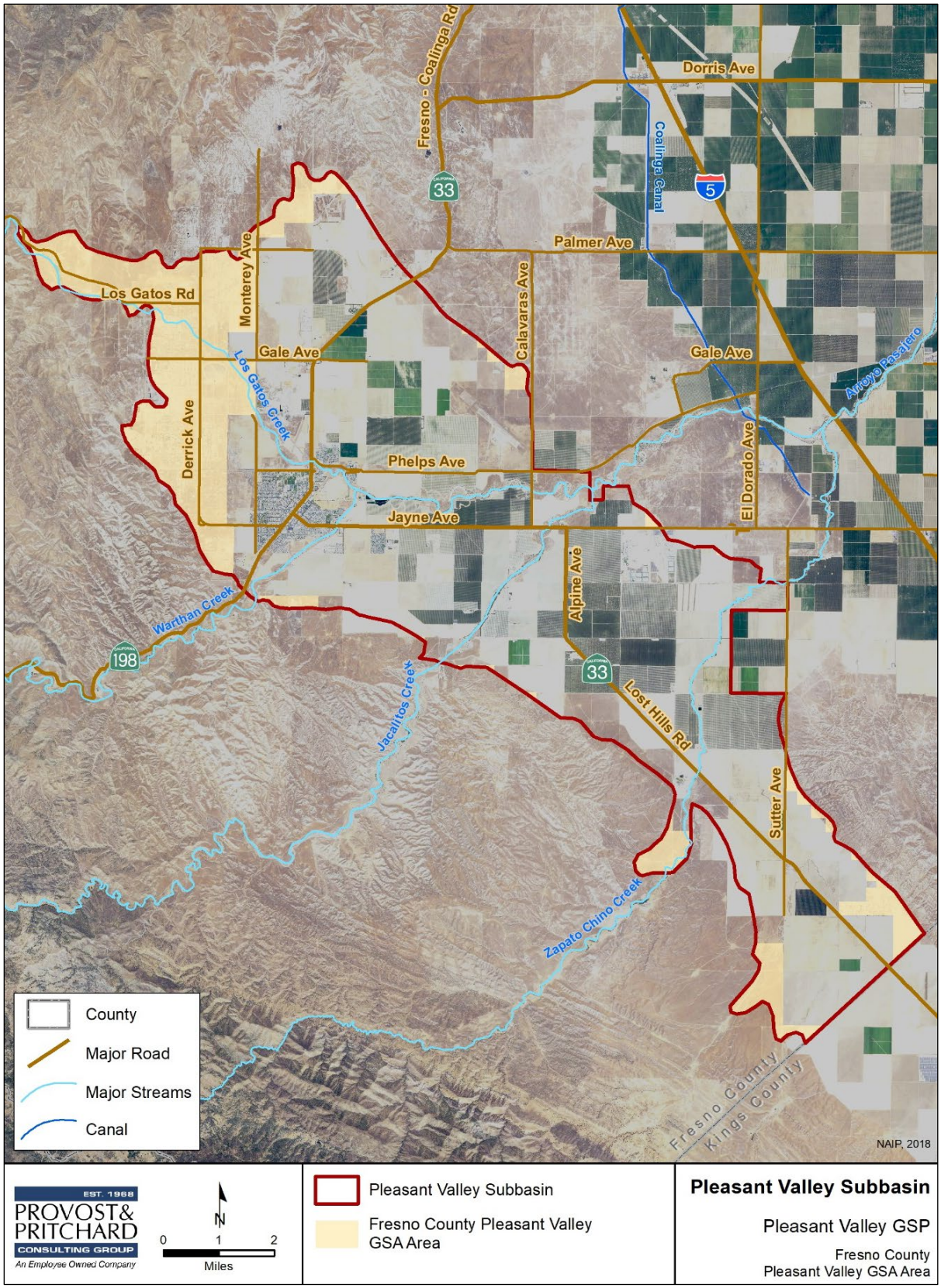


Figure I-5. Fresno County Pleasant Valley GSA Area Boundary

C. Pleasant Valley Subbasin GSAs' Decision-Making Process

The Pleasant Valley Subbasin GSAs' decision-making process are broken down by the roles of the subbasin management team, Board of Directors and potential ad-hoc committees. The roles of these subbasin and GSA entities and their responsibilities are outlined below and described in more detail in **Section II.A**.

- **Subbasin Management Team –** Comprised of designated representatives from the GSAs and technical consultants working collaboratively to jointly manage groundwater within the Pleasant Valley Subbasin and to develop a GSP, with PVGSA as the lead
- **Boards of Directors –** Adopts general policies regarding development and implementation of the GSAs and the GSP
- **Stakeholder/Advisory Committees –** Representing all beneficial uses and users of groundwater within the individual GSA boundaries, makes recommendations to the Boards of Directors and technical consultants regarding feedback from stakeholders and adoption of a GSP that accounts for local interests. The Pleasant Valley GSA formed a technical advisory committee consisting of PVGSA Directors and representatives from the other GSAs. While allowed within SGMA, these committees are not required. Each GSA has the option to form a Stakeholder/Advisory Committee.

D. Goals/Desired Outcomes of GSP Development

The overall, main goal of the Pleasant Valley Subbasin GSAs is to establish and execute a GSP that will achieve sustainable groundwater management within the Pleasant Valley Subbasin by 2042, with minimal impacts on the industries and the beneficial uses and users of groundwater (**Table II-2**, **Table II-3**, and **Table II-4**).

E. Communication Objectives to Support the GSP

The ultimate goal of communication objectives during the formation/coordination, GSP development, public review and implementation phases of the SGMA compliance, is to encourage active involvement of diverse, social, cultural, and economic elements of the population within the subbasin's boundary. The Pleasant Valley Subbasin GSAs will give beneficial users and users of groundwater opportunities to engage in the GSP process, provide educational outreach opportunities for stakeholders while reaching out through specific communication avenues (**Section V**). As active stakeholders, members of the Boards of Directors and ad-hoc committees are direct representatives of their districts, communities and industries, and it is important for them to continually gather feedback/input, and concerns/needs of their constituents and report back to their respective meetings. Any stakeholder input received will be reviewed by the Subbasin Management Team and taken into consideration during GSP development.

I.E.1 Phase 1: GSA Formation and Coordination

Phase 1: GSA Formation and Coordination has been completed. This phase stretched from 2015 through 2020, and consisted of forming the individual GSAs, development of Memorandums of Understanding between the GSAs, establishing the List of Interested Parties (**Section II.C.1**), and creating the Communication & Engagement Plan to outline communication efforts for the GSP development, public review and implementation phases. Stakeholder input was utilized during the GSA formation phase, as beneficial users and stakeholders with interests in groundwater usage within the GSAs' boundaries were notified via public meeting notices as soon as the process began (**Table I-3**).

Table I-3. GSA Formation Public Hearing Notices

GSA	Publication	Date Published	Date Public Hearing Held
Pleasant Valley GSA	The Fresno Bee	January 16, 2017; January 23, 2017	January 24, 2017
City of Coalinga GSA	The Fresno Bee	April 15, 2019; April 22, 2019	April 25, 2019
Fresno County Pleasant Valley GSA Area	The Business Journal	April 22, 2019; April 26, 2019	May 7, 2019

I.E.2 Phase 2: GSP Preparation and Submission

Phase 2: GSP Preparation and Submission will span from Spring of 2020 through February 2022. With the goal of having the draft GSP by the Fall of 2021, 2020 will primarily be the technical development of the plan, while working with the Subbasin Management Team, GSAs' Boards of Directors, any ad-hoc committees, and stakeholders (**Section II.A**), for feedback and input. During the spring and summer of 2020, the first round of public outreach meetings and interaction with stakeholder groups (**Section II.B**) and other community organizations and entities (**Section II.C**) will be held by PVGSA with the purpose of educating and informing stakeholders about SGMA and the GSP process, while also soliciting feedback and input from these groups (**Section III.A**) to consider and include feedback and input into the GSP. Public outreach for this phase will be completed primarily through collaborative subbasin-wide efforts, with progress reports given at City of Coalinga's council meetings and County of Fresno's Board of Supervisors meetings.

I.E.3 Phase 3: GSP Review and Evaluation

During 2021, Phase 3: GSP Review and Evaluation, the communication and engagement efforts will continue. Once the draft of the GSP is completed in the Fall of 2021, the public review process will begin. A 90-day public comment period will be held, with the GSP draft posted on the Pleasant Valley Subbasin GSAs' websites for all stakeholders to conveniently download, review and provide comments. Outreach meetings will be held during this phase, likely at the same locations meetings during Phase 2 were held. These meetings will focus on an overview of the GSP content, while giving stakeholders a public forum to provide their feedback and comments.

At the conclusion of the 90-day public comment period, a joint subbasin-wide public hearing will be held to receive any final comments, oral and/or written, from stakeholders with groundwater interests within the three Pleasant Valley Subbasin GSAs.

Once the public review period is completed, public comments will be taken into consideration and, as appropriate, incorporated into the final version of the Pleasant Valley Subbasin GSP. Once finalized, each GSA's Board of Directors will adopt the plan before it is submitted to the DWR no later than February 28, 2022. Following submittal, stakeholders will be given a second 60-day comment period through the DWR's SGMA portal at http://sgma.water.ca.gov/portal/. Comments will be posted to the DWR's website prior to the state agency's evaluation, assessment, and approval.

Table I-4. Public Notices for Draft GSP Public Review & Public Hearing

GSA	Publication	Date Published
Pleasant Valley Subbasin-Wide (Pleasant Valley, Fresno County Pleasant Valley, City of Coalinga GSAs	Coalinga Press	November 24, 2021; December 1, 2021
Pleasant Valley Subbasin-Wide (Pleasant Valley, Fresno County Pleasant Valley, City of Coalinga GSAs	The Fresno Bee	January 14, 2022; January 21, 2022

I.E.4 Phase 4: Implementation and Reporting

Phase 4: Implementation and Reporting will begin once the plan is submitted. Even while the DWR is reviewing the GSP, SGMA-implementation at the GSA-level must begin. During the implementation phase, communication and engagement efforts will be shifted to educational and informational awareness of the requirements and processes for reaching groundwater sustainability as set forth in the submitted GSP. Active involvement of all stakeholders is encouraged during this phase, and public notices are required for any public meetings and prior to imposing, and later increasing, any fees. Public outreach for this phase will also be completed by the through collaborative subbasin-wide efforts, particularly when target audiences span more than one GSA boundary.

F. Overriding Concerns, Major Concerns or Challenges

Through preliminary discussions with Pleasant Valley Subbasin GSAs' management, the priority for the subbasin is to comply with SGMA and avoid state intervention. Overriding concerns, major concerns or challenges are centralized around economic impacts to the oil and agricultural industry, which will also have a direct impact on DACs. Economic impacts could include loss of jobs and loss of tax revenue due to the decreased land values of fallowed ground. Many DAC residents are employed by the agricultural industries and oil industries. The agricultural and oil industries, domestic well owners, and DACs will be the main target audiences for direct outreach meetings because of the significant impact SGMA implementation will have on these beneficial users of groundwater.

A summary of additional top concerning issues affecting groundwater, and the effect of SGMA on agriculture, oil production, and rural communities/EDAs/DACs is listed in **Table III-1**.

II. Stakeholder Identification

A. Active Stakeholder Groups

The active stakeholder groups of the Pleasant Valley Subbasin GSAs are members of the Boards of Directors of each GSA and ad-hoc committees. Their specific roles in the communication and engagement process are discussed in this section.

II.A.1 Role of Boards of Directors

The Pleasant Valley Subbasin GSAs' Boards of Directors all consistently function as the governing body of the specific GSA, formed to adopt general policies regarding development and implementation of the GSP. Governance of each GSA is described below, and meeting dates, times and locations for each board are noted. All meetings are open to the public.

II.A.1.1 Pleasant Valley GSA

Pleasant Valley GSA's Board of Directors consists of seven directors, who also serve on the PVWD Board of Directors. Directors are landowners or landowner representatives from the Pleasant Valley area. The GSA regularly meets on the fourth Tuesday of January, March, May, July, September and November, following the PVWD Board of Directors meeting, which begins at 10 a.m. and is held at 24505 West Dorris Avenue in Coalinga, unless otherwise posted on https://sgma.pleasantvalleywaterdistrict.com.

II.A.1.2 City of Coalinga GSA

The City of Coalinga's council members serve as the governing board for the City of Coalinga GSA. The Council is comprised of five elected officials, each representing one of five districts within the City's boundaries. City Council meetings are held on the first and third Wednesday of each month at 6 p.m. at City Hall, located at 155 West Durian in Coalinga, California, unless otherwise posted on https://www.coalinga.com/AgendaCenter/City-Council-5.

II.A.1.3 Fresno County Pleasant Valley GSA Area

The governing board of the Fresno County Pleasant Valley GSA Area is composed of the County's Board of Supervisors. Fresno County Board of Supervisors meetings are held the first and third Tuesdays of each month (unless otherwise posted by County officials) at 9 a.m. at the Board Chambers, located in the Hall of Records, on the third floor of 2281 Tulare Street in Fresno, California, unless otherwise posted on https://www.co.fresno.ca.us/departments/board-of-supervisors.

II.A.2 Role of Stakeholder/Advisory Committees

In Section 10727.8 "Public Notification and Participation; Advisory Committee" of the Sustainable Groundwater Management Act, GSAs may appoint and consult with an advisory committee for the purpose of developing and implementing a GSP. Through a stakeholder/advisory committee, a GSA is able to encourage the active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin prior to and during the development and implementation of the GSP. The formation of a stakeholder or advisory committee is not a requirement but may be formed at any time during the phases of the GSP preparation and implementation.

II.A.2.1 Pleasant Valley GSA

Pleasant Valley GSA has a technical advisory committee that consists of three of Pleasant Valley Water District Board members and one representative from the City of Coalinga GSA and one representative from the Fresno County Pleasant Valley GSA Area.

II.A.2.2 City of Coalinga GSA

City of Coalinga GSA does not have a stakeholder or advisory committee but has a member on the PVGSA technical advisory committee.

II.A.2.3 Fresno County Pleasant Valley GSA Area

The Fresno County Pleasant Valley GSA Area does not have a stakeholder or advisory committee but has a member on the PVGSA technical advisory committee. However, in March 2015, the Fresno County Board of Supervisors formed a SGMA Workgroup to advise the Board of Supervisors on items related to SGMA. This has included developing recommendations for a governance structure to form GSAs, conduct research on what other local agencies are doing to implement SGMA, monitor legislation, set policies, and potential funding opportunities. The SGMA Workgroup meets periodically.

B. Specific Stakeholder Groups

Based on the applicable interests identified in SGMA, Section 10723.2 "Consideration of All Interests of All Beneficial Uses and Users of Groundwater" (**Table II-1**), the three Pleasant Valley Subbasin GSAs have identified the stakeholder groups with interests within their respective boundaries. These specific stakeholder groups have financial, political, business or personal stakes in the management of groundwater within the jurisdiction of the Pleasant Valley Subbasin and will be the focus of communication and engagement efforts during the GSP development, public review and implementation phases. These stakeholders are listed by GSA in **Table II-2**, **Table II-3**, and **Table II-4**.

Table II-1. Consideration of All Interests of All Beneficial Uses and Users of Groundwater

SGMA, Section 10723.2. Consideration of All Interests of All Beneficial Uses and Users of Groundwater		
Agricultural Users	Domestic Well Owners	Municipal Well Operators
Public Water Systems	Local Land Use Planning Agencies	Environmental Users of Groundwater
Surface Water Users	Federal Government	California Native American Tribes
Disadvantaged Communities	Entities monitoring and reporting groundwater elevations in all or part of a groundwater basin	

II.B.1.1 Environmental Users of Groundwater

It should be noted that environmental users of groundwater within the Pleasant Valley Subbasin were investigated by the Pleasant Valley GSA, City of Coalinga GSA, and Fresno County Pleasant Valley GSA Area, but none were identified to have specific groundwater interests within the subbasin. If there are environmental groups with groundwater interests, they can seek participation in the GSP development and public review process at their request within their specific GSA.

II.B.1.2 Federal Government

The City of Coalinga has a surface water contract with the USBR for the City's municipal and public water supply, which is delivered to the City's water treatment plant via the Coalinga Canal located northeast of the City. The City pays a delivery fee to the USBR for the surface water. The Pleasant Valley GSAs will

coordinate efforts with USBR personnel directly as necessary throughout the GSP development, public review and implementation phases.

In addition, there are portions of land owned by the Bureau of Land Management (**BLM**) around the subbasin, but not within the subbasin. To the west of the subbasin is the Coalinga Mineral Springs National Recreation Trail. The trail is located on the southern tip of the Diablo Mountains and is a mixed chaparral-foothill vegetation community with grey pine, chamise, Manzanita, yucca, and other shrubs and annual wildflowers. There is no longer any running water or facilities at the trail entrance.

II.B.1.3 State Government

The Pleasant Valley State Prison, operated by the California Department of Corrections and Rehabilitation (**CDCR**), as well as the Coalinga State Hospital, operated by the Department of State Hospitals, are located within the Pleasant Valley Subbasin. Both facilities receive their water from the City of Coalinga. The Pleasant Valley State Prison's treated wastewater is purchased by a nearby landowner and used for agricultural purposes. Appropriate prison and hospital personnel will be invited to provide input on their needs during development of the GSP and invited to review and provide public comment on the plan.

The approximately 1,200-acre Pleasant Valley Ecological Reserve has three units in the Pleasant Valley area: Phelps Avenue, Jayne Avenue, and Southern. It has a mixture of annual grassland and saltbush scrub habitats. It also contains some seasonal riparian areas. Animals include foxes, squirrels, and lizards. The approximately 160-acre Southern Unit is primarily located within the PVGSA portion of the subbasin, just north of Zapato Chino Creek and west of Sutter Avenue and has abandoned wells that are not proposed to be rehabilitated or re-drilled. Management is by the California Department of Fish and Wildlife (**CDFW**). See https://wildlife.ca.gov/Lands/Places-to-Visit/Pleasant-Valley-ER) for more information. CDFW staff are on the interested parties list and engaged in the stakeholder process.

II.B.1.4 Native American Tribes

There are no known California Native American Tribes within the Pleasant Valley Subbasin. However, the GSAs will continue to investigate any possible Native American Tribal interests and will include their participation if any interests are identified.

II.B.2 Pleasant Valley GSA Stakeholders

The interests of the parties identified in **Table II-2** will be considered in the operation of the Pleasant Valley GSA, and the development and implementation of the GSP. These stakeholders will have opportunities to provide input through written public comments, and opportunities to participate in regular and special board meetings, and public workshops.

Table II-2. Stakeholder Groups with Interests in the Pleasant Valley GSA

Stakeholder Group	Description
Agricultural Users	Agriculture landowners rely on groundwater or import surface water for irrigation and are represented through members of the PVWD Board of Directors. Relationships with agricultural water users are already established.
Domestic Well Owners	Represented by landowners within the GSA boundary who own residences located on their rural properties.
Local Land Use Planning Agencies	County of Fresno
Surface Water Users	While there is no known hydrologic connection between surface and groundwater flows within the PVGSA, the subbasin has several creeks within the boundary including Los Gatos Creek, Warthan Creek, Zapato Chino Creek, and Jacalitos Creek.
Federal Government	The Bureau of Land Management has land nearby but located outside of the Pleasant Valley Subbasin.
Disadvantaged Communities	There are disadvantaged areas within the GSA.
State Government	The Department of Fish and Wildlife manages the Pleasant Valley Ecological Preserve, a portion of which is located with the PVGSA.
Entities monitoring and reporting groundwater elevations in all or part of a groundwater basin	Represented by PVWD as the California Statewide Groundwater Elevation Monitoring (CASGEM) Program's monitoring entity for the Pleasant Valley Subbasin.

II.B.3 City of Coalinga GSA Stakeholders

The interests of all beneficial uses and users of groundwater within the City of Coalinga GSA are identified in **Table II-3**:

Table II-3. Stakeholder Groups with Interests in the City of Coalinga GSA

Stakeholder Group	Description
Agricultural Users	Agriculture users within the GSA rely on groundwater.
Public Water Systems	The City operates a public water system, using surface water to provide municipal and drinking water to residents located within the GSA boundary. All domestic and municipal use in the City is supplied by the City from imported water under the City's contract with the USBR. The Pleasant Valley State Prison and Coalinga State Hospital receives their water treated and delivered, from the City.
Municipal Water Systems	The Coalinga-Huron Recreation and Parks District operates one or more wells in the GSA to irrigate parks located within the City.
Local Land Use Planning Agencies	City of Coalinga, County of Fresno
Surface Water Users	While there is no hydrologic connection between surface and groundwater flows within the PVGSA, the subbasin has several creeks within the boundary including Los Gatos Creek and Warthan Creek. The City has a surface water contract with the USBR for City's public water system, which is delivered to the City's water treatment plant via the Coalinga Canal located east of the City.
Disadvantaged Communities	City of Coalinga
Entities monitoring and reporting groundwater elevations in all or part of a groundwater basin	Represented by PVWD as the California Statewide Groundwater Elevation Monitoring (CASGEM) Program's monitoring entity for the Pleasant Valley Subbasin

II.B.4 Fresno County Pleasant Valley GSA Area Stakeholders

An initial list of stakeholders within the Fresno County Pleasant Valley GSA Area is described in **Table II-4**.

Table II-4. Stakeholder Groups with Interests in the Fresno County Pleasant Valley GSA Area

Stakeholder Group	Description
Agricultural Users	Agricultural users within the GSA rely on groundwater or import surface water for irrigation.
Domestic Well Owners	Domestic wells within the GSA boundary are located at residences of landowners and landowner employees.
Local Land Use Planning Agencies	County of Fresno
Disadvantaged Communities	There are disadvantaged areas within the GSA.
Entities monitoring and reporting groundwater elevations in all or part of a groundwater basin	Represented by PVWD as the California Statewide Groundwater Elevation Monitoring (CASGEM) Program's monitoring entity for the Pleasant Valley Subbasin

C. Community Organizations, Public Agencies and Other Entities

There are many community organizations, public agencies and other entities throughout the Pleasant Valley Subbasin's boundary that will be utilized to reach out to stakeholders. These resources identified as avenues for outreach opportunities are listed in **Table II-5**, and organized by subbasin-wide and individual GSA efforts. Additional community organizations, public agencies and entities may be added to the list as GSP development and implementation phases move forward, and as additional connections are made between the Pleasant Valley Subbasin GSAs and the communities within their boundaries.

The Pleasant Valley Subbasin GSAs can communicate with these resources as an avenue to reach stakeholders. Opportunities to give presentations at their respective meetings may be scheduled, and the Pleasant Valley Subbasin GSAs will work with these organizations and agencies to distribute stakeholder surveys, public outreach meeting notices and educational information via email distribution, social media posts and other printed materials (handouts).

If a GSA Board of Director or ad-hoc committee member is currently involved with or has contacts within a community organization, public agency, or other entity, they may present on behalf of the GSA and Pleasant Valley Subbasin to further outreach efforts. A universal presentation may be developed for a consistent message, and may include an overview on SGMA and why it is important to the audience, explanation and updates of the GSP development process including an awareness of the public review period, and education of GSP requirements during the implementation phase. Talking points and key messages for GSP development, public review and implementation phases are discussed further in **Section IV**.

Table II-5. Community Organizations and Public Agencies

Organization/ Public Agency	Responsible GSA			Contact Information
	Pleasant Valley	City of Coalinga	Fresno Co. – PV	
Water/Other Districts				
Pleasant Valley Water District	X			Contact: Brad Gleason, President Address: Post Office Box 468, Coalinga, CA 93210 Email: bgleason@westhillsfinancial.com
Coalinga-Huron Cemetery District	X			Contact: Virginia Lopez Address: PO Box 447, Coalinga, CA 93210 Telephone: (559) 630-5447; Email: lopezvirginia1191@yahoo.com; coalingahuroncemetery@yahoo.com
Coalinga-Huron Library District		X		Contact: Mary Leal, Library Director Address: 305 N. 4th Street, Coalinga, CA 93210 Telephone: (559) 935-1676
Coalinga-Huron Mosquito Abatement District	X	X	X	Contact: Ralph Baiza, General Manager Address: PO Box 478, Coalinga, CA 93210 Telephone: (559) 935-3198
Coalinga-Huron Recreation and Parks District		X		Contact: Lisa Gonzalez, General Manager Address: Post Office Box 386, Coalinga, CA 93210 Telephone: (559) 935-0727; Email: jroderick@chrpd.org

Organization/ Public Agency	Responsible GSA			Contact Information
	Pleasant Valley	City of Coalinga	Fresno Co. – PV	
Municipal Agencies				
City of Coalinga		X		Contact: Sean Brewer, Assistant City Manager Address: 155 West Durian, Coalinga, CA 93210 Telephone: (559) 935-1533; Email: sbrewer@coalinga.com
County of Fresno			X	Contact: Glenn Allen, Public Works & Planning Address: 2220 Tulare Street, 6th Floor, Fresno, CA 93721 Telephone: (559) 600-9672; Email: glallen@fresnocountyca.gov
Agriculture/Oil Industry/Commercial Organizations				
Aera Energy, LLC *(oil company)*			X	Address: 29010 Shell Road, Coalinga, CA 93210 Telephone: (559) 935-7400; Website: www.aeraenergy.com
Almond Board of California	X		X	Address: 1150 Ninth Street, Suite 1500, Modesto, CA 95354 Telephone: (209) 549-8262; Email: staff@almondboard.com
California Fresh Fruit Association *(formerly California Grape & Tree Fruit League)*	X		X	Address: 7647 N. Fresno St., Suite 103, Fresno, CA 93720 Telephone: (559) 226-6330; Email: aborchard@cafreshfruit.com
California Independent Petroleum Association (CIPA)	X	X	X	Contact: Willie Rivera, Director of Regulatory Affairs Telephone: (661) 395-5287; Email: willie@cipa.org
California Pistachio Research Board	X		X	Address: 4938 E. Yale Avenue, Suite 102, Fresno, CA 93727 Telephone: (559) 255-6480; Email: admin@acpistachios.org; bobk@acpistachios.org
Central Valley Meat Co. (Harris Ranch Beef)	X		X	Contact: Brian Coelho, President & CEO Corporate Address: 10431 8-3/4 Avenue, Hanford, CA 93230 Address: 29475 Fresno-Coalinga Road, Coalinga, CA 93210 Telephone: (559) 583-9624; Email: brian@centralvalleymeat.com
Chevron Corporation	X	X	X	Contact: Cody Tolbert Address: Post Office Box 1392, Bakersfield, CA 93311 Local Address: 39405 S. Derrick Avenue, Coalinga, CA 93210 Telephone: (661) 654-7296 Email: CodyTolbert@chevron.com
Coalinga Feed Yard	X		X	Contact: Jim Anderson, Craig Finster Address: 35244 Oil City Road, Coalinga, CA 93210 Telephone: (559) 935-0836; Email: jsafarms@lightspeed.net; craigfinster@yahoo.com
Fresno County Farm Bureau	X		X	Contact: Kayleena Speakman, Communications & Operations Manager Address: 1274 W. Hedges Avenue, Fresno, CA 93728 Telephone: (559) 237-0263; Email: info@fcfb.org

Organization/ Public Agency	Responsible GSA			Contact Information
	Pleasant Valley	City of Coalinga	Fresno Co. – PV	
Granite Construction		X	X	Contact: Courtney DePorto, Environmental Coordinator, Valley Region Address: 4001 Bradshaw Road, Sacramento, CA 95827 Telephone: (916) 855-4514; Email: courtney.deporto@gcinc.com
Harris Farms	X		X	Contact: John Harris, Company Chairman Address: 21011 E. Trimmer Springs Road, Sanger, CA 93657 Telephone: (800) 742-1955; Email: JohnHarris@HarrisFarms.com
Harris Ranch Inn & Restaurant				Contact: Brad Reynolds, General Manager Address: 24505 West Dorris Avenue, Coalinga, CA 93210 Telephone: (559) 935-0717; Email: Brad.Reynolds@HarrisFarms.com
Phillips 66 *(oil company)*			X	Address: 256 E. Polk Street, Coalinga, CA 93210 Telephone: 559) 935-0388
Sequoia Packing Company		X		Contact: David Grimes, General Manager Address: 500 Enterprise Parkway, Coalinga, CA 93210 Mailing Address: Post Office Box 1015, Coalinga, CA 93210 Telephone: (559) 934-1763; Email: david@degrimes.com
University of California Cooperative Extension, Fresno County	X		X	Contact: Karmjot Randhawa, County Director Address: 550 E. Shaw Avenue, Suite 210-B, Fresno, CA 93710 Telephone: (559) 241-7515; Email: kgrandhawa@ucanr.edu
West Hills Oil, Inc.	X		X	Contact: Scott Cain, President Address: 485 W. Elm Avenue, Coalinga, CA 93210 Telephone: (559) 935-1687; Email: amy@westhillsoil.com
Wonderful Farms	X		X	Contact: Address: Telephone: Email:
Environmental Justice Organizations				
Self-Help Enterprises		X		Contact: Paul Boyer, Program Director Address: Post Office Box 6520, Visalia, CA 93290 Telephone: (559) 802-1681; Email: paulb@selfhelpenterprises.com
Service Organizations				
Coalinga Chamber of Commerce		X		Contact: Scott Netherton Executive Director Address: 265 W. Elm Avenue, Coalinga, CA 93210 Telephone: (559) 935-2948; Email: CoalingaChamber@gmail.com
Coalinga Elks Lodge #1613		X		Mailing Address: Post Office Box 1013, Coalinga, CA 93210 Physical Address: 200 Cambridge Avenue, Coalinga, CA 93210 Telephone: (559) 935-1613; Email: tamaranebelung@gmail.com
Coalinga Fraternal Order of Eagles #1872		X		Address: 156 W. Durian Avenue, Coalinga, CA, 93210 Telephone: (559) 934-1827

Organization/ Public Agency	Responsible GSA			Contact Information
	Pleasant Valley	City of Coalinga	Fresno Co. – PV	
Coalinga Lions Club		X		Address: Post Office Box 201, Coalinga, CA 93210 Telephone: (559) 935-1954
Kiwanis Club of Coalinga		X		Address: Post Office Box 404, Coalinga, CA 93210 Telephone: (559) 935-2941
State and Federal Facilities				
Bureau of Land Management – Coalinga Mineral Springs				Contact: Central Coast Field Office Address: 940 Second Avenue, Marina, CA 93933 Telephone: (831) 582-2200; Email: BLM_CA_Web_CC@blm.gov
California Department of Fish and Wildlife	X			Contact: Andrew G. Gordus, Ph. D., Staff Toxicologist/Region 4 SGMA Physical Address: 1234 East Shaw Ave., Fresno, CA 93710 Telephone: (559) 243-4014 x 239; Email: Andy.Gordus@wildlife.ca.gov
Department of State Hospitals – Coalinga		X		Contact: Brandon Price, Executive Director Physical Address: 24511 W. Jayne Ave, Coalinga, CA 93210 Mailing Address: Post Office Box 5000, Coalinga, CA 93210 Telephone: (559) 935-4300
Pleasant Valley State Prison (CDCR)		X		Contact: Scott Frauenheim, Warden Physical Address: 24863 W. Jayne Ave, Coalinga, CA 93210 Mailing Address: Post Office Box 8500, Coalinga, CA 93210 Telephone: (559) 935-4900

II.C.1 School Districts

School districts within the Pleasant Valley Subbasin boundary are listed in **Table II-6** and reflected in **Figure II-1.** The schools receive their water from the City of Coalinga and should be included in the stakeholder outreach process. In addition, schools are an avenue for communicating with other stakeholders whose students attend the schools, particularly families within the rural areas who are agricultural users and domestic well owners or reside in a disadvantaged area.

Table II-6. School Districts within the Pleasant Valley Subbasin

School Districts	Responsible GSA			Contact Information
	Pleasant Valley GSA	City of Coalinga GSA	Fresno Co. - PV	
Coalinga-Huron Unified School District	X	X	X	Contact: Lori Villanueva, Superintendent Address: 657 Sunset Street, Coalinga, CA 93210 Telephone: (559) 935-7500; Email: lvillanueva@chusd.org Website: www.chusd.org
West Hills College, Coalinga	X	X		Contact: Carla Tweed, President Address: 300 Cherry Lane, Coalinga, CA 93210 Telephone: (559) 934-2200; Email: carlatweed@whccd.edu Website: www.westhillscollege.com

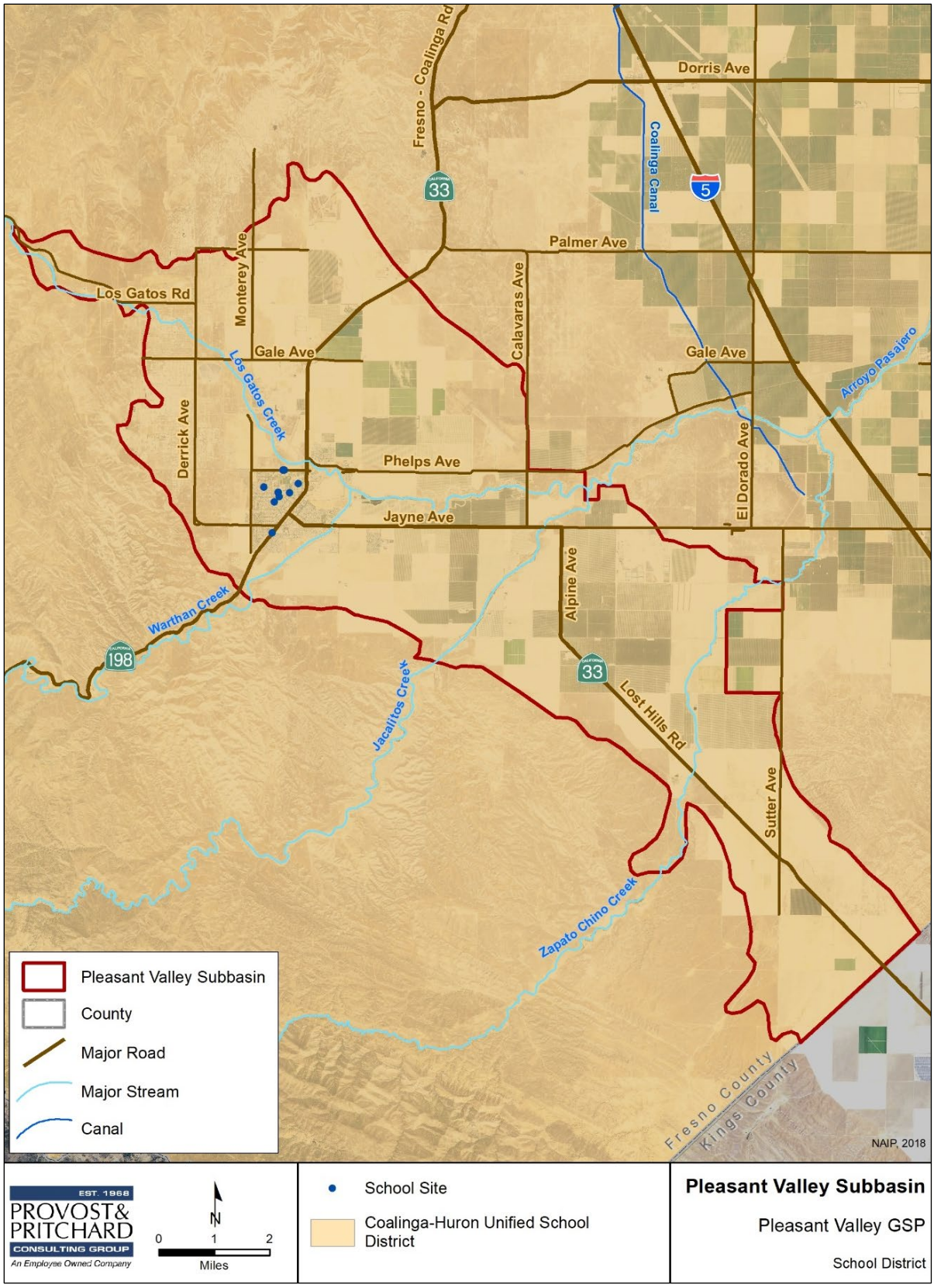


Figure II-1. School Districts within the Pleasant Valley Subbasin

D. Interested Persons List

SGMA Section 10723.4 "Maintenance of Interested Persons List" states:

> *"The groundwater sustainability agency shall establish and maintain a list of persons interested in receiving notices regarding plan preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents. Any person may request, in writing, to be placed on the list of interested persons."*

In compliance with the SGMA requirement, the Pleasant Valley GSA established and maintains a list of interested persons on behalf of all three GSAs in the subbasin, and routinely distributes meeting notices and relevant information to the stakeholders who have requested to be included. Interested parties may join the interested parties list at http://sgma.pleasantvalleywaterdistrict.com/. The PVGSA will continue to grow their contact list through the process discussed in **Section V.A.4**.

III. Stakeholder Survey and Mapping

Through ongoing communications and public education and outreach efforts described in **Section V**, stakeholders will have the opportunity to have a voice in the GSP development process. This section discusses in detail the preliminary discussion with primary stakeholders, and conducting verbal Stakeholder Surveys, which will be a valuable source in collecting feedback from target audiences who have vested interests in how the implementation of the GSP will affect their interests.

A. Stakeholder Survey

III.A.1 Identification of Stakeholder Issues, Interests and Challenges

Stakeholder issues, interests and anticipated challenges are routinely discussed in Subbasin Management Team, Board of Directors, and ad-hoc committee meetings. Board members represent the interests of the stakeholders identified for the Pleasant Valley Subbasin GSAs (**Table II-2**, **Table II-3**, and **Table II-4**). Stakeholder surveys may be conducted through stakeholder meetings to solicit input to identify issues, interests and challenges stakeholders are facing and concerned about. **Table III-1** outlines preliminary concerns, which will be taken into consideration during the GSP development process and used as a basis for the development of fact sheets and public meeting presentations for public outreach opportunities.

Table III-1. Stakeholder Issues, Interests & Challenges

Stakeholder Issues, Interests & Challenges	
Top Concerning Issues Regarding Groundwater Usage and SGMA:	• Economic impacts (loss of jobs, loss of complete industries, loss of tax revenue due to decrease in land values of fallowed ground) • Government regulations and involvement (i.e. SGMA and ILRP), and the impacts on investments and livelihoods • Over pumping and the subsequent legislation (over-regulation) • Long-term water quantity and quality • Fallowing of farmland (loss of production) • Negative impacts on oil production within the subbasin • Water allocations for domestic use vs. agriculture production with SGMA implementation • Dry wells • Legal rights to groundwater (concerns of unequal representation amongst landowners) • Water usage (surface water vs. groundwater) • Decreased quality of food for California and the United States as a whole • Concerns that the cost for SGMA implementation will not be shared equitably between beneficial users of groundwater

III.A.2 Survey Questions

Stakeholders need to have an opportunity to be heard during the GSP development process, in addition to the involvement of the active stakeholders who represent their interests. The verbal Stakeholder Survey is a way to gather information from these individuals. As previously mentioned, the process for conducting the Stakeholder Survey will be conducted as one-on-one discussions with stakeholders.

Survey questions recommended by the DWR are listed below:

1. Are you familiar with Sustainable Groundwater Management Act (SGMA) regulations?
2. Are you currently engaged in activity of discussions regarding groundwater management in this region?
3. Do you own or manage/operate land in this region?
4. Do you manage water resources? If yes, what is your role?
5. What is your primary interest in land or water resources management?
6. Do you have concerns about groundwater management? If so, what are they?
7. Do you have recommendations regarding groundwater management? If so, what are they?

Subbasin management may add questions during discussions that specifically pertain to information and feedback needed from stakeholders and industries the GSAs' boundaries.

B. "Lay of the Land" Overview

Results from Stakeholder Surveys will be compiled into an informal "Lay of the Land Overview" to categorize the feedback received so the technical team can utilize the information during the GSP development phase. This information will be noted by:

- Type of stakeholder
- Key interests related to groundwater
- Key issues (documented or specific issues of past events)
- Responses to survey questions

Results may also be used as a basis for the development of fact sheets and key messages and talking points (**Section IV**), as necessary to educate and inform stakeholders effectively.

III.B.1 Types of Stakeholders

Types of stakeholders with the greatest interests in the GSP development and resulting implementation efforts to reach groundwater sustainability include agricultural users, domestic well owners, municipal well operators, public water systems, surface water users, and disadvantaged communities.

One-on-one conversations and collaborative discussions will include agricultural users, domestic well owners, surface water users, municipal well operators, public water system operators, local land use agencies, groundwater monitoring entities, state and federal representatives, and residents of disadvantaged communities.

III.B.2 Stakeholder Key Interests Related to Groundwater

The key interests of stakeholders related to groundwater within the Pleasant Valley Subbasin boundary include:

- Drinking water
- Domestic, everyday usage
- Agriculture – Farming, livestock
- Oil production and other industrial uses

IV. Messages and Talking Points

Key messages and talking points will be broken down by phases and stakeholder groups, as different factors and issues will affect different groundwater interests. These messages and talking points are also prone to evolve as the GSP is developed, leaving this section open to being amended and finetuned as communication and engagement efforts move forward.

Fact sheets reflecting key messages will be developed, as needed, and tailored for the specific GSP development, public review and implementation phases, and made available for public education efforts described in **Section V.A.3.2**.

IV.A.1 Key Messages & Talking Points

IV.A.1.1 Universal Key Messages

Universal key messages will be a consistent part of information provided throughout all phases of GSP development, public review, and implementation.

- What is SGMA
- Common Uses of Groundwater
- What is the Role of a GSA
- Pleasant Valley Subbasin's Overall Goal – Work collaboratively at the subbasin level to meet groundwater sustainability requirements with minimal impacts to the beneficial users of groundwater within the subbasin boundary
- GSA Purpose Statements
  - **Pleasant Valley GSA:** To serve as the lead GSA in the preparation of the GSP, working cooperatively with the City of Coalinga GSA and Fresno County – Pleasant Valley GSA Area, to develop and implement a GSP that will sustainably manage groundwater with the Pleasant Valley Subbasin
  - **City of Coalinga GSA:** To serve as the GSA for the land within the city limits, and coordinate efforts with the Pleasant Valley GSA and the Fresno County Pleasant Valley GSA Area to prepare and implement a GSP for the Pleasant Valley Subbasin
  - **Fresno County Pleasant Valley GSA Area:** To represent the groundwater interests of "white area" landowners (areas within Fresno County not represented by another agency) within the Pleasant Valley GSA, while coordinating efforts with the Pleasant Valley GSA and City of Coalinga GSA in the development and implementation of a GSP

IV.A.1.2 Phase 1: GSA Formation and Coordination

The Phase 1: GSA Formation and Coordination has been completed. During this phase, key messages centered around developing the Boards of Directors, official formation of the GSAs, and soliciting individuals who represent the interests of all beneficial usages and users of groundwater within the Pleasant Valley Subbasin boundary, filling the leadership seats, selecting technical consultants, and forming the Subbasin Management Team.

IV.A.1.3 Phase 2: GSP Preparation and Submission

The Pleasant Valley Subbasin may develop a presentation to be used at various community meetings, along with a corresponding fact sheet as a take-home. The fact sheet will be made available on PVGSAs' website, as well as distributed at public outreach meetings and community organization presentations, and with stakeholder surveys. In addition to the universal key messages, the presentation and fact sheet for the GSP development and submission phase may include:

- Timeline of the GSP process
- Industry-related water usage and economic impacts – Common practices and conservation efforts
- Top concerns – Everyday usage/lifestyle impacts, economic impacts, land fallowing
- Direction on providing input/voicing concerns (outreach meetings, stakeholder surveys)

IV.A.1.4 Phase 3: GSP Review and Evaluation

Once the draft of the Pleasant Valley Subbasin's GSP is completed, GSAs may develop a second presentation and corresponding fact sheet, which may consist of a recap of universal key messages, and the following:

- Timeline of the public review phase, and date of public hearing
- Main points/overview of the GSP
- Process for public review of GSP draft and providing comments to the Pleasant Valley Subbasin Management Team
- What to expect next
- Additional key messages may be added for this phase

IV.A.1.5 Phase 4: Implementation and Reporting

Once the Pleasant Valley Subbasin's GSP has been submitted to the DWR, the implementation phase will begin, and key messages will be developed with a focus on implementation efforts that affect stakeholder groups, which may result in tailored presentations and corresponding fact sheets (i.e. oil industry and agriculture industry presentations may have different talking points). As with the previous phases, universal key messages will be included.

IV.A.2 Likely Questions or Issues and Responses

The "Likely Questions or Issues" list in **Table IV-1** will evolve through the GSP development, public review and implementation phases. This table may expand as additional questions surface throughout the phases, and responses will be updated as the Pleasant Valley Subbasin's GSP is developed and answers are more clearly defined.

Table IV-1. Likely Questions or Issues

Likely Question or Issue	Response	Phase
"Will I have to fallow my land?"	That information has not been determined yet, as we are in the preliminary stages of GSP development.	All
"How will the Pleasant Valley Subbasin GSP address rural residential well owners?"	That information has not been determined yet, as we are in the preliminary stages of GSP development.	Phase 1, 2 & 3
"How can I voice my concerns about how SGMA is going to affect me?"	The public is invited to attend GSA Board of Directors meetings to be informed about the progress of GSA and GSP development. Public outreach meetings will be held in 2020 and 2021, and the public can participate in the development of the GSP through the public meetings.	Phase 1, 2 & 3
"When will I have to cut back groundwater pumping?"	Once the GSP has been submitted to the DWR in January 2022, the Pleasant Valley Subbasin GSAs will begin the implementation phase. The parameters around the amount of groundwater pumping will be determined in the GSP.	All
"How much water are we going to be able to pump?"	That information has not been determined yet, as we are in the preliminary stages of GSP development.	All
"Are our ag pumps going to be metered? If so, who is going to pay for it?"	That information has not been determined yet, as we are in the preliminary stages of GSP development.	All
"Can groundwater management activities improve water challenges in DACs?"	That information has not been determined yet, as we are in the preliminary stages of GSP development.	All
"Does SGMA require that groundwater levels always remain the same, or will they be able to rise and fall somewhat in wet and dry years?"	No, SGMA does not require that groundwater levels always remain the same. SGMA only requires that groundwater supplies be managed in a manner that can be maintained without causing undesirable results.	All
"What will happen if the Pleasant Valley Subbasin GSP doesn't get submitted to DWR by January 2022, as required?"	If the Pleasant Valley Subbasin GSP isn't submitted by the deadline, the State Water Resources Control Board will intervene and take control and regulate groundwater usage within the subbasin.	Phase 1, 2 & 3
"DWR has described GSPs as adaptive. Does that mean they will be modified as new monitoring data becomes available to GSAs?"	The initial GSP must identify any data gaps. The GSP will also have a monitoring program, and as new monitoring data becomes available, the plan will be updated every five years.	All
"How will future city and community development be handled in relation to their allowed groundwater pumping?"	While SGMA requires coordination with land use planning agencies, future development areas must have proven water sources outside of SGMA. The GSAs will work with the land use planning agencies to evaluate future development needs and determine how it will be incorporated into the GSP.	All

V. Venues for Engaging

There are a variety of opportunities, venues and methods for the Pleasant Valley GSAs to connect with and engage stakeholders throughout GSA formation, GSP development, GSP review, and GSP implementation phases. Stakeholder groups identified in **Section II** will be engaged in communication efforts as detailed in this section.

A. Direct Stakeholder Outreach

V.A.1 Collaboration Meetings – Active Stakeholders

As detailed in **Section II.A**, regular meetings with active stakeholder groups will be held during their regularly scheduled times. Members of the public and partners from other local agencies are encouraged to attend Pleasant Valley Subbasin GSAs' Boards of Directors meetings to voice their thoughts and concerns throughout the GSP development, public review and implementation phases. Meeting notices and agendas are routinely distributed to the Interested Parties List and are posted on the individual GSAs' websites, though the PVGSA website will be the primary website for the entire subbasin (**Table V-2**).

Active stakeholder meeting days, times and locations are listed in the following subsection.

V.A.1.1 Boards of Directors Meetings

- **Pleasant Valley GSA:** GSA Board of Directors meets the fourth Tuesday of every other month in January, March, May, July, September and November, following the PVWD Board of Directors' meeting at 10 a.m. at Harris Ranch Inn & Restaurant, located at 24505 W. Dorris Avenue in Coalinga, California.
- **City of Coalinga GSA:** City Council meetings are held the first and third Wednesday of each month at 6 p.m. at City Hall, located at 155 West Durian in Coalinga, California.
- **Fresno County Pleasant Valley GSA Area:** Board of Supervisor meetings are held the first and third Tuesdays of each month (unless otherwise posted) at 9 a.m. at the Board Chambers, located in the Hall of Records, 2281 Tulare Street on the third floor in Fresno, California.

V.A.2 Educational/Outreach Public Meetings

V.A.2.1 Stakeholders

Educational/outreach public meetings will be scheduled for Phase 2: GSP Preparation and Submission, Phase 3: GSP Review and Evaluation, and Phase 4: Implementation and Reporting (see **Section VI** for the meeting schedules). These meetings will be important as the GSP will affect all groundwater users within the Pleasant Valley Subbasin GSAs' jurisdictions, and the impact of the SGMA implementation is significant. Stakeholders are already inquiring about the impacts of implementation, while many stakeholders are unaware of the SGMA. Spanish translation services will be available at educational/outreach public meetings, if needed.

- **Phase 2: GSP Preparation and Submission –** Public meetings held during Phase 2 will be geared towards an overview of SGMA, overview of the GSP development process, public review and implementation (what stakeholders can expect), distribution of stakeholder surveys and solicitation of stakeholder input, and question/answer sessions. This segment of public meetings will give

stakeholders an opportunity to be involved in GSP development and share their thoughts and concerns. Possible venues within the Pleasant Valley Subbasin are listed in **Table V-1**. Presentations will be given at GSAs' board and council meetings, and a maximum of two subbasin-wide outreach meetings will be held for stakeholders identified in **Table II-2**, **Table II-3**, and **Table II-4**.

- **Phase 3: GSP Review and Evaluation –** During Phase 3, the draft of the Pleasant Valley Subbasin GSP will be distributed for public review. During the public review period, public meetings will be held at the same venues as during Phase 2 (**Table V-1**). The presentation will include an overview of the GSP and will give stakeholders the opportunity to comment on the draft in a public forum. Presentations will be given at government agency meetings, and at maximum of two subbasin-wide outreach meetings will be held for stakeholders.

  At the conclusion of the 90-day public review period, a subbasin-wide public hearing will be held for stakeholders to provide oral and/or written comments before the GSP is finalized. The public hearing will be noticed in local newspapers 90 days and 45 days prior.

- **Phase 4: Implementation & Reporting –** Public meetings will be crucial during Phase 4 and will likely be ongoing to educate stakeholders on implementation requirements and guide them through the steps to compliance and groundwater sustainability.

V.A.2.2 Industry Organizations, Community Organizations & Other Entities

Industry and community organizations, public agencies and other entities are listed in **Table II-5**, and will be contacted to invite representatives of the respective organizations to attend and participate in the scheduled GSA meetings throughout the GSP development phase. If possible, one-on-one meetings may be scheduled to gather input from these stakeholders. Discussions will likely include an overview on SGMA and why it is important to them, an explanation of the GSP development process, including an awareness of the public review period. In addition, the Pleasant Valley Subbasin GSAs will work with these organizations throughout the GSP development and public review process to distribute public outreach meeting notices, and educational information via email distribution, social media posts, and printed materials.

V.A.2.3 Meeting Notification Process

Stakeholders will be invited to public meetings through distribution of meeting notices to Pleasant Valley Subbasin GSAs' member agency distribution list maintained by the PVGSA. In addition, community organizations' contact lists, and press releases and public service announcements may also be used. Press releases will be distributed to local media outlets announcing the meeting dates, times, and locations. Local community organizations, such as the Fresno County Farm Bureau, may be asked to distribute meeting notices via email blasts to their membership/contact lists.

V.A.2.4 Ideal Venues

Venue locations will need to have a capacity to hold large audiences. The location list in **Table V-1** will be updated with additional information and other venue possibilities as meetings are scheduled, and venue availability and rental price is confirmed. Pleasant Valley Subbasin outreach meetings will be held in central locations for all stakeholder types.

Due to the COVID-19 pandemic, outreach meetings will be planned in accordance with restrictions in place at the time of the meetings. If in-person meetings are prohibited, outreach will be scheduled via video conference/teleconference. When in-person meetings are allowed but with social distancing requirements in effect, precautions will be taken in the meeting room set-up, while also allowing for stakeholders to join the meeting via video conference/teleconference.

Table V-1. Potential Public Meeting Venues & Locations

Venue	Location	Contact Information
Best Western Conference Room	Coalinga	Address: 1785 Jayne Avenue, Coalinga, CA 93210 Telephone: (559) 934-0101 Website: www.bestwestern.com
City of Coalinga	Coalinga	Address: City Hall, 155 West Durian, Coalinga, CA 93210 Telephone: (559) 935-1533 Website: www.coalinga.com
Coalinga Elks Lodge #1613	Coalinga	Address: 200 Cambridge Avenue, Coalinga, CA 93210 Contact: Tamara Nebelung, Secretary Telephone: (559) 935-1613; Email: tabaranebelung@gmail.com Website: www.elks.org/lodges/home.cfm?LodgeNumber=1613
Harris Ranch Restaurant & Inn	Coalinga and surrounding areas	Address: 24505 W. Dorris Avenue, Coalinga, CA 93210 Telephone: (559) 935-0717; Email: service@harrisranch.com Website: www.harrisranch.com
Keck Park Community Center	Coalinga	Address: 555 Monroe-Coalinga Street, Coalinga, CA 93210 Contact: Jean Roderick or Ana Ibarra, Coalinga-Huron Recreation & Park District Telephone: (559) 935-0727; Email: jroderick@chrpd.org Website: https://chrpd.org
West Hills Community College	Coalinga	Address: Theater, 300 W. Cherry Lane, Coalinga, CA 93210 Telephone: (559) 943-2000 Website: www.westhillscollege.com

V.A.3 Printed Communication

V.A.3.1 Branding

Branding is defined as the process of creating distinctive and durable perceptions in the minds of a target audience. A brand is a specific look – a persistent, consistent, unique identity for an organization, making it easy for an audience to identify an organization through its consistent and frequent use of branding. The Pleasant Valley Subbasin GSAs have individual brands that will be incorporated in all forms of communication and engagement with the public, which includes consistent usage of official logos, fonts, and colors. When subbasin-wide visual and printed materials are developed, all three logos will be utilized. The Pleasant Valley Subbasin GSAs' Branding Summary are included in their respective appendices.

V.A.3.2 Printed Materials

Printed materials will incorporate the visual imagery established through branding efforts and will be tailored for specific means of communication throughout the phases of GSP development, public review, and implementation. Printed materials will be translated into Spanish, if necessary, for a specific target audience.

- **Fliers –** Fliers may be designed and tailored for secondary stakeholder audiences and will encompass infographics and text with key messages that are pertinent for that phase of GSP development. Distribution may be via website posting, direct mail, email, and direct distribution as handouts at schools, community organization meetings, GSA and subbasin outreach meetings.
- **Fact Sheets –** Fact sheets may be developed and updated for each of the GSP phases and will include a section with an overview of SGMA facts, and development, public review, and implementation timelines. Fact sheets will be available for download on the Pleasant Valley Subbasin GSAs' individual websites, distributed at public meetings and industry/community organization meetings, and emailed to the Interested Parties Lists and other community organizations' email distribution lists.
- **Letter Correspondence –** When letter correspondence is necessary, particularly during the public review and implementation phases, letters will be distributed via email and/or direct mail. Letters will include pertinent facts and explanations that need to be communicated to specific stakeholder groups. Notification letters will be sent to public agencies and government entities when the GSP is released for the 90-day public review.
- **Presentation Materials –** Power Point presentations will be utilized at educational/outreach public meetings. If a Power Point isn't possible to display for a meeting, display boards printed at 24-inch x 36-inch or larger in size will be used and set up on easels. Handouts of presentations and smaller versions of display boards can be distributed to stakeholders in attendance, emailed to the Interested Parties list, and posted on individual GSAs' websites for stakeholders to access, particularly if they were unable to attend.
- **Newsletter –** Annual or bi-annual newsletters may be created during the GSP implementation phase to inform stakeholders of compliance requirements and groundwater sustainability updates, opportunities, and programs within the Pleasant Valley Subbasin. If developed, the newsletter will be distributed to stakeholders within the subbasin boundary and to those on the Interested Parties Lists, posted on individual GSAs' websites, and to others who have specific roles during the GSP development, public review and implementation phases. The ideal timeframe to develop and distribute the annual newsletter is following the submittal of the Annual Report each year.
- **Other Printed Materials –** Other printed materials may be developed during the GSP development, public review and implementation phases.

V.A.4 Digital Communication

Digital communication outlets will also be designed to incorporate Pleasant Valley Subbasin GSAs' branding and will be a significant mode of communication through the GSP development, public review and implementation phases.

- **Websites –** Public meeting notices, agendas and minutes of the Board of Directors and ad-hoc committee meetings will be posted on the individual GSAs' websites, with the PVGSA website serving as the integral resource for all stakeholders within the Pleasant Valley Subbasin. The City's website and Fresno County's website will include a link to the PVGSA site. These websites will serve as integral resources for stakeholders within the Pleasant Valley Subbasin boundary. Electronic files

of printed materials, presentations and other educational resources will be accessible via the websites. This will serve as a way for stakeholders to easily educate themselves on the GSP process and phases.

Table V-2. Pleasant Valley Subbasin GSAs' Websites

GSA	Website
Pleasant Valley GSA	https://sgma.pleasantvalleywaterdistrict.com
City of Coalinga GSA	https://www.coalinga.com/442/Sustainable-Groundwater-Management-Act
Fresno County Pleasant Valley GSA Area	https://www.co.fresno.ca.us/departments/public-works-and-planning/divisions-of-public-works-and-planning/water-and-natural-resources-division/pleasant-valley-sub-basin

- **Email Distribution –** As required by SGMA 10723.4 "Maintenance of Interested Persons List," the Pleasant Valley GSA maintains a subbasin-wide contact list and regularly distributes emails to those who have expressed interest in the GSPs' progress. These emails consist of meeting notices and other documents that are pertinent to the Pleasant Valley Subbasin GSAs and their communication efforts. This process will continue.

  Email blasts for meeting notices, stakeholder surveys, public review notices, and other crucial information will be coordinated with community organizations and stakeholder groups by utilizing their distribution lists. Examples of these organizations are Fresno County Farm Bureau, Self-Help Enterprises, Coalinga Chamber of Commerce, and irrigation and special districts within the subbasin boundaries. A complete working list of organizations are listed in **Table II-5**.

V.A.5 Media Coverage

Press releases and public service announcements (**PSA**) may be written and distributed to the media list of local newspaper publications, and other media outlets. These press releases and PSAs will focus on notification of public engagement opportunities such as targeted stakeholder meetings, stakeholder survey circulation, public review/comment processes and opportunities, and GSP implementation.

Direct story pitches may be made when necessary via direct communication with news outlets throughout GSP development and implementation phases. These story pitches will focus on GSP development status updates, how public input is being used, and general overview of SGMA and how it will affect stakeholders (residents and industry) within the Pleasant Valley Subbasin boundary.

Table V-3. Pleasant Valley Subbasin Media Outlets

Media Outlet	Submission Information
Ag Wire *(weekly e-newsletter, Fresno County Farm Bureau)*	Submit: info@fcfb.org Website: www.fcfb.org; Telephone: (559) 237-0263
Agriculture Daily *(monthly publication, Fresno County Farm Bureau)*	Submit: info@fcfb.org Website: www.fcfb.org; Telephone: (559) 237-0263
Business Journal	Submit: Online Website: www.thebusinessjournal.com; Telephone: (559) 490-3400
Coalinga Press	Submit: coalingapress@gmail.com Website: www.coalingapress.org; Telephone: (559) 362-9668
Fresno Bee	Submit: Joe Kieta, Editor; jkieta@fresnobee.com Website: www.fresnobee.com; Telephone: (559) 441-6307
Hanford Sentinel	Submit: editor@HanfordSentinel.com Website: www.hanfordsentinel.com; Telephone: (559) 582-0471
KMJ News Talk Radio	Submit: ruth.michaels@cumulus.com Website: www.kmjnow.com; Telephone: (559) 490-5967
Water Wrights	Submit: Don Wright, Editor; don@waterwrights.net Website: www.waterwrights.net; Telephone: (559) 355-2389

VI. Implementation Timeline

The timeline for implementing the Pleasant Valley Subbasin's Communication & Engagement Plan will be broken down by phase:

- Phase 1: GSA Formation and Coordination – 2015 through 2020 (**Figure VI-1**)
- Phase 2: GSP Preparation and Submission – 2020 through 2022 (**Figure VI-2**)
- Phase 3: GSP Review and Evaluation – 2021 through 2022 (**Figure VI-3**)
- Phase 4: Implementation and Reporting – 2022 and ongoing (timeline implemented after GSP submittal)

The timeline is tentative and subject to change with the progression of the GSP development, public review, and implementation phases.

September 2014: Sustainable Groundwater Management Act (SGMA) signed into law.

June 30, 2016: DWR adopts regulations for evaluating GSPs.

Phase 1: GSA Formation and Coordination

2017

Feb. 16, 2017: Pleasant Valley GSA submitted NOI to serve as GSA to DWR.

January → February → March → April → May → June → July → August → September → October → November → December

- January: **Jan. 16 & 23, 2017:** Public Notices for PVGSA Formation Public Hearing published
  Jan. 24, 2017: PVGSA Formation Public Hearing held
  Jan. 24, 2017: PVGSA signs Resolution to officially become GSA
- April: **April 25, 2017:** PVGSA Board Meeting
- October: **Oct. 24, 2017:** PVGSA Board Meeting

2018

January → February → March → April → May → June → July → August → September → October → November → December

- January: **Jan. 23, 2018:** PVGSA Board Meeting
  Jan. 23, 2018: PV Subbasin Stakeholder/Landowner Workshop
- March: **March 13, 2018:** PVGSA Board Meeting
- May: **May 22, 2018:** PVGSA Board Meeting
  May 22, 2018: PV Subbasin Stakeholder/Landowner Workshop
- August: **Aug. 14, 2018:** PVGSA Board Meeting
- October: **Oct. 30, 2018:** PVGSA Board Meeting

2019

January → February → March → April → May → June → July → August → September → October → November → December

- January: **Jan. 22, 2019:** PVGSA Board Meeting
- March: **April 22 & 26, 2019:** Public Notices for Fresno Co. Pleasant Valley GSA Formation Public Hearing published
  April 15 & 22, 2019: Public Notices for City of Coalinga GSA Formation Public Hearing published
  April 25, 2019: City of Coalinga GSA Formation Public Hearing held
  April 25, 2019: City of Coalinga signs Resolution to officially become GSA
- April: **April 23, 2019:** PVGSA Board Meeting
- May: **May 7, 2019:** Fresno Co. Pleasant Valley GSA Formation Public Hearing held
  May 7, 2019: Fresno Co. signs Resolution to officially become GSA for PV white area
- July: **July 23, 2019:** PVGSA Board Meeting
- October: **Oct. 29, 2019:** PVGSA Board Meeting

Timeline Key:

- DWR Deadlines & Interaction
- Pleasant Valley GSA Outreach Efforts
- Pleasant Valley Subbasin GSAs Joint Outreach
- City of Coalinga GSA Outreach Efforts
- Fresno County GSA – Pleasant Valley Outreach Efforts

Figure VI-1. Pleasant Valley Subbasin Communication & Engagement Timeline – Phase 1: GSA Formation and Coordination

Phase 2: GSP Preparation and Submission

2020

January
- **Jan. 28, 2020:** PVGSA Board Meeting

February

March
- **March 24, 2020:** PVGSA Board Meeting

April

May
- **May 2020:** Pleasant Valley Subbasin-wide Communication & Engagement Plan developed
- **May 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

June
- **June 23, 2020:** Pleasant Valley Subbasin-wide Stakeholder Outreach Workshop, Harris Ranch
- **June 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

July
- **July 28, 2020:** PVGSA Board Meeting
- **July 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

August
- **Aug. 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

September
- **Sept. 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

October
- **Oct. 6, 2020:** PVGSA Board Meeting
- **Oct. 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

November
- **Nov. 17, 2020:** PVGSA Board Meeting
- **Nov. 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

December
- **Dec. 2020:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

2021

January
- **Jan. 26, 2021:** PVGSA Board Meeting
- **Jan. 26, 2021:** Pleasant Valley Subbasin-wide Stakeholder Outreach Workshop, Video Conference

February
- **Feb. 2021:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

March
- **March 2021:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

April
- **April 2021:** Ongoing meetings/ conversations with Pleasant Valley Subbasin stakeholders

May
- **May 25, 2021:** PVGSA Board Meeting

June

July
- **July 27, 2021:** PVGSA Board Meeting
- **July 27, 2021:** Pleasant Valley Subbasin-wide Stakeholder Outreach Workshop, Harris Ranch/ Video Conference

August
- **Aug. 24, 2021:** Pleasant Valley Subbasin-wide Stakeholder Outreach Workshop, Harris Ranch/ Video Conference

September
- **Sept. 28, 2021:** PVGSA Board Meeting
- **Sept. 28, 2021:** Pleasant Valley Subbasin-wide Stakeholder Outreach Workshop, Video Conference

October
- **Oct. 15, 2021:** PVGSA Board Meeting
- **Oct. 28, 2021:** PVGSA Board Meeting
- **Oct. 28, 2021:** Pleasant Valley Subbasin GSP Draft released for public review

Phase 3: GSP Review and Evaluation

Timeline Key:

- DWR Deadlines & Interaction
- Pleasant Valley GSA Outreach Efforts
- Pleasant Valley Subbasin GSAs Joint Outreach
- City of Coalinga GSA Outreach Efforts
- Fresno County GSA – Pleasant Valley Outreach Efforts

Figure VI-2. Pleasant Valley Subbasin Communication & Engagement Timeline – Phase 2: GSP Preparation and Submission

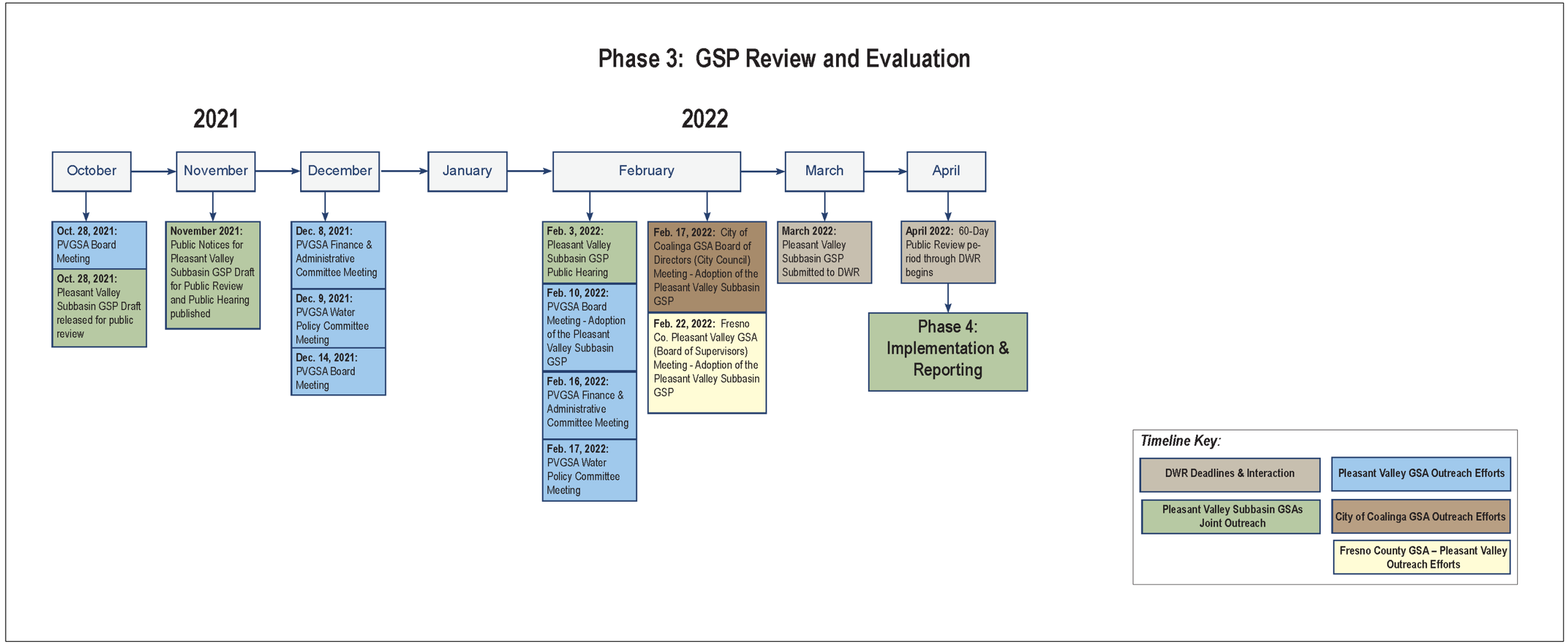


Figure VI-3. Pleasant Valley Subbasin Communication & Engagement Timeline – Phase 3: GSP Review and Evaluation

VII. Evaluation and Assessment

A. Evaluation and Assessment Process

Having an established "checks and balances" process is essential in keeping public outreach goals on target. SGMA and the resulting GSP will affect everyone within the sub-basin, and outreach efforts are meant to be all-encompassing. To evaluate and assess how outreach efforts are performing as compared to the goals and objectives detailed in the Communication & Engagement Plan, the Pleasant Valley Subbasin GSAs have established a process:

VII.A.1 Outreach Reports

GSA management will provide periodic updates to their respective GSAs' Board of Directors. These updates will include, but will not be limited to:

- Status of upcoming outreach events and recaps of past outreach events
- Milestone updates/revisions
- Review/input and approval of printed materials (fliers, fact sheets, talking points, etc.)
- Results and status updates of stakeholder surveys and/or discussions

VII.A.2 Milestone Review

Quarterly milestone reviews will be conducted for individual GSA and subbasin-level outreach efforts with the Subbasin Management Team.

These discussions may include:

- What has worked well?
- What hasn't worked as planned or could be finetuned for more effective results?
- Lessons learned
- Completed outreach efforts from the previous quarter
- Next steps

VII.A.3 Subbasin-Wide Outreach Tracking

The Pleasant Valley Subbasin GSAs will submit a summary of completed public outreach efforts to the Subbasin's Public Outreach Coordinator on a quarterly basis. The summaries will be added to the appendices in the Subbasin's Communication & Engagement Plan and will be included in the final GSP submitted to the DWR in February 2022.

Quarterly summaries should include:

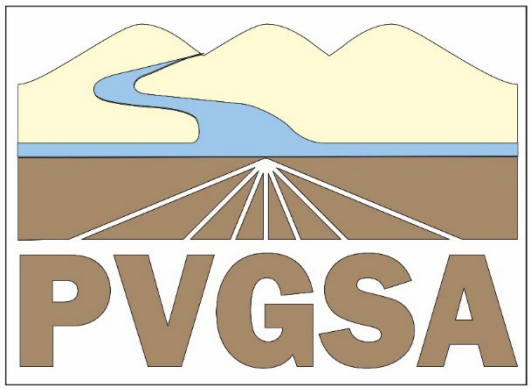
- Public outreach meetings and workshops (locations, times, target audience, number of people who attended). Public outreach meetings include board of director meetings, and City Council meetings when SGMA is an item on the agenda.
  - For each, include PDF copy of agenda, handouts, and presentation materials.
- PDFs of any distributed printed or digital materials distributed (public outreach workshop notices, informational materials posted within communities, email blasts, press releases, newsletters, etc.)
  - For each, include date distributed, methods of distribution, and number distributed to (if applicable).

Appendix A

Pleasant Valley GSA Public Outreach Tracking

GSA Branding Summary

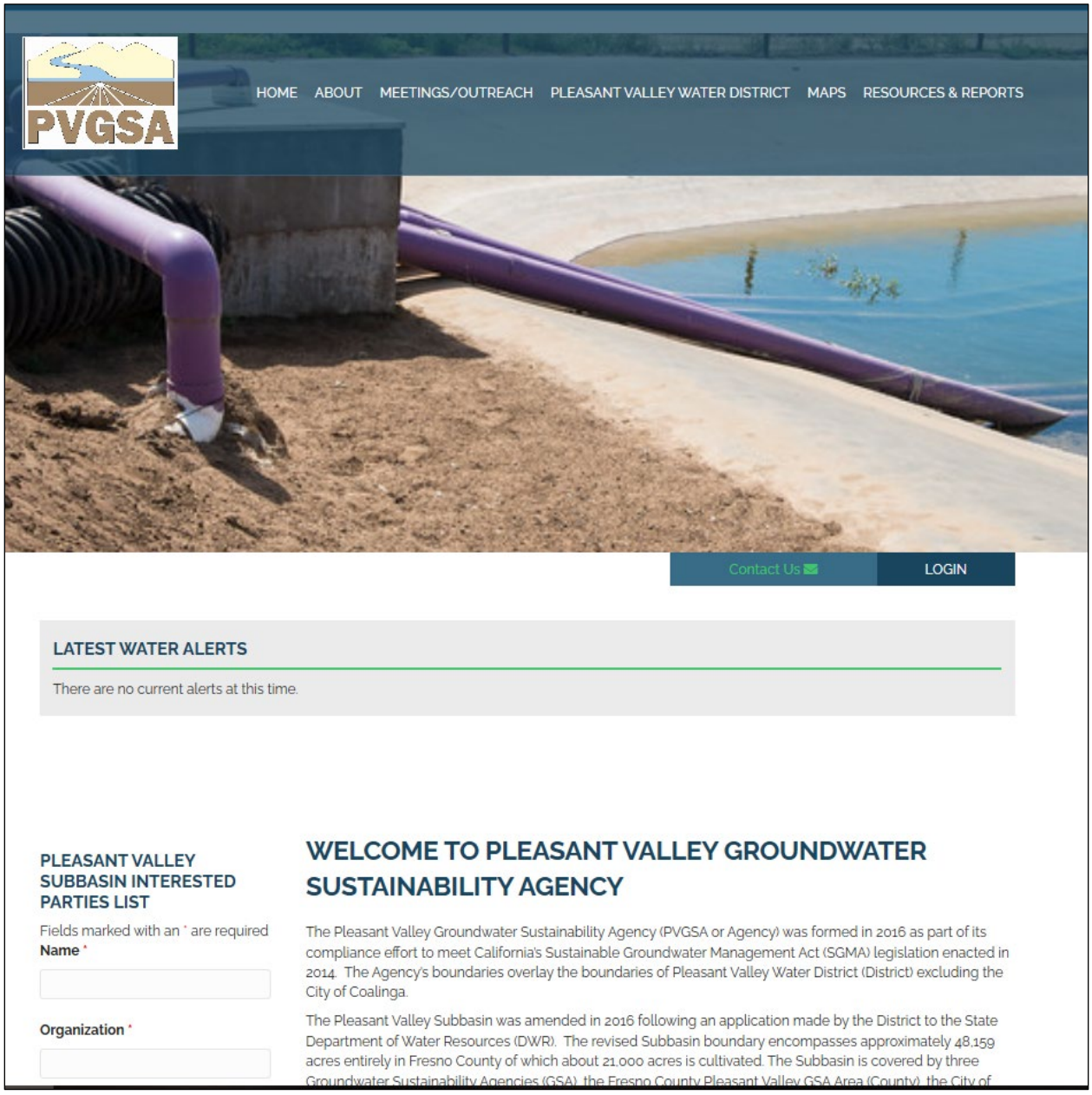
Logo



Website – http://sgma.pleasantvalleywaterdistrict.com/

The Pleasant Valley GSA's website serves as a hub for SGMA and GSP information for the Pleasant Valley GSA and the entire Pleasant Valley Subbasin, informing stakeholders about the GSA, subbasin-wide public outreach opportunities, and as a resource with SGMA-related information. With the PVGSA taking the lead in the development of the GSP for the entire subbasin, the City of Coalinga and Fresno County Pleasant Valley GSA Area will refer back to the PVGSA website and outreach materials. A site map for the PVGSA website is outlined below:

- **Homepage – sgma.pleasantvalleywaterdistrict.com**
  - Welcome/Introduction to the GSA
  - Interested Parties List
- **About – sgma.pleasantvalleywaterdistrict.com/about**
  - Quick Facts
  - Board of Directors
  - Organization/Staff
- **News & Reports – sgma.pleasantvalleywaterdistrict.com/news-and-reports**
  - Agenda
  - Minutes
  - Events
- **Pleasant Valley Water District -** http://pleasantvalleywaterdistrict.com/
- **Maps – sgma.pleasantvalleywaterdistrict.com/water-management**
- **Resources & Reports – sgma.pleasantvalleywaterdistrict.com/reports**



Picture 1. Screenshot of Pleasant Valley GSA Homepage

Completed Outreach Tracking

Pleasant Valley GSA – Presentations & Meetings		
Event	**Date**	**Location**
2017		
Pleasant Valley Water District Board of Directors Meeting	10 a.m., April 25, 2017	Harris Ranch Conference Center
Pleasant Valley Water District Board of Directors Meeting	9 a.m., October 24, 2017	Harris Ranch Conference Center
2018		
Pleasant Valley GSA Board of Directors Meeting	9 a.m., January 23, 2018	Harris Ranch Conference Center
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	Following board meeting, January 23, 2018	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	10 a.m., March 13, 2018	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	9:30 a.m., May 22, 2018	Harris Ranch Conference Center
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., May 22, 2018	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	10 a.m., August 14, 2018	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	10 a.m., October 30, 2018	Harris Ranch Conference Center
2019		
Pleasant Valley GSA Board of Directors Meeting	10 a.m., January 22, 2019	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	10 a.m., April 23, 2019	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	11:30 a.m., July 23, 2019	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	10:30 a.m., October 29, 2019	Harris Ranch Conference Center
2020		
Pleasant Valley GSA Board of Directors Meeting	10 a.m., January 28, 2020	Harris Ranch Conference Center
Pleasant Valley GSA Board of Directors Meeting	10 a.m., March 24, 2020	Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., June 23, 2020	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., July 28, 2020	Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., October 6, 2020	Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., November 17, 2020	Online via video conference and teleconference
2021		
Pleasant Valley GSA Board of Directors Meeting	10 a.m., January 26, 2021	Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., January 26, 2021	Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., May 25, 2021	Harris Ranch Conference Center; Online via video conference and teleconference

Pleasant Valley GSA – Presentations & Meetings		
Event	**Date**	**Location**
Pleasant Valley GSA Board of Directors Meeting	10 a.m., July 27, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., July 27, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., August 24, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., September 28, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., September 28, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., October 15, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., October 28, 2021	Online via video conference and teleconference
Pleasant Valley Water District & GSA Finance & Administrative Committee Meeting	1 p.m., December 8, 2021	Online via video conference and teleconference
Pleasant Valley Water District & GSA Water Policy Committee Meeting	9 a.m., December 9, 2021	Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting	10 a.m., December 14, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
2022		
Pleasant Valley Subbasin GSP Public Hearing	10 a.m., February 3, 2022	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley GSA Board of Directors Meeting (Adoption of Pleasant Valley Subbasin GSP)	10 a.m., February 10, 2022	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Water District & GSA Finance & Administrative Committee Meeting	9 a.m., February 16, 2022	Online via video conference and teleconference
Pleasant Valley Water District & GSA Water Policy Committee Meeting	9 a.m., February 17, 2022	Online via video conference and teleconference

Pleasant Valley GSA – One-on-One Stakeholder Communication		
Date	**Organization**	**Notes**
2020		
May 19, 2020	Self-Help Enterprises	Email and phone call with SHE regarding DAC representation. Include on Interested Parties List to keep them informed of GSP progress and outreach events.
June 24, 2020	Granite	Request pumping data. Discuss projects.
June 24, 2020	Agriglobe	Discuss monitoring and getting water quality data
July 2, 2020	Coalinga-Huron Rec & Parks	Email inquiry on interest in SGMA and if they have any groundwater wells in their parks
August 2020	Granite	Email request for data
August 25, 2020	Hewitson Ag	Left phone message regarding SGMA and potential monitoring in south part of basin and Kings Co.
August 25, 2020	Chevron	Subbasin discussion and inquiry about Chevron operations. Send 6/23/20 workshop Power Point
August 26, 2020	Wood Ag/David Wood	Email correspondence re: SGMA and phone discussion re: monitoring in portion of basin
August 27, 2020	West Hills Community College (WHCC) Farm of the Future	Email correspondence re: SGMA and farm well and potential monitoring at WHCC
August 31, 2020	Granite	Email follow-up request for data
September 2, 2020	WHCC Farm of the Future	Email follow-up discussion on continuous GPS station on farm, well locations and monitoring
September 8, 2020	Pleasant Valley State Prison	Referred to Miles Bettencourt as potential point of contact
September 10, 2020	Granite	Email request for data and well information
September 10, 2020	Coalinga Feed Yard	Phone message on well information and monitoring potential
September 10, 2020	DWR Fresno	Phone discussion on availability of well completion reports, groundwater level data and stream gage information
September 10, 2020	Wood Ag/David Wood	Email follow-up request for data
September 10, 2020	Chevron	Email follow-up request for data on water use, well locations
September 10, 2020	Leadership Council for Justice & Accountability	Email informing about PV Subbasin GSP
September 10, 2020	Hewitson Enterprise	Email message regarding SGMA and potential monitoring in south part of basin and Kings Co.
September 11, 2020	WHCC Farm of the Future	Phone discussion regarding monitoring of college wells
September 11, 2020	Leadership Council for Justice & Accountability	Amanda Monaco indicated that they are not working with organizations in the subbasin
September 14, 2020	DWR Fresno	Groundwater level monitoring that DWR is doing in Pleasant Valley
September 28, 2020	Granite	Received information on wells on Granite property
September 30, 2020	Coalinga-Huron Rec & Parks Consultant	Phone call from regarding abandoned well at Olsen Park and wanting information on groundwater quality in the subbasin. Considering well at Sports Complex. Add IP list.
October 28, 2020	Coalinga-Huron Cemetery District	Discuss water use and participation. Currently completely on imported city water. Well not keeping pressure.
November 5, 2020	Hewitson Enterprise	Letter regarding cooperation and monitoring.
December 2, 2020	Kings County Division of Water and Natural Resources Manager	Phone message regarding contact between subbasins

Pleasant Valley GSA – One-on-One Stakeholder Communication		
Date	**Organization**	**Notes**
December 2, 2020	Worth Farms	Message regarding monitoring locations
2021		
February 18, 2021	Hewitson Enterprise	Phone call regarding monitoring.
February 19, 2021	Hewitson Enterprise	Email follow-up requesting monitoring.
February 24, 2021	Chevron	Review monitoring request and proposed RMS for levels.
March 9, 2021	Hewitson Enterprises	Reviewed proposed monitoring network and requested access to Hewitson wells. Permission denied.
March 9, 2021	Anderson & Mouren Farming	Reviewed proposed monitoring network and requested access to Anderson/Mouren wells.
March 10, 2021	Chevron	Discussed monitoring network. Permission denied to access Chevron wells.
March 2021	Nichols Farming	Discussed monitoring network and possibility of monitoring wells on their property or Kreyenhaugen lands.
March 18, 2021	Jacalitos Pistachio	Reviewed monitoring network. Verbal permission given to access their wells as RMS for quality and groundwater levels.
March 25, 2021	West Hills CC Farm of the Future	Infrastructure Committee gives approval for SMC well for quality and monitoring on the college farm.
April 2021	Arnold (CA)	Agreement for monitoring discussed.
April 2, 2021	Lovelace & Sons Farming	Discussed monitoring network and possibility of monitoring wells on various Lovelace lands.
April 6, 2021	Valley Nut	Agreement for monitoring well sent.
April 6, 2021	Setton	Agreement for monitoring well sent.
April 7, 2021	Worth Farms	Agreement for monitoring discussed and sent.
April 8, 2021	Agriglobe	NVInv AF4 agreement for SMC wells sent for execution.
April 14, 2021	Gladstone	Discussed monitoring network and possibility of monitoring wells on various Gladstone lands.

It should be noted that representatives from many of the organizations, local businesses and landowners listed in the One-on-One Stakeholder Communication table attended board meetings and stakeholder workshops regularly. They also represented stakeholders with groundwater interests in not only the Pleasant Valley GSA, but the City of Coalinga GSA and Fresno County Pleasant Valley GSA. Engagement with these stakeholders was also inter-basin coordination.

Appendix B

City of Coalinga GSA Public Outreach Tracking

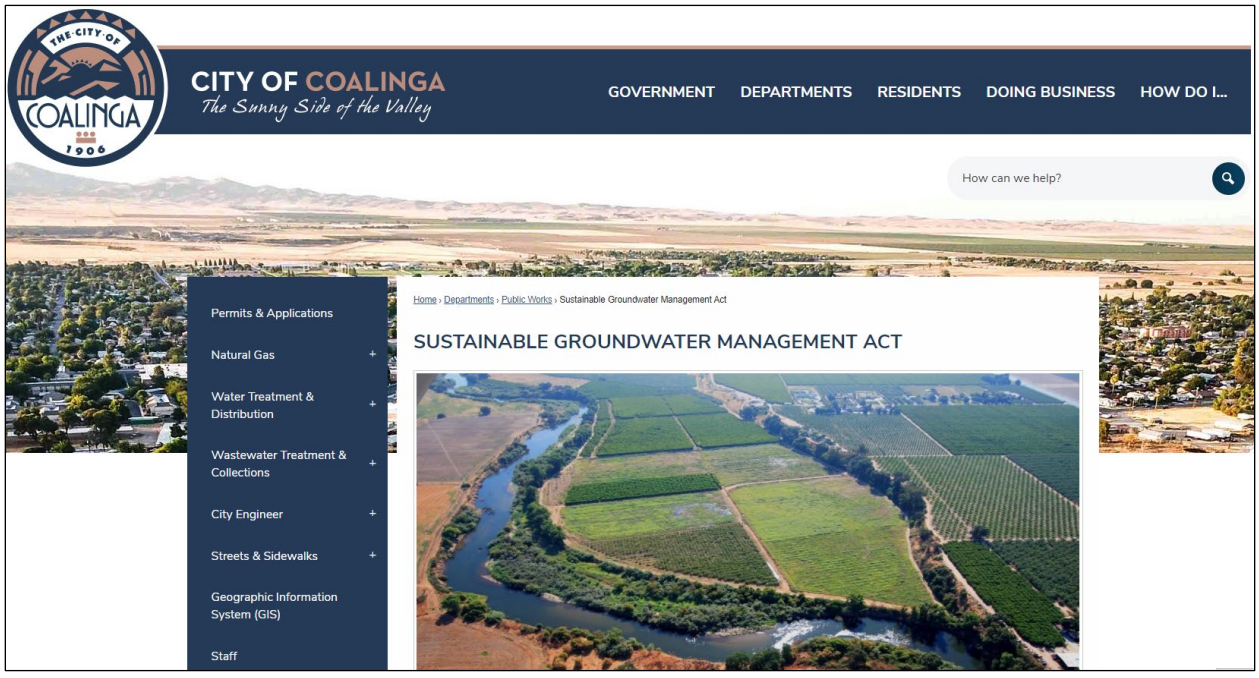
GSA Branding Summary

Logo

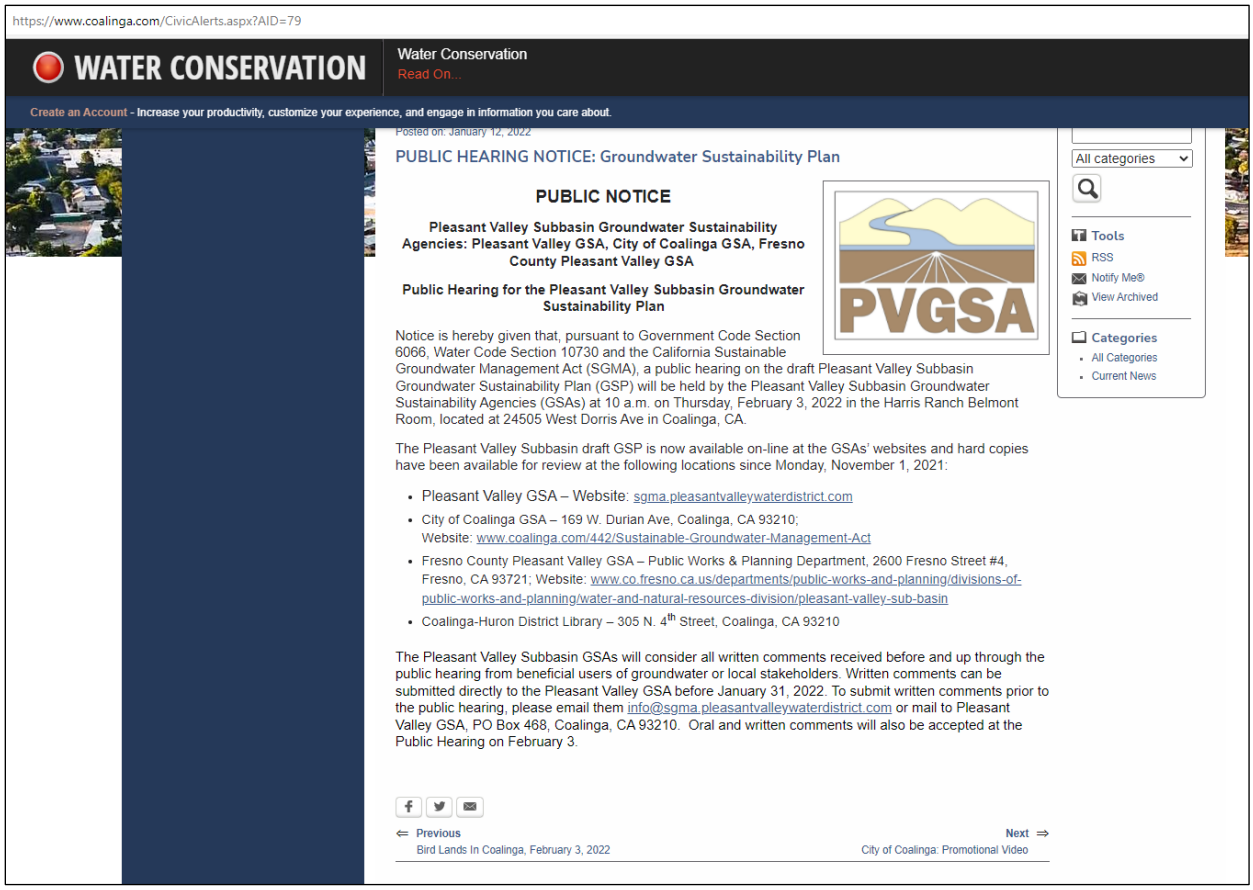
CITY OF COALINGA
The Sunny Side of the Valley

Website – https://www.coalinga.com/442/Sustainable-Groundwater-Management-Act

The City of Coalinga GSA's website serves as a hub for SGMA and GSP information for the City of Coalinga GSA, informing stakeholders about the GSA, subbasin-wide public outreach opportunities, and as a resource with SGMA-related information. With the PVGSA taking the lead in the development of the GSP for the entire subbasin, the City of Coalinga website refers back to the PVGSA website and outreach materials.



Picture 2. Screenshot of City of Coalinga GSA Homepage



Picture 3. Screenshot of Public Hearing Posting

Completed Outreach Tracking

City of Coalinga GSA – Presentations & Meetings		
Event	**Date**	**Location**
2018		
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	Following PVWD board meeting, January 23, 2018	Harris Ranch Conference Center
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., May 22, 2018	Harris Ranch Conference Center
2019		
City of Coalinga GSA officially formed at City Council Meeting	April 25, 2019	City Hall, City of Coalinga
2020		
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., June 23, 2020	Harris Ranch Conference Center; Online via video conference and teleconference
2021		
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., January 26, 2021	Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., July 27, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., August 24, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., September 28, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
2022		
Pleasant Valley Subbasin GSP Public Hearing	10 a.m., February 3, 2022	Harris Ranch Conference Center; Online via video conference and teleconference
City of Coalinga GSA Board of Directors (City Council) Meeting (Adoption of Pleasant Valley Subbasin GSP)	6 p.m., February 17, 2022	Harris Ranch Conference Center; Online via video conference and teleconference

Appendix C

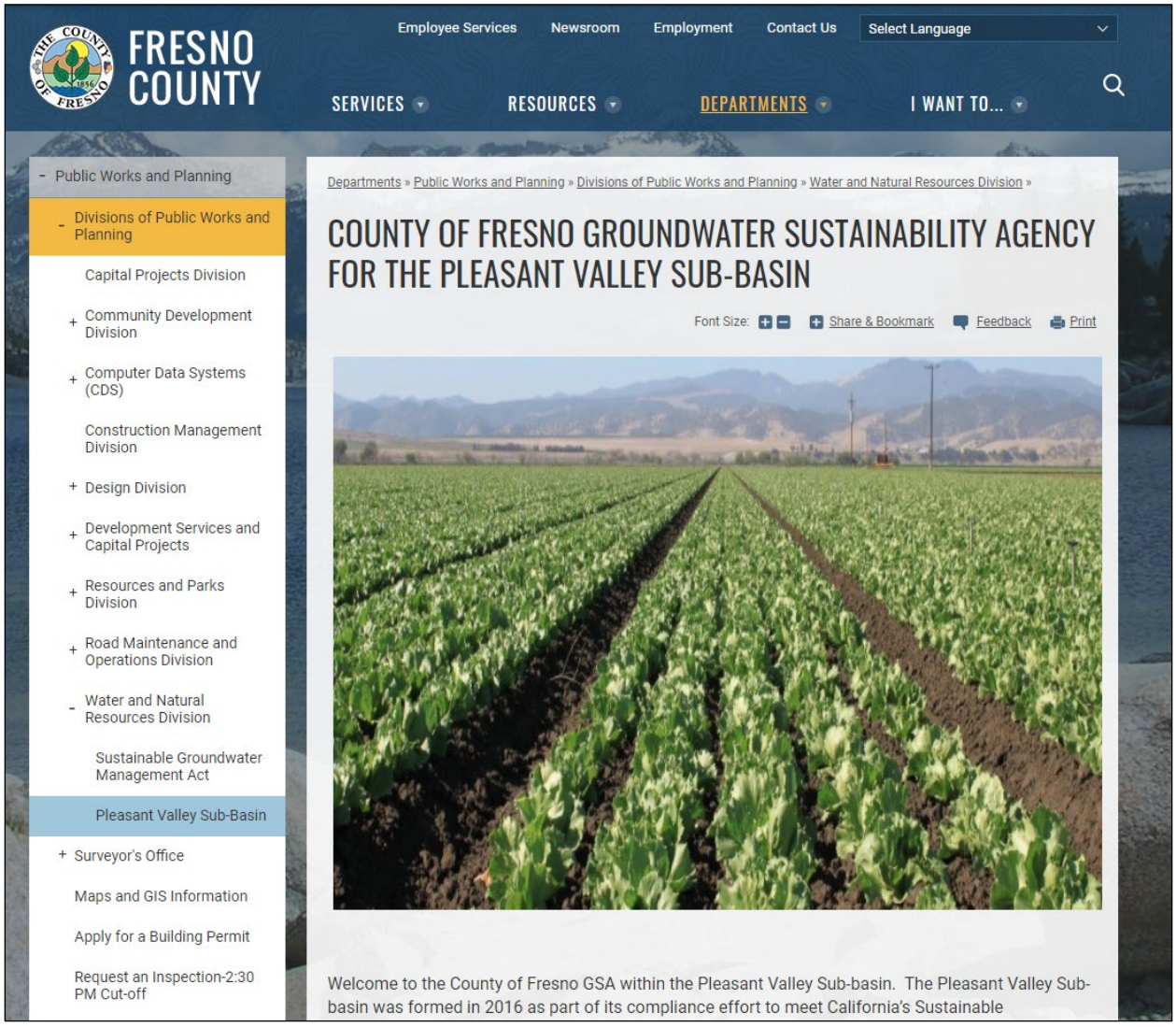
Fresno County Pleasant Valley GSA Area
Public Outreach Tracking

GSA Branding Summary

Logo

Website – https://www.co.fresno.ca.us/departments/public-works-and-planning/divisions-of-public-works-and-planning/water-and-natural-resources-division/pleasant-valley-sub-basin

The Fresno County Pleasant Valley GSA Area's website serves as a hub for SGMA and GSP information for Fresno County in the Pleasant Valley Subbasin, informing stakeholders about the GSA, subbasin-wide public outreach opportunities, and as a resource with SGMA-related information. With the PVGSA taking the lead in the development of the GSP for the entire subbasin, the Fresno County website refers back to the PVGSA website and outreach materials.



Picture 4. Screenshot of Fresno County Pleasant Valley GSA Area Homepage

Completed Outreach Tracking

Fresno County Pleasant Valley GSA – Presentations & Meetings		
Event	**Date**	**Location**
2018		
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	Following PVWD board meeting, January 23, 2018	Harris Ranch Conference Center
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., May 22, 2018	Harris Ranch Conference Center
2019		
Fresno County Pleasant Valley GSA officially formed by Board of Supervisors	May 7, 2019	County of Fresno Board of Supervisors
2020		
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., June 23, 2020	Harris Ranch Conference Center; Online via video conference and teleconference
2021		
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., January 26, 2021	Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., July 27, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	10 a.m., August 24, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
Pleasant Valley Subbasin Landowner/Stakeholder Workshop	11 a.m., September 28, 2021	Harris Ranch Conference Center; Online via video conference and teleconference
2022		
Pleasant Valley Subbasin GSP Public Hearing	10 a.m., February 3, 2022	Harris Ranch Conference Center; Online via video conference and teleconference
Fresno County Pleasant Valley GSA/County of Fresno Board of Supervisors Meeting (Adoption of Pleasant Valley Subbasin GSP)	9:30 a.m., February 22, 2022	County of Fresno Board of Supervisors

Appendix D

Pleasant Valley Subbasin-Wide Public Outreach Tracking

Subbasin Wide Outreach and GSA Coordination

Pleasant Valley Subbasin-Wide Outreach and GSA Coordination		
Date	**Organization**	**Notes**
2018		
January 23, 2018	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
May 22, 2018	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
2020		
June 23, 2020	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
July 1, 2020	City of Coalinga GSA	Email on water budget, website and coordination
July 1, 2020	Fresno County GSA	Email on website and coordination
August 17, 2020	City of Coalinga GSA	Request participation in TAC, city water supply questions and water budget needs
September 9, 2020	Subbasin GSAs Representatives	Technical Advisory Committee (TAC) Meeting: Review TAC structure, schedule, Chapter 2 Plan Area, Chapter 3 HCM; held online via video conference
October 27, 2020	Subbasin GSA Representatives	TAC Meeting: Review Chapter 3 Groundwater Conditions and Water Budget; held online via video conference
November 18, 2020	City of Coalinga GSA	Meeting regarding working together on sustainability.
December 15, 2020	Subbasin GSAs Representatives	TAC Meeting: Reviewed public workshop presentation for January 2021 including SMC concepts; held online via video conference
2021		
January 26, 2021	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
February 23, 2021	Subbasin GSAs Representatives	TAC Meeting: Reviewed decision task list for TAC recommendations to GSAs on water budget, SMCs, monitoring and implementation; held online via video conference
April 13, 2021	Subbasin GSA Representatives	TAC Meeting: Reviewed SMC recommendations and water budget natural recharge; held online via video conference
July 27, 2021	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
August 19, 2021	Subbasin GSA Representatives	TAC Meeting: Discussed GSP development and Sustainable Management Criteria; held online via video conference
August 24, 2021	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
September 28, 2021	Subbasin-wide Stakeholders	Pleasant Valley Subbasin Landowner/Stakeholder Workshop
October 26, 2021	Subbasin GSA Representatives	TAC Meeting: Review of GSP; held online via video conference
December 22, 2021	Subbasin Representatives & Westland Water District Representatives	Adjacent Subbasin Meeting with Westlands Water District: Discussed boundary conditions, reviewed draft Pleasant Valley Subbasin GSP
2022		
February 3, 2022	Subbasin-wide Stakeholders	Public Hearing on Pleasant Valley Subbasin GSP

List of Public Meetings *(Reg. § 354.10)*

Regulation Requirements:

§ 354.10. Notice and Communication

Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.

(b) A list of public meetings at which the Plan was discussed or considered by the Agency.

(c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.

(d) A communication section of the Plan that includes the following:

(1) An explanation of the Agency's decision-making process.

(2) Identification of opportunities for public engagement and a discussion of how public input and response will be used.

(3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.

(4) The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.2, 10727.8, 10728.4, and 10733.2, Water Code

Appendix C – Stakeholder Comments and Responses

No stakeholder comments were received.

Appendix D – GSP Checklist—Elements of the Plan

Article 5.			Plan Contents for Pleasant Valley Basin	GSP Document References				
				Page Numbers of Plan	Or Section Numbers	Or Figure Numbers	Or Table Numbers	Notes
§ 354.			**Introduction to Plan Contents**					
			This Article describes the required contents of Plans submitted to the Department for evaluation, including administrative information, a description of the basin setting, sustainable management criteria, description of the monitoring network, and projects and management actions.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Section 10733.2, Water Code.					
SubArticle 1.			**Administrative Information**					
§ 354.2.			**Introduction to Administrative Information**					
			This Subarticle describes information in the Plan relating to administrative and other general information about the Agency that has adopted the Plan and the area covered by the Plan.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Section 10733.2, Water Code.					
§ 354.4.			**General Information**					
			Each Plan shall include the following general information:					
(a)			An executive summary written in plain language that provides an overview of the Plan and description of groundwater conditions in the basin.	15:36				
(b)			A list of references and technical studies relied upon by the Agency in developing the Plan. Each Agency shall provide to the Department electronic copies of reports and other documents and materials cited as references that are not generally available to the public.	305:308	8.1			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10733.2 and 10733.4, Water Code.					
§ 354.6.			**Agency Information**					
			When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:					
(a)			The name and mailing address of the Agency.	40:41	1.4			
(b)			The organization and management structure of the Agency, identifying persons with management authority for implementation of the Plan.	41	1.4.1			
(c)			The name and contact information, including the phone number, mailing address and electronic mail address, of the plan manager.	42	1.4.1			
(d)			The legal authority of the Agency, with specific reference to citations setting forth the duties, powers, and responsibilities of the Agency, demonstrating that the Agency has the legal authority to implement the Plan.	42:43	1.4.2			
(e)			An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those costs.	43:45	1.4.3		1-4, 1-5	
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10723.8, 10727.2, and 10733.2, Water Code.					
§ 354.8.			**Description of Plan Area**					
			Each Plan shall include a description of the geographic areas covered, including the following information:					
(a)			One or more maps of the basin that depict the following, as applicable:					
	(1)		The area covered by the Plan, delineating areas managed by the Agency as an exclusive Agency and any areas for which the Agency is not an exclusive Agency, and the name and location of any adjacent basins.	47:67	2	2-1:2-2		
	(2)		Adjudicated areas, other Agencies within the basin, and areas covered by an Alternative.					was on 16, 34
	(3)		Jurisdictional boundaries of federal or state land (including the identity of the agency with jurisdiction over that land), tribal land, cities, counties, agencies with water management responsibilities, and areas covered by relevant general plans.	48:54	2.1.1,2.1.2, 2.1.3,2.1.4, 2.1.5	2-1,2-3,2-4	2-1,2-2	
	(4)		Existing land use designations and the identification of water use sector and water source type.	55:65	2.1.6,2.1.7	2-5,2-6,2-7	2-3,2-4,2-5	
	(5)		The density of wells per square mile, by dasymetric or similar mapping techniques, showing the general distribution of agricultural, industrial, and domestic water supply wells in the basin, including de minimis extractors, and the location and extent of communities dependent upon groundwater, utilizing data provided by the Department, as specified in Section 353.2, or the best available information.	34,44:45,49 :50		2-8,2-9+9, 2-10	2-6	
(b)			A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.	57:64	2.1			
(c)			Identification of existing water resource monitoring and management programs, and description of any such programs the Agency plans to incorporate in its monitoring network or in development of its Plan. The Agency may coordinate with existing water resource monitoring and management programs to incorporate and adopt that program as part of the Plan.	68:69	2.3.1			
(d)			A description of how existing water resource monitoring or management programs may limit operational flexibility in the basin, and how the Plan has been developed to adapt to those limits.	69:70	2.3.2			
(e)			A description of conjunctive use programs in the basin.	70	2.3.3			
(f)			A plain language description of the land use elements or topic categories of applicable general plans that includes the following:					
	(1)		A summary of general plans and other land use plans governing the basin.	65	2.2.1			

Article 5.			Plan Contents for Pleasant Valley Basin	GSP Document References				
				Page Numbers of Plan	Or Section Numbers	Or Figure Numbers	Or Table Numbers	Notes
	(2)		A general description of how implementation of existing land use plans may change water demands within the basin or affect the ability of the Agency to achieve sustainable groundwater management over the planning and implementation horizon, and how the Plan addresses those potential effects	65	2.2.2			
	(3)		A general description of how implementation of the Plan may affect the water supply assumptions of relevant land use plans over the planning and implementation horizon.	66	2.2.3			
	(4)		A summary of the process for permitting new or replacement wells in the basin, including adopted standards in local well ordinances, zoning codes, and policies contained in adopted land use plans.	67	2.2.4			
	(5)		To the extent known, the Agency may include information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management.	67	2.2.5			
(g)			A description of any of the additional Plan elements included in Water Code Section 10727.4 that the Agency determines to be appropriate.	71:75	2.4			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10720.3, 10727.2, 10727.4, 10733, and 10733.2, Water Code.					
§ 354.10.			**Notice and Communication**					
			Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:					
(a)			A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.	76	2.5.1		2-7	See Appendix B
(b)			A list of public meetings at which the Plan was discussed or considered by the Agency.	76, 393:394	2.5.1			See Appendix B
(c)			Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.	374:375				See Appendix C
(d)			A communication section of the Plan that includes the following:					
	(1)		An explanation of the Agency's decision-making process.	76:77	2.5.2			
	(2)		Identification of opportunities for public engagement and a discussion of how public input and response will be used.	77, 393:394	2.5.3			See Appendix B
	(3)		A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.	77, 393:394	2.5.4			See Appendix B
	(4)		The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.	77, 393:394	2.5.4			See Appendix B
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10723.2, 10727.8, 10728.4, and 10733.2, Water Code					
SubArticle 2.			**Basin Setting**					
§ 354.12.			**Introduction to Basin Setting**					
			This Subarticle describes the information about the physical setting and characteristics of the basin and current conditions of the basin that shall be part of each Plan, including the identification of data gaps and levels of uncertainty, which comprise the basin setting that serves as the basis for defining and assessing reasonable sustainable management criteria and projects and management actions. Information provided pursuant to this Subarticle shall be prepared by or under the direction of a professional geologist or professional engineer.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Section 10733.2, Water Code.					
§ 354.14.			**Hydrogeologic Conceptual Model**					
(a)			Each Plan shall include a descriptive hydrogeologic conceptual model of the basin based on technical studies and qualified maps that characterizes the physical components and interaction of the surface water and groundwater systems in the basin.	79:108	3.1			
(b)			The hydrogeologic conceptual model shall be summarized in a written description that includes the following:					
	(1)		The regional geologic and structural setting of the basin including the immediate surrounding area, as necessary for geologic consistency.	81:82	3.1.3	3-1		
	(2)		Lateral basin boundaries, including major geologic features that significantly affect groundwater flow.	79:82	3.1.2	3-1		
	(3)		The definable bottom of the basin.	87:89	3.1.3	3-4,3-5		
	(4)		Principal aquifers and aquitards, including the following information:					
		(A)	Formation names, if defined.	102	3.1.5.3			
		(B)	Physical properties of aquifers and aquitards, including the vertical and lateral extent, hydraulic conductivity, and storativity, which may be based on existing technical studies or other best available information.	97:101, 409:411	3.1.5.1	3-12,3-13,3-14		See Appendix E
		(C)	Structural properties of the basin that restrict groundwater flow within the principal aquifers, including information regarding stratigraphic changes, truncation of units, or other features.	97:100	3.1.5	3-12,3-13		
		(D)	General water quality of the principal aquifers, which may be based on information derived from existing technical studies or regulatory programs.	102	3.1.6			

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		(E)	Identification of the primary use or uses of each aquifer, such as domestic, irrigation, or municipal water supply.	102:104	3.1.5.2	3-15		
	(5)		Identification of data gaps and uncertainty within the hydrogeologic conceptual model	108	3.1.10			
(c)			The hydrogeologic conceptual model shall be represented graphically by at least two scaled cross-sections that display the information required by this section and are sufficient to depict major stratigraphic and structural features in the basin.	90:95, 409:411	3.1.4	3-6,3-7,3-8,3-9,3-10		See Appendix E
(d)			Physical characteristics of the basin shall be represented on one or more maps that depict the following:					
	(1)		Topographic information derived from the U.S. Geological Survey or another reliable source.	82:83	3.1.1	3-2		
	(2)		Surficial geology derived from a qualified map including the locations of cross-sections required by this Section.	85:86	3.1.2	3-3		
	(3)		Soil characteristics as described by the appropriate Natural Resources Conservation Service soil survey or other applicable studies.	87:89	3.1.3	3-4,3-5		
	(4)		Delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas, including significant active springs, seeps, and wetlands within or adjacent to the basin.	105:107	3.1.9	3-16,3-17		
	(5)		Surface water bodies that are significant to the management of the basin.	103:104	3.1.7	3-15		
	(6)		The source and point of delivery for imported water supplies.	105:106	3.1.8	3-15		
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10727.2, 10733, and 10733.2, Water Code.					
§ 354.16.			**Groundwater Conditions**					
			Each Plan shall provide a description of current and historical groundwater conditions in the basin, including data from January 1, 2015, to current conditions, based on the best available information that includes the following:					
(a)			Groundwater elevation data demonstrating flow directions, lateral and vertical gradients, and regional pumping patterns, including:					
	(1)		Groundwater elevation contour maps depicting the groundwater table or potentiometric surface associated with the current seasonal high and seasonal low for each principal aquifer within the basin.	96,98:102	3.2.1	3-1,3-17,3-18,3-19,3-20,3-21,3-22		
	(2)		Hydrographs depicting long-term groundwater elevations, historical highs and lows, and hydraulic gradients between principal aquifers.	109:125, 412:460, 461:481	3.2.1,3.2.2			See Appendices F and G
(b)			A graph depicting estimates of the change in groundwater in storage, based on data, demonstrating the annual and cumulative change in the volume of groundwater in storage between seasonal high groundwater conditions, including the annual groundwater use and water year type.	86,101,150, 126:127	3.2.3	3-14,3-24	3-3	
(c)			Seawater intrusion conditions in the basin, including maps and cross-sections of the seawater intrusion front for each principal aquifer.	127	3.2.4			
(d)			Groundwater quality issues that may affect the supply and beneficial uses of groundwater, including a description and map of the location of known groundwater contamination sites and plumes.	64,127:137	3.2.5	2-10,3-27,3-28,3-29,3-30		
(e)			The extent, cumulative total, and annual rate of land subsidence, including maps depicting total subsidence, utilizing data available from the Department, as specified in Section 353.2, or the best available information.	138:143	3.2.6	3-31,3-32,3-33,3-34		
(f)			Identification of interconnected surface water systems within the basin and an estimate of the quantity and timing of depletions of those systems, utilizing data available from the Department, as specified in Section 353.2, or the best available information.	144	3.2.7			
(g)			Identification of groundwater dependent ecosystems within the basin, utilizing data available from the Department, as specified in Section 353.2, or the best available information.	144:146	3.2.8	3-35,3-36		
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10723.2, 10727.2, 10727.4, and 10733.2, Water Code.					
§ 354.18.			**Water Budget**					
(a)			Each Plan shall include 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, and the change in the volume of water stored. Water budget information shall be reported in tabular and graphical form.	147:177	3.3	3-37,3-38,3-39,3-40,3-41,3-42	3-3,3-4,3-5,3-6,3-7,3-8,3-9,3-10,3-11	
(b)			The water budget shall quantify the following, either through direct measurements or estimates based on data:					
	(1)		Total surface water entering and leaving a basin by water source type.	155	3.3.4	3-15		
	(2)		Inflow to the groundwater system by water source type, including subsurface groundwater inflow and infiltration of precipitation, applied water, and surface water systems, such as lakes, streams, rivers, canals, springs and conveyance systems.	155:162	3.3.5	3-39		
	(3)		Outflows from the groundwater system by water use sector, including evapotranspiration, groundwater extraction, groundwater discharge to surface water sources, and subsurface groundwater outflow.	163:166	3.3.6		3-6	

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	(4)		The change in the annual volume of groundwater in storage between seasonal high conditions.	166:167	3.3.7		3-7	
	(5)		If overdraft conditions occur, as defined in Bulletin 118, the water budget shall include a quantification of overdraft over a period of years during which water year and water supply conditions approximate average conditions.	176	3.3.11			
	(6)		The water year type associated with the annual supply, demand, and change in groundwater stored.	154,177	3.3.12		3-4	
	(7)		An estimate of sustainable yield for the basin.	154,177	3.3.13		3-8	
(c)			Each Plan shall quantify the current, historical, and projected water budget for the basin as follows:					
	(1)		Current water budget information shall quantify current inflows and outflows for the basin using the most recent hydrology, water supply, water demand, and land use information.	168:169	3.3.9		3-8	
	(2)		Historical water budget information shall be used to evaluate availability or reliability of past surface water supply deliveries and aquifer response to water supply and demand trends relative to water year type. The historical water budget shall include the following:					
		(A)	A quantitative evaluation of the availability or reliability of historical surface water supply deliveries as a function of the historical planned versus actual annual surface water deliveries, by surface water source and water year type, and based on the most recent ten years of surface water supply information.	167	3.3.8		3-7	
		(B)	A quantitative assessment of the historical water budget, starting with the most recently available information and extending back a minimum of 10 years, or as is sufficient to calibrate and reduce the uncertainty of the tools and methods used to estimate and project future water budget information and future aquifer response to proposed sustainable groundwater management practices over the planning and implementation horizon.	167	3.3.8		3-7	
		(C)	A description of how historical conditions concerning hydrology, water demand, and surface water supply availability or reliability have impacted the ability of the Agency to operate the basin within sustainable yield. Basin hydrology may be characterized and evaluated using water year type.	167	3.3.8		3-7	
	(3)		Projected water budgets shall be used to estimate future baseline conditions of supply, demand, and aquifer response to Plan implementation, and to identify the uncertainties of these projected water budget components. The projected water budget shall utilize the following methodologies and assumptions to estimate future baseline conditions concerning hydrology, water demand and surface water supply availability or reliability over the planning and implementation horizon:					
		(A)	Projected hydrology shall utilize 50 years of historical precipitation, evapotranspiration, and streamflow information as the baseline condition for estimating future hydrology. The projected hydrology information shall also be applied as the baseline condition used to evaluate future scenarios of hydrologic uncertainty associated with projections of climate change and sea level rise.	169:176	3.3.10	3-40,3-41,3-42	3-9,3-10,3-11	
		(B)	Projected water demand shall utilize the most recent land use, evapotranspiration, and crop coefficient information as the baseline condition for estimating future water demand. The projected water demand information shall also be applied as the baseline condition used to evaluate future scenarios of water demand uncertainty associated with projected changes in local land use planning, population growth, and climate.	169:176	3.3.10	3-40,3-41,3-42	3-9,3-10,3-11	
		(C)	Projected surface water supply shall utilize the most recent water supply information as the baseline condition for estimating future surface water supply. The projected surface water supply shall also be applied as the baseline condition used to evaluate future scenarios of surface water supply availability and reliability as a function of the historical surface water supply identified in Section 354.18(c)(2)(A), and the projected changes in local land use planning, population growth, and climate.	169:176	3.3.10	3-40,3-41,3-42	3-9,3-10,3-11	
(d)			The Agency shall utilize the following information provided, as available, by the Department pursuant to Section 353.2, or other data of comparable quality, to develop the water budget:					
	(1)		Historical water budget information for mean annual temperature, mean annual precipitation, water year type, and land use.	167	3.3.8		3-7	
	(2)		Current water budget information for temperature, water year type, evapotranspiration, and land use.	168:169	3.3.9		3-8	
	(3)		Projected water budget information for population, population growth, climate change, and sea level rise.	169:176	3.3.10	3-40,3-41,3-42	3-9,3-10,3-11	
(e)			Each Plan shall rely on the best available information and best available science to quantify the water budget for the basin in order to provide an understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater and surface water interaction, and subsurface groundwater flow. If a numerical groundwater and surface water model is not used to quantify and evaluate the projected water budget conditions and the potential impacts to beneficial uses and users of groundwater, the Plan shall identify and describe an equally effective method, tool, or analytical model to evaluate projected water budget conditions.	153	3.3.2			

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(f)			The Department shall provide the California Central Valley Groundwater-Surface Water Simulation Model (C2VSIM) and the Integrated Water Flow Model (IWFM) for use by Agencies in developing the water budget. Each Agency may choose to use a different groundwater and surface water model, pursuant to Section 352.4.	153:154	3.3.3		3-3,3-4,3-5	
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10721, 10723.2, 10727.2, 10727.6, 10729, and 10733.2, Water Code.					
§ 354.20.			**Management Areas**					
(a)			Each Agency may define one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin.	51,178	3.4	2-3		
(b)			A basin that includes one or more management areas shall describe the following in the Plan:					
	(1)		The reason for the creation of each management area.	178	3.4.1			
	(2)		The minimum thresholds and measurable objectives established for each management area, and an explanation of the rationale for selecting those values, if different from the basin at large.	178	3.4.2			
	(3)		The level of monitoring and analysis appropriate for each management area.	178	3.4.3			
	(4)		An explanation of how the management area can operate under different minimum thresholds and measurable objectives without causing undesirable results outside the management area, if applicable.	51,178	3.4.4	2-3		
(c)			If a Plan includes one or more management areas, the Plan shall include descriptions, maps, and other information required by this Subarticle sufficient to describe conditions in those areas.	51,178	3.4.4	2-3		
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10733.2 and 10733.4, Water Code.					
SubArticle 3.			**Sustainable Management Criteria**					
§ 354.22.			**Introduction to Sustainable Management Criteria**					
			This Subarticle describes criteria by which an Agency defines conditions in its Plan that constitute sustainable groundwater management for the basin, including the process by which the Agency shall characterize undesirable results, and establish minimum thresholds and measurable objectives for each applicable sustainability indicator.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Section 10733.2, Water Code.					
§ 354.24.			**Sustainability Goal**					
			Each Agency shall establish in its Plan a sustainability goal for the basin that culminates in the absence of undesirable results within 20 years of the applicable statutory deadline. The Plan shall include a description of the sustainability goal, including information from the basin setting used to establish the sustainability goal, a discussion of the measures that will be implemented to ensure that the basin will be operated within its sustainable yield, and an explanation of how the sustainability goal is likely to be achieved within 20 years of Plan implementation and is likely to be maintained through the planning and implementation horizon.	180:182	4.1			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10721, 10727, 10727.2, 10733.2, and 10733.8, Water Code.					
§ 354.26.			**Undesirable Results**					
(a)			Each Agency shall describe in its Plan the processes and criteria relied upon to define undesirable results applicable to the basin. Undesirable results occur when significant and unreasonable effects for any of the sustainability indicators are caused by groundwater conditions occurring throughout the basin.	187,203,211,220,225	4.2.2.1,4.3.1.1,4.5.1.1,4.6.1.1,4.7.1.1			
(b)			The description of undesirable results shall include the following:					
	(1)		The cause of groundwater conditions occurring throughout the basin that would lead to or has led to undesirable results based on information described in the basin setting, and other data or models as appropriate.	183,187:188,204,211,230:221,225	4.2.1,4.2.2.2,4.3.1.2,4.5.1.2,4.6.1.2,4.7.1.2			
	(2)		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.	183,187:188,204,211,230:221,225	4.2.1,4.2.2.2,4.3.1.2,4.5.1.2,4.6.1.2,4.7.1.2			
	(3)		Potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results.	183,187:188,204,211,230:221,225	4.2.1,4.2.2.2,4.3.1.2,4.5.1.2,4.6.1.2,4.7.1.2			
(c)			The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from multiple monitoring sites, rather than a single monitoring site.	188,204,211:212,221;226	4.2.2.3,4.3.1.3,4.5.1.3,4.6.1.3,4.7.1.3			

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(d)			An Agency that is able to demonstrate that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin shall not be required to establish criteria for undesirable results related to those sustainability indicators.	208,225:229	4.4,4.7			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10721, 10723.2, 10727.2, 10733.2, and 10733.8, Water Code.					
§ 354.28.			**Minimum Thresholds**					
(a)			Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.	189:199,204:206,213;215,221:223,226:227	4.2.3,4.3.2,4.5.2,4.6.2,4.7.2	4-3,4-4,4-5,4-6,4-7,4-8	4-2	
(b)			The description of minimum thresholds shall include the following:					
	(1)		The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by uncertainty in the understanding of the basin setting.	197,204:205,213,221:222,226	4.2.3.1,4.3.2.1,4.5.2.1,4.6.2.1,4.7.2.1			
	(2)		The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators.	197:198,205,213:214,222,226	4.2.3.2,4.3.2.2,4.5.2.2,4.6.2.2,4.7.2.2			
	(3)		How minimum thresholds have been selected to avoid causing undesirable results in adjacent basins or affecting the ability of adjacent basins to achieve sustainability goals.	198,205,214,222,227	4.2.3.3,4.3.2.3,4.5.2.3,4.6.2.2,4.7.2.3			
	(4)		How minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests.	198:299,205:206,214,222,227	4.2.3.4,4.3.2.4,4.5.2.4,4.6.2.3,4.7.2.4			
	(5)		How state, federal, or local standards relate to the relevant sustainability indicator. If the minimum threshold differs from other regulatory standards, the Agency shall explain the nature of and basis for the difference.	199,206,214,223,227	4.2.3.5,4.3.2.5,4.5.2.5,4.6.2.4,4.7.2.5			
	(6)		How each minimum threshold will be quantitatively measured, consistent with the monitoring network requirements described in Subarticle 4.	199,206,214,223,227	4.2.3.6,4.3.2.6,4.5.2.6,4.6.2.5,4.7.2.6			
(c)			Minimum thresholds for each sustainability indicator shall be defined as follows:					
	(1)		Chronic Lowering of Groundwater Levels. The minimum threshold for chronic lowering of groundwater levels shall be the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results. Minimum thresholds for chronic lowering of groundwater levels shall be supported by the following:					
		(A)	The rate of groundwater elevation decline based on historical trends, water year type, and projected water use in the basin.	197	4.2.3.1			
		(B)	Potential effects on other sustainability indicators.	197:198	4.2.3.2			
	(2)		Reduction of Groundwater Storage. The minimum threshold for reduction of groundwater storage shall 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 sustainable yield of the basin, calculated based on historical trends, water year type, and projected water use in the basin.	204:205	4.3.2.1			
	(3)		Seawater Intrusion. The minimum threshold for seawater intrusion shall be defined by a chloride concentration isocontour for each principal aquifer where seawater intrusion may lead to undesirable results. Minimum thresholds for seawater intrusion shall be supported by the following:					
		(A)	Maps and cross-sections of the chloride concentration isocontour that defines the minimum threshold and measurable objective for each principal aquifer.	208	4.4			
		(B)	A description of how the seawater intrusion minimum threshold considers the effects of current and projected sea levels.	208	4.4			
	(4)		Degraded Water Quality. The minimum threshold for degraded water quality shall 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.	213	4.5.2.1			
	(5)		Land Subsidence. The minimum threshold for land subsidence shall be the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results. Minimum thresholds for land subsidence shall be supported by the following:					

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		(A)	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.	221:223	4.6.2			
		(B)	Maps and graphs showing the extent and rate of land subsidence in the basin that defines the minimum threshold and measurable objectives.	221:223	4.6.2			
	(6)		Depletions of Interconnected Surface Water. The minimum threshold for depletions of interconnected surface water shall be the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results. The minimum threshold established for depletions of interconnected surface water shall be supported by the following:					
		(A)	The location, quantity, and timing of depletions of interconnected surface water.	225:228	4.7			
		(B)	A description of the groundwater and surface water model used to quantify surface water depletion. If a numerical groundwater and surface water model is not used to quantify surface water depletion, the Plan shall identify and describe an equally effective method, tool, or analytical model to accomplish the requirements of this Paragraph.	225:228	4.7			
(d)			An Agency may establish a representative minimum threshold for groundwater elevation to serve as the value for multiple sustainability indicators, where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.	225:228	4.7			
(e)			An Agency that has demonstrated that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin, as described in Section 354.26, shall not be required to establish minimum thresholds related to those sustainability indicators.	225:228	4.7			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10723.2, 10727.2, 10733, 10733.2, and 10733.8, Water Code.					
§ 354.30.			**Measurable Objectives**					
(a)			Each Agency shall establish measurable objectives, including interim milestones in increments of five years, to achieve the sustainability goal for the basin within 20 years of Plan implementation and to continue to sustainably manage the groundwater basin over the planning and implementation horizon.	199:200,206:207,215,233,225:228	4.2.4.1,4.3.3.1,4.5.3.1,4.6.3.1,4.7	4-2	4-3,4-4	
(b)			Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.	199:200,206:207,215,233,225:228	4.2.4.1,4.3.3.1,4.5.3.1,4.6.3.1,4.7	4-2	4-3,4-4	
(c)			Measurable objectives shall provide a reasonable margin of operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and periods of drought, and be commensurate with levels of uncertainty.	201,207,215,233:234,225:228	4.2.4.2,4.3.3.2,4.5.3.2,4.6.3.2,4.7			
(d)			An Agency may establish a representative measurable objective for groundwater elevation to serve as the value for multiple sustainability indicators where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual measurable objectives as supported by adequate evidence.	201,207,215,233:234,225:228	4.2.4.3,4.3.3.3,4.5.3.3,4.6.3.3,4.7			
(e)			Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin within 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.	201,207,215,233:234,225:228	4.2.4.4,4.3.3.4,4.5.3.4,4.6.3.4,4.7		4-3,4-4	
(f)			Each Plan may include measurable objectives and interim milestones for additional Plan elements described in Water Code Section 10727.4 where the Agency determines such measures are appropriate for sustainable groundwater management in the basin.	229	4.8			
(g)			An Agency may establish measurable objectives that exceed the reasonable margin of operational flexibility for the purpose of improving overall conditions in the basin, but failure to achieve those objectives shall not be grounds for a finding of inadequacy of the Plan.	229	4.8			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10727.2, 10727.4, and 10733.2, Water Code.					
SubArticle 4.			**Monitoring Networks**					
§ 354.32.			**Introduction to Monitoring Networks**					
			This Subarticle describes the monitoring network that shall be developed for each basin, including monitoring objectives, monitoring protocols, and data reporting requirements. The monitoring network shall promote the collection of data 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.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Section 10733.2, Water Code.					
§ 354.34.			**Monitoring Network**					

Article 5.			Plan Contents for Pleasant Valley Basin	GSP Document References				
				Page Numbers of Plan	Or Section Numbers	Or Figure Numbers	Or Table Numbers	Notes
(a)			Each Agency shall develop a monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate Plan implementation.	230:271	5.0	5-1,5-2,5-3,5-4,5-5,5-6,5-7,5-8,5-9	5-1	
(b)			Each Plan shall include a description of the monitoring network objectives for the basin, including an explanation of how the network will be developed and implemented to monitor groundwater and related surface conditions, and the interconnection of surface water and groundwater, with sufficient temporal frequency and spatial density to evaluate the affects and effectiveness of Plan implementation. The monitoring network objectives shall be implemented to accomplish the following:					
	(1)		Demonstrate progress toward achieving measurable objectives described in the Plan.	246	5.2.1			
	(2)		Monitor impacts to the beneficial uses or users of groundwater.	246	5.2.1			
	(3)		Monitor changes in groundwater conditions relative to measurable objectives and minimum thresholds.	246	5.2.1			
	(4)		Quantify annual changes in water budget components.	246	5.2.1			
(c)			Each monitoring network shall be designed to accomplish the following for each sustainability indicator:					
	(1)		Chronic Lowering of Groundwater Levels. Demonstrate groundwater occurrence, flow directions, and hydraulic gradients between principal aquifers and surface water features by the following methods:					
		(A)	A sufficient density of monitoring wells to collect representative measurements through depth-discrete perforated intervals to characterize the groundwater table or potentiometric surface for each principal aquifer.	247,233,235	5.3.1	5-2,5-5		
		(B)	Static groundwater elevation measurements shall be collected at least two times per year, to represent seasonal low and seasonal high groundwater conditions.	247,233,235	5.3.1	5-2,5-5		
	(2)		Reduction of Groundwater Storage. Provide an estimate of the change in annual groundwater in storage.	97,247:248	3.1.5,5.3.2			
	(3)		Seawater Intrusion. Monitor seawater intrusion using chloride concentrations, or other measurements convertible to chloride concentrations, so that the current and projected rate and extent of seawater intrusion for each applicable principal aquifer may be calculated.	248	5.3.3			
	(4)		Degraded Water Quality. Collect sufficient spatial and temporal data from each applicable principal aquifer to determine groundwater quality trends for water quality indicators, as determined by the Agency, to address known water quality issues.	230	5.3.3			
	(5)		Land Subsidence. Identify the rate and extent of land subsidence, which may be measured by extensometers, surveying, remote sensing technology, or other appropriate method.	138:139,234,249	3.2.6,5.3.5	5-4		
	(6)		Depletions of Interconnected Surface Water. Monitor surface water and groundwater, where interconnected surface water conditions exist, to characterize the spatial and temporal exchanges between surface water and groundwater, and to calibrate and apply the tools and methods necessary to calculate depletions of surface water caused by groundwater extractions. The monitoring network shall be able to characterize the following:					
		(A)	Flow conditions including surface water discharge, surface water head, and baseflow contribution.	249	5.3.6			
		(B)	Identifying the approximate date and location where ephemeral or intermittent flowing streams and rivers cease to flow, if applicable.	249	5.3.6			
		(C)	Temporal change in conditions due to variations in stream discharge and regional groundwater extraction.	249	5.3.6			
		(D)	Other factors that may be necessary to identify adverse impacts on beneficial uses of the surface water.	249	5.3.6			
(d)			The monitoring network shall be designed to ensure adequate coverage of sustainability indicators. If management areas are established, the quantity and density of monitoring sites in those areas shall be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area.	250:251	5.4			
(e)			A Plan may utilize site information and monitoring data from existing sources as part of the monitoring network.	250:251	5.4			
(f)			The Agency shall determine the density of monitoring sites and frequency of measurements required to demonstrate short-term, seasonal, and long-term trends based upon the following factors:					
	(1)		Amount of current and projected groundwater use.	248,252:253,233:235	5.3.3,5.3.4,5.5	5-3,5-6,5-7		
	(2)		Aquifer characteristics, including confined or unconfined aquifer conditions, or other physical characteristics that affect groundwater flow.	248,252:253,233:235	5.3.3,5.3.4,5.5	5-3,5-6,5-7		
	(3)		Impacts to beneficial uses and users of groundwater and land uses and property interests affected by groundwater production, and adjacent basins that could affect the ability of that basin to meet the sustainability goal.	248,252:253,233:235	5.3.3,5.3.4,5.5	5-3,5-6,5-7		
	(4)		Whether the Agency has adequate long-term existing monitoring results or other technical information to demonstrate an understanding of aquifer response.	248,252:253,233:235	5.3.3,5.3.4,5.5	5-3,5-6,5-7		
(g)			Each Plan shall describe the following information about the monitoring network:					

Article 5.			Plan Contents for Pleasant Valley Basin	GSP Document References				
				Page Numbers of Plan	Or Section Numbers	Or Figure Numbers	Or Table Numbers	Notes
	(1)		Scientific rationale for the monitoring site selection process.	238,254:257	5.6.1.1,5.6.2.1,5.6.4.1,5.6.5.1,5.6.6.1	5-4		
	(2)		Consistency with data and reporting standards described in Section 352.4. If a site is not consistent with those standards, the Plan shall explain the necessity of the site to the monitoring network, and how any variation from the standards will not affect the usefulness of the results obtained.	254:257,482:487	5.6			See Appendix H
	(3)		For each sustainability indicator, the quantitative values for the minimum threshold, measurable objective, and interim milestones that will be measured at each monitoring site or representative monitoring sites established pursuant to Section 354.36.	297,199:200,204:207,209:216,223:224,227:228,254:257	4.2.3.1,4.2.4,4.3.2.1,4.3.3,4.5,4.6.3,4.7.3,5.6			
(h)			The location and type of each monitoring site within the basin displayed on a map, and reported in tabular format, including information regarding the monitoring site type, frequency of measurement, and the purposes for which the monitoring site is being used.	232:234,248,258	5.3.3,5.3.4,5.7	5-2,5-3,5-4		
(i)			The monitoring protocols developed by each Agency shall include a description of technical standards, data collection methods, and other procedures or protocols pursuant to Water Code Section 10727.2(f) for monitoring sites or other data collection facilities to ensure that the monitoring network utilizes comparable data and methodologies.	248:249,260:261	5.3.3,5.3.6,5.8			
(j)			An Agency that has demonstrated that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin, as described in Section 354.26, shall not be required to establish a monitoring network related to those sustainability indicators.	248:249	5.3.3,5.3.6			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10723.2, 10727.2, 10727.4, 10728, 10733, 10733.2, and 10733.8, Water Code					
§ 354.36.			**Representative Monitoring**					
			Each Agency may designate a subset of monitoring sites as representative of conditions in the basin or an area of the basin, as follows:					
(a)			Representative monitoring sites may be designated by the Agency as the point at which sustainability indicators are monitored, and for which quantitative values for minimum thresholds, measurable objectives, and interim milestones are defined.	248,262	5.3.3,5.9	5-2,5-3,5-4		
(b)			(b) Groundwater elevations may be used as a proxy for monitoring other sustainability indicators if the Agency demonstrates the following:					
	(1)		Significant correlation exists between groundwater elevations and the sustainability indicators for which groundwater elevation measurements serve as a proxy.	248,262	5.3.3,5.9			
	(2)		Measurable objectives established for groundwater elevation shall include a reasonable margin of operational flexibility taking into consideration the basin setting to avoid undesirable results for the sustainability indicators for which groundwater elevation measurements serve as a proxy.	248,262	5.3.3,5.9			
(c)			The designation of a representative monitoring site shall be supported by adequate evidence demonstrating that the site reflects general conditions in the area.	248,262	5.3.3,5.9			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10727.2 and 10733.2, Water Code					
§ 354.38.			**Assessment and Improvement of Monitoring Network**					
(a)			Each Agency shall review the monitoring network and include an evaluation in the Plan and each five-year assessment, including a determination of uncertainty and whether there are data gaps that could affect the ability of the Plan to achieve the sustainability goal for the basin.	260:270	5.10.1.1,5.10.2.1,5.10.4.1,5.10.5.1,5.10.6.1			
(b)			Each Agency shall identify data gaps wherever the basin does not contain a sufficient number of monitoring sites, does not monitor sites at a sufficient frequency, or utilizes monitoring sites that are unreliable, including those that do not satisfy minimum standards of the monitoring network adopted by the Agency.	218:219,246:252	5.2,5.10.1.2,5.10.2.2,5.10.4.2,5.10.5.2,5.10.6.2			
(c)			If the monitoring network contains data gaps, the Plan shall include a description of the following:					
	(1)		The location and reason for data gaps in the monitoring network.	236:246,265:270	5.2,5.10.1.3,5.10.2.3,5.10.4.3,5.10.5.3,5.10.6.3			
	(2)		Local issues and circumstances that limit or prevent monitoring.	236:246,265:270	5.2,5.10.1.3,5.10.2.3,5.10.4.3,5.10.5.3,5.10.6.3			

Article 5.			Plan Contents for Pleasant Valley Basin	GSP Document References				
				Page Numbers of Plan	Or Section Numbers	Or Figure Numbers	Or Table Numbers	Notes
(d)			Each Agency shall describe steps that will be taken to fill data gaps before the next five-year assessment, including the location and purpose of newly added or installed monitoring sites.	236:246,265:270	5.2,5.10.1.3,5.10.2.3,5.10.4.3,5.10.5.3,5.10.6.3			
(e)			Each Agency shall adjust the monitoring frequency and density of monitoring sites to provide an adequate level of detail about site-specific surface water and groundwater conditions and to assess the effectiveness of management actions under circumstances that include the following:					
	(1)		Minimum threshold exceedances.	232,265:270	5.10.1.4,5.10.2.4,5.10.4.4,5.10.5.45.10.6.4	5-2		
	(2)		Highly variable spatial or temporal conditions.	232,265:270	5.10.1.4,5.10.2.4,5.10.4.4,5.10.5.45.10.6.4	5-2		
	(3)		Adverse impacts to beneficial uses and users of groundwater.	232,265:270	5.10.1.4,5.10.2.4,5.10.4.4,5.10.5.45.10.6.4	5-2		
	(4)		The potential to adversely affect the ability of an adjacent basin to implement its Plan or impede achievement of sustainability goals in an adjacent basin.	232,265:270	5.10.1.4,5.10.2.4,5.10.4.4,5.10.5.45.10.6.4	5-2		
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10723.2, 10727.2, 10728.2, 10733, 10733.2, and 10733.8, Water Code					
§ 354.40.			**Reporting Monitoring Data to the Department**					
			Monitoring data shall be stored in the data management system developed pursuant to Section 352.6. A copy of the monitoring data shall be included in the Annual Report and submitted electronically on forms provided by the Department.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10728, 10728.2, 10733.2, and 10733.8, Water Code.					
SubArticle 5.			**Projects and Management Actions**					
§ 354.42.			**Introduction to Projects and Management Actions**					
			This Subarticle describes the criteria for projects and management actions to be included in a Plan to meet the sustainability goal for the basin in a manner that can be maintained over the planning and implementation horizon.					
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Section 10733.2, Water Code.					
§ 354.44.			**Projects and Management Actions**					
(a)			Each Plan shall include a description of the projects and management actions the Agency has determined will achieve the sustainability goal for the basin, including projects and management actions to respond to changing conditions in the basin.	272:297	6.0	6-1:6-2	6-1:6-4	
(b)			Each Plan shall include a description of the projects and management actions that include the following:					
	(1)		A list of projects and management actions proposed in the Plan with a description of the measurable objective that is expected to benefit from the project or management action. The list shall include projects and management actions that may be utilized to meet interim milestones, the exceedance of minimum thresholds, or where undesirable results have occurred or are imminent. The Plan shall include the following:					
		(A)	A description of the circumstances under which projects or management actions shall be implemented, the criteria that would trigger implementation and termination of projects or management actions, and the process by which the Agency shall determine that conditions requiring the implementation of particular projects or management actions have occurred.	272:277	6.1			
		(B)	The process by which the Agency shall provide notice to the public and other agencies that the implementation of projects or management actions is being considered or has been implemented, including a description of the actions to be taken.	272:277	6.1			
	(2)		If overdraft conditions are identified through the analysis required by Section 354.18, the Plan shall describe projects or management actions, including a quantification of demand reduction or other methods, for the mitigation of overdraft.	272:277	6.1			
	(3)		A summary of the permitting and regulatory process required for each project and management action.	272:277	6.1			
	(4)		The status of each project and management action, including a time-table for expected initiation and completion, and the accrual of expected benefits.	272:277	6.1			
	(5)		An explanation of the benefits that are expected to be realized from the project or management action, and how those benefits will be evaluated.	272:277	6.1			

Article 5.			Plan Contents for Pleasant Valley Basin	GSP Document References				
				Page Numbers of Plan	Or Section Numbers	Or Figure Numbers	Or Table Numbers	Notes
	(6)		An explanation of how the project or management action will be accomplished. If the projects or management actions rely on water from outside the jurisdiction of the Agency, an explanation of the source and reliability of that water shall be included.	272:277	6.1			
	(7)		A description of the legal authority required for each project and management action, and the basis for that authority within the Agency.	272:277	6.1			
	(8)		A description of the estimated cost for each project and management action and a description of how the Agency plans to meet those costs.	272:277,298:300	6.1,7.2		7-2	
	(9)		A description of the management of groundwater extractions and recharge to ensure that chronic lowering of groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods.	272:277	6.1	6-1		
(c)			Projects and management actions shall be supported by best available information and best available science.	278:297	6.2,6.3			
(d)			An Agency shall take into account the level of uncertainty associated with the basin setting when developing projects or management actions.	278:293	6.2			
			Note: Authority cited: Section 10733.2, Water Code.					
			Reference: Sections 10727.2, 10727.4, and 10733.2, Water Code.					

Appendix E – KDSA Report 2020

PLEASANT VALLEY WD
AQUIFER TRANSMISSIVITIES

Aquifer tests are available for ten wells in Pleasant Valley from which transmissivities could be determined (Table 1). Seven of these wells range in depth (lowest perforations) from 764 to 1,200 feet, and the other three range in depth (lowest perforations) from 1,760 to 2,070 feet. The tops of the perforations in the deeper wells range from 600 to 740 feet deep. For the shallower wells, specific capacities ranged from about 7 to 32 gpm per foot. There are specific capacities available for two other shallower wells, where transmissivity couldn't be determined. These specific capacities ranged from 66 to 73 gpm per foot. Transmissivities for the shallower wells ranged from 15,000 to 73,000 gpd per foot. Most values ranged from 30,000 to 57,000 gpd per foot.

For the three deep wells, specific capacities ranged from 11 to 26 gpm per foot, and transmissivities ranged from 18,000 to 39,000 gpd per foot. A specific capacity of 21 gpm per foot was available for another deep well, where the transmissivity couldn't be determined.

The relation between specific capacity and transmissivity was examined for these ten wells. Conversion factors (transmissivity divided by specific capacity) for eight of the tests ranged from 1,300 to 2,800 and averaged 2,000. This average value is the expected conversion factor for wells tapping confined groundwater. The highest specific capacities for shallower wells indicate that the highest transmissivities likely range from about 132,000 to 146,000 gpd per foot.

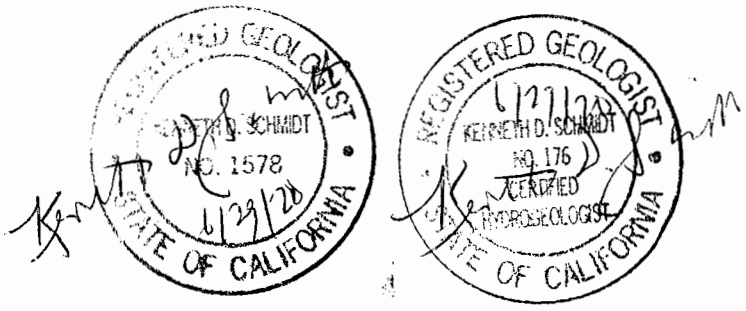


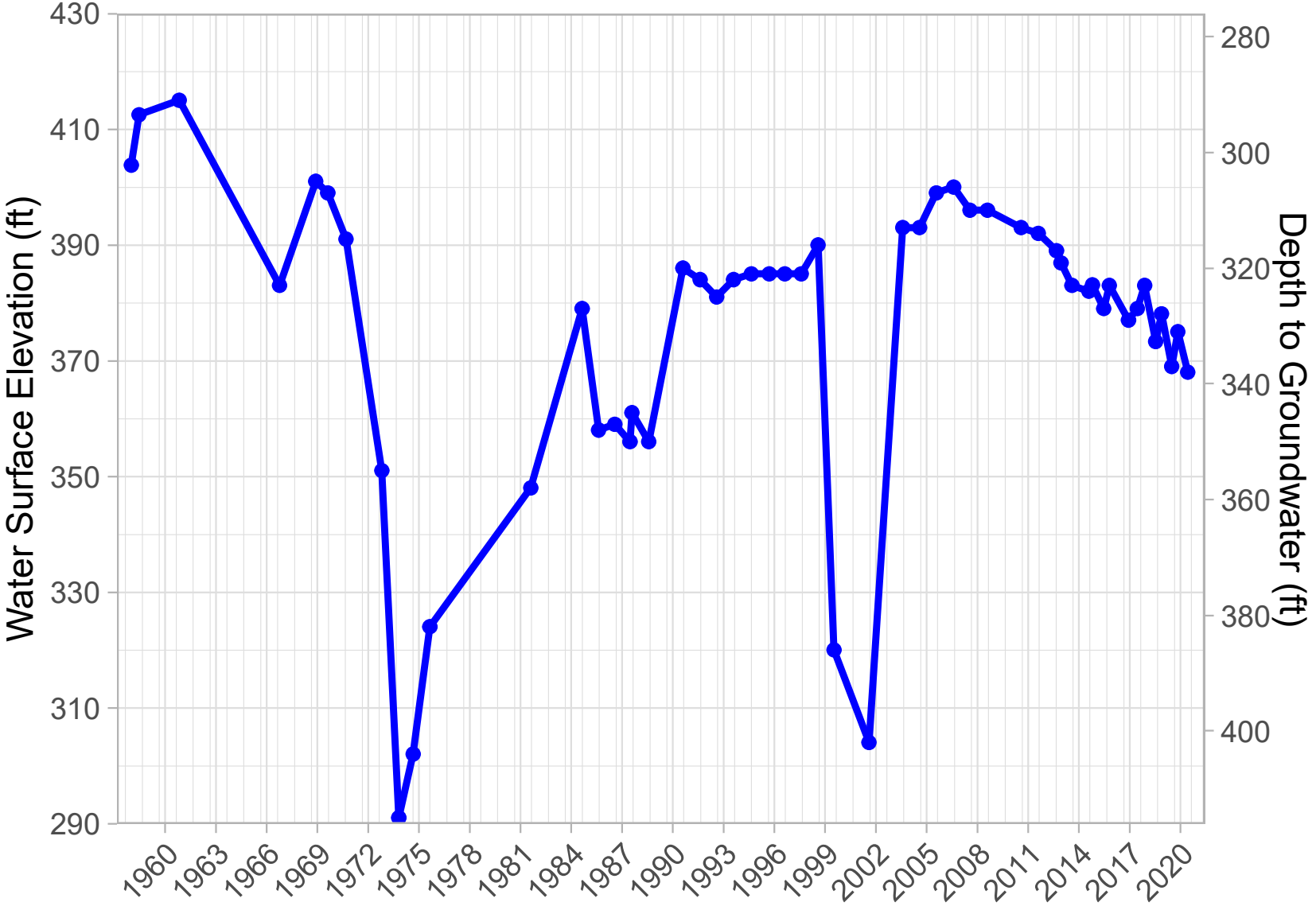
TABLE 1-SUMMARY OF PUMP TEST DATA
FOR WELLS IN PLEASANT VALLEY WD

Well Location	Well I.D.	Date	Perforated Interval (feet)	Pumping Rate (gpm)	Specific Capacity (gpm/ft)	Transmissivity (gpd/foot)
T20S/R15E-16C	Dust Bowl No. 2	12/14/11	740-1,760	2,500	25.9	39,000
T20S/R15E-22E	HTW Farms	10/20/16	686-2,070	1,500	14.3	18,000
T20S/R15E-32C	City Well No. 9	8/26/02	400-1,155	945	20.0	44,000
T20S/R16E-36N	Pleasant Valley Pist.	2/20/02	362-764	900	N.A.	112,000
T21S/R16E-8H	Devine Farms AS&R	11/00	500-1,000	2,000	29.0	73,000
T21S/R16E-8J	Double D 8-1 Well	11/22/00	500-1,000	3,000	31.7	41,000
T21S/R15E-12L	Jacalitos Creek Pist.	9/14/15	557-1,200	1,400	13.2	30,000
T21S/R15E-12L	Jacalitos Creek Pist. No. 3	6/6/19	435-952	1,500	12.4	65,000
T21S/R16E-15D	Kreyenhagen No. 1	12/20/14	600-1,960	2,017	11.0	31,000
T21S/R16E-16J	Stiefvater C-16 (flo-path)	12/8/08	460-750 & 810-1,030	900	6.5	15,000

Appendix F – Hydrographs Depicting Long-Term Groundwater Elevations

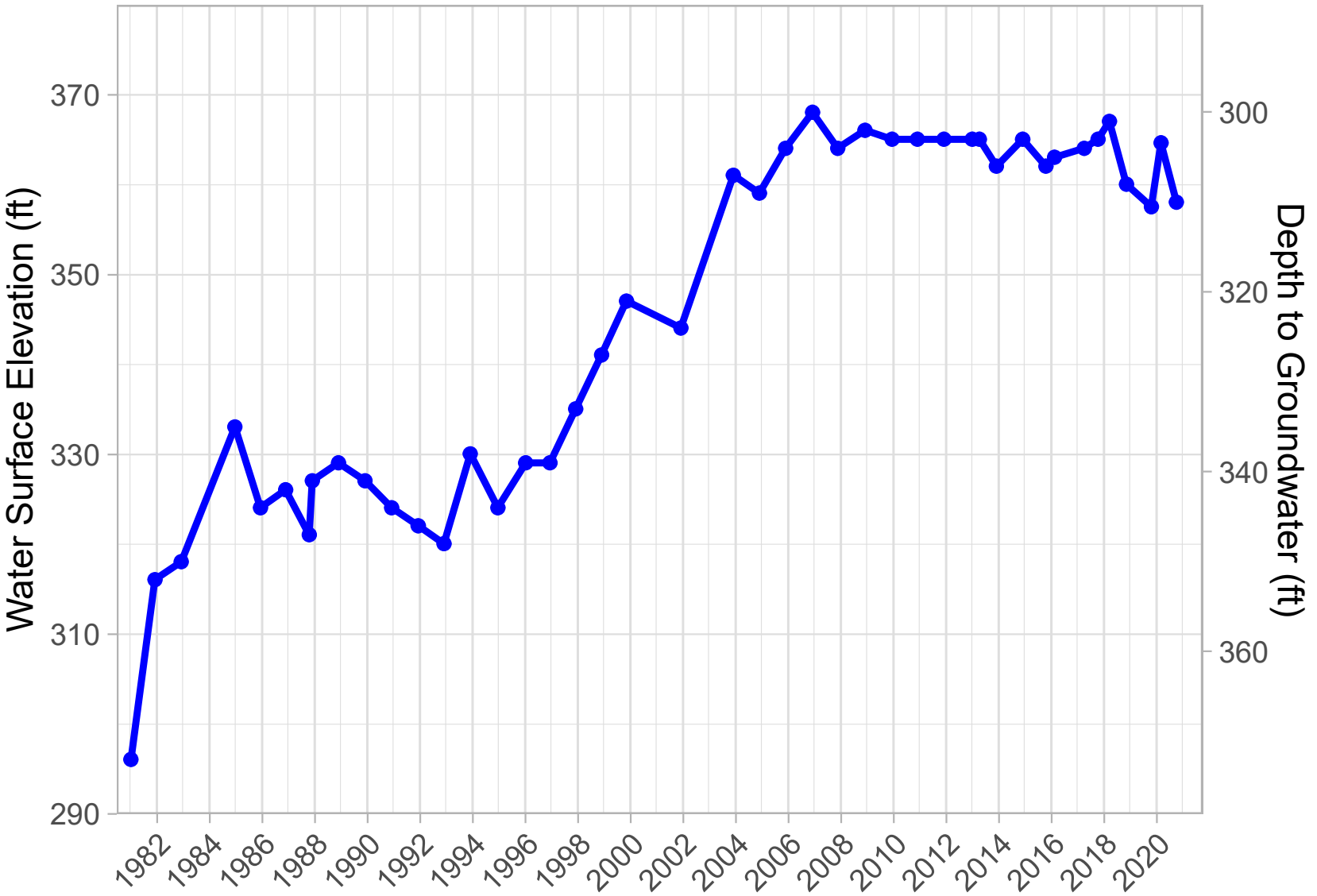


21S16E35A001M
360622N1202027W001





21S16E27J001M
360700N1202221W001



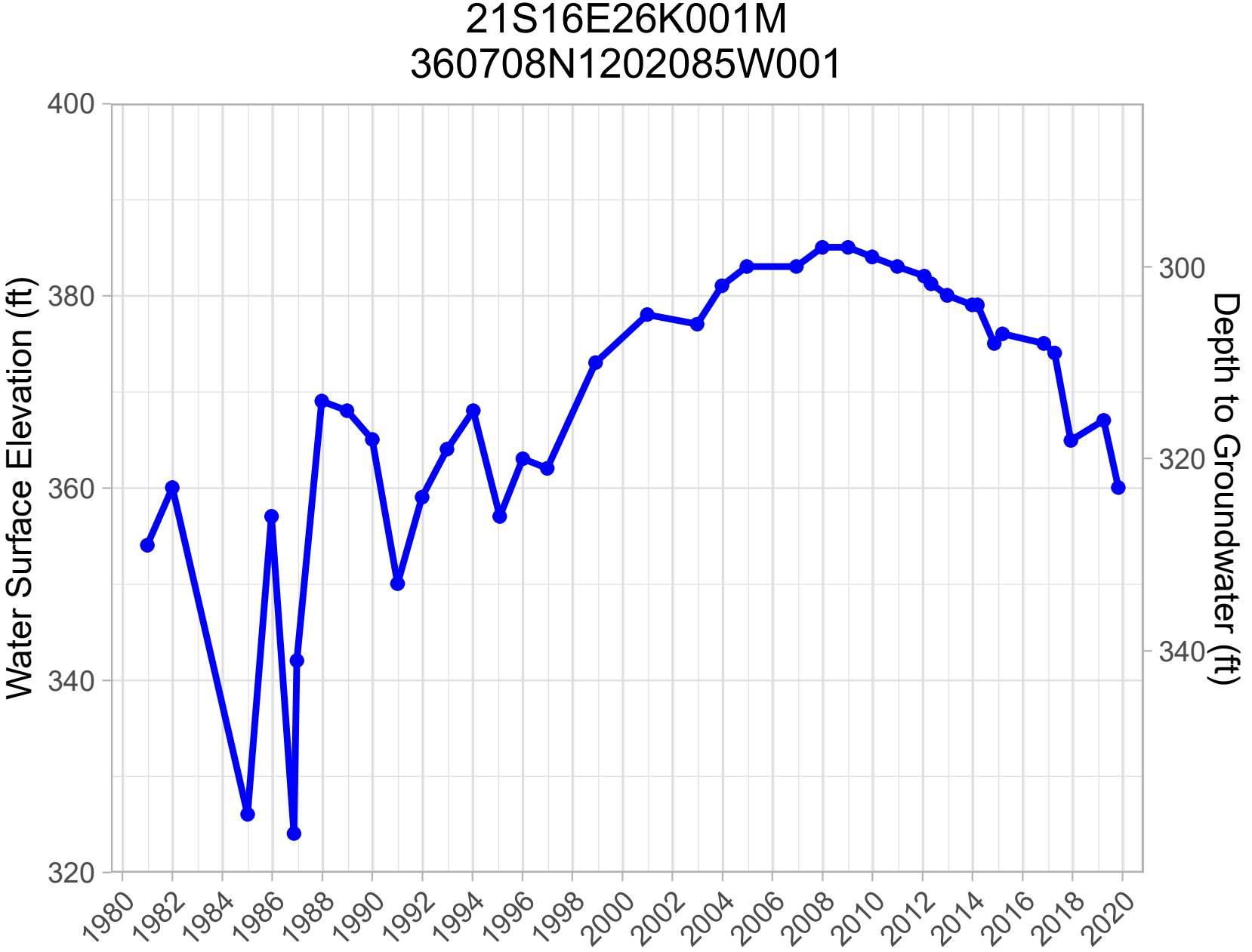


21S16E26M002M
360706N1202149W001

Water Surface Elevation (ft)

Depth to Groundwater (ft)




21S16E26K001M
360708N1202085W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
400
380
360
340
320
300
320
340
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020



21S16E26K002M
360714N1202096W001

Water Surface Elevation (ft)

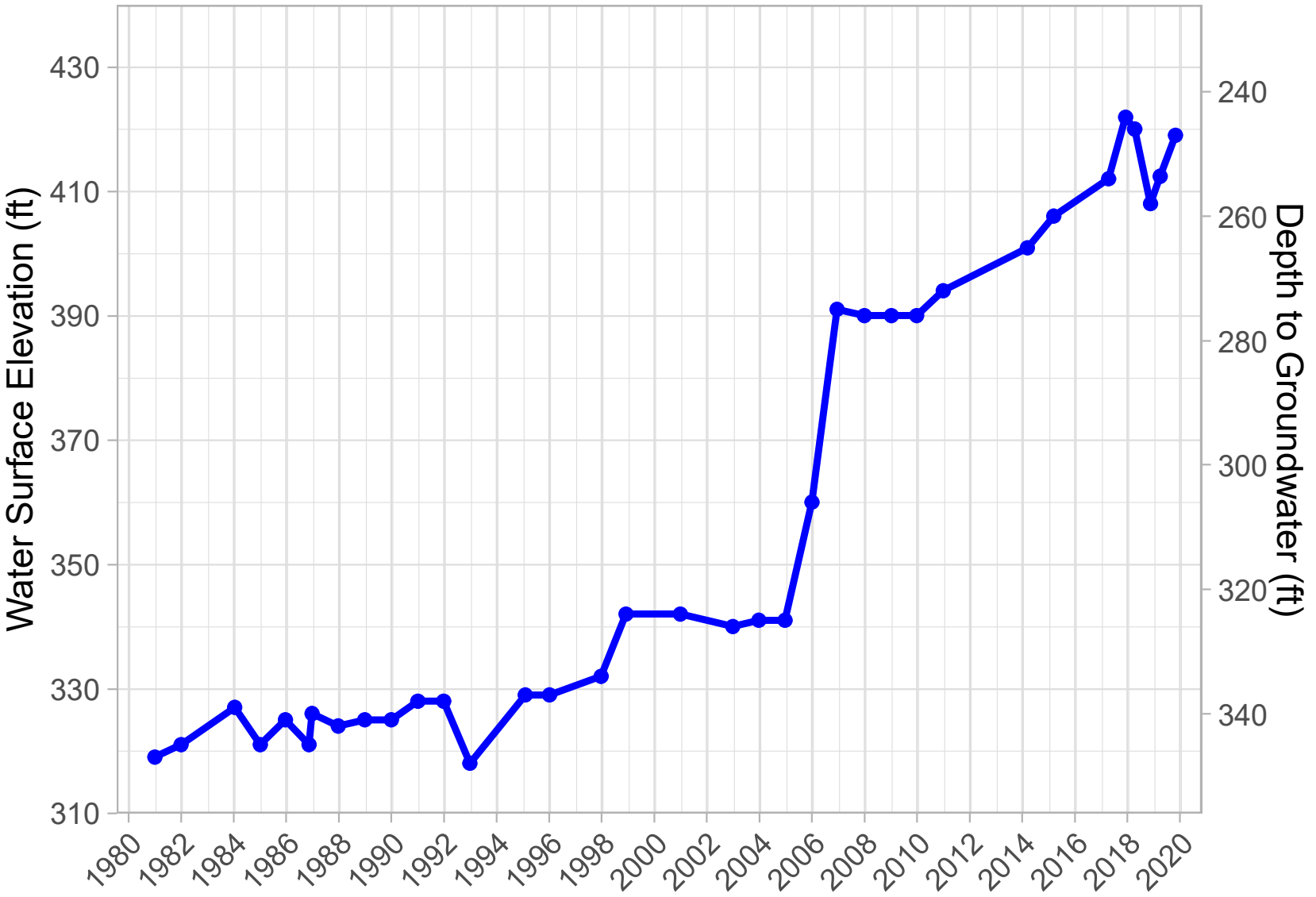
400
380
360
340
320
300

Depth to Groundwater (ft)

300
320
340
360

1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017 2019




21S16E27J003M
360717N1202185W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
430
410
390
370
350
330
310
240
260
280
300
320
340
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020



21S16E27H001M
360753N1202185W001

Water Surface Elevation (ft)

350
330
310
290
270

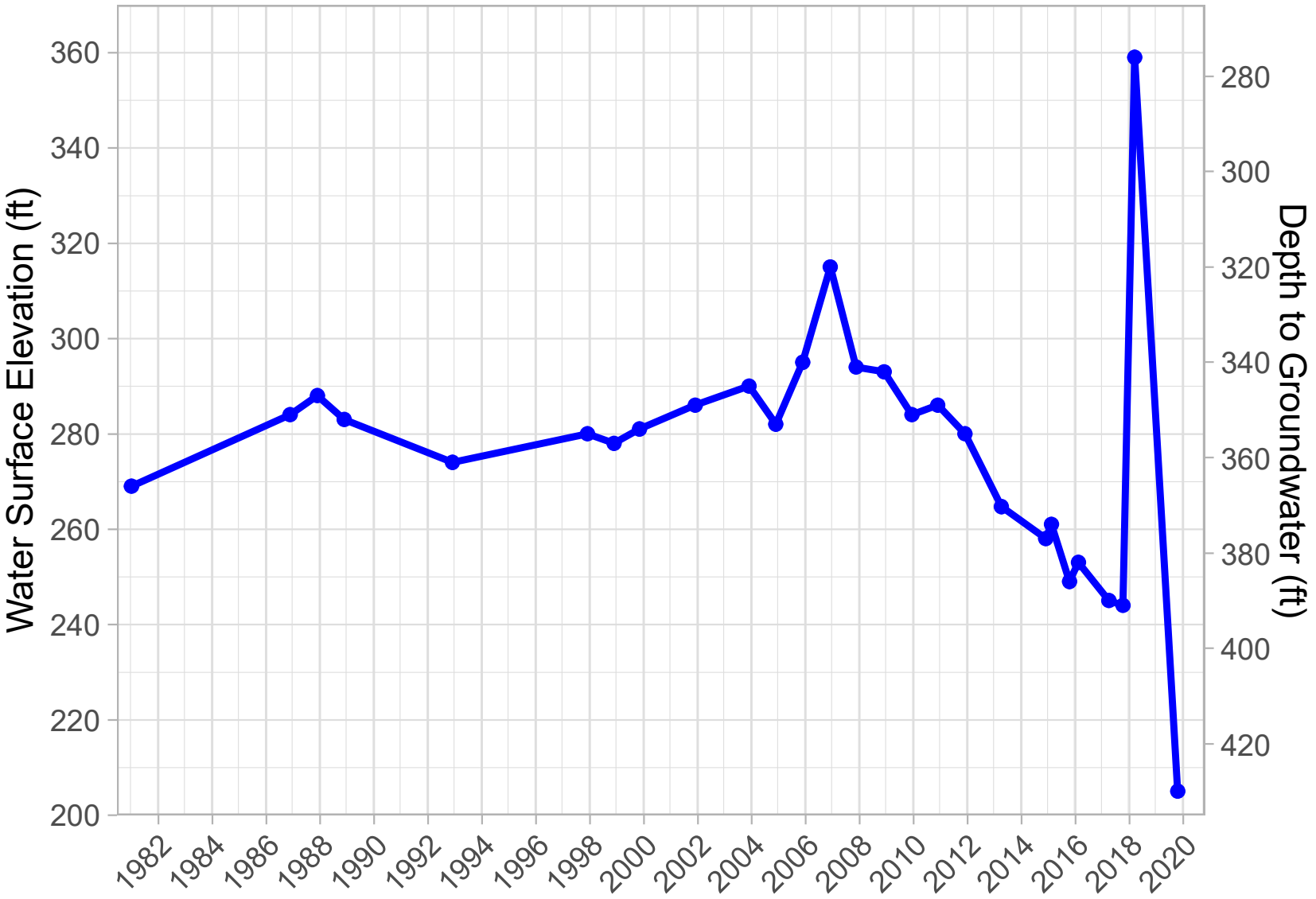
Depth to Groundwater (ft)

320
340
360
380

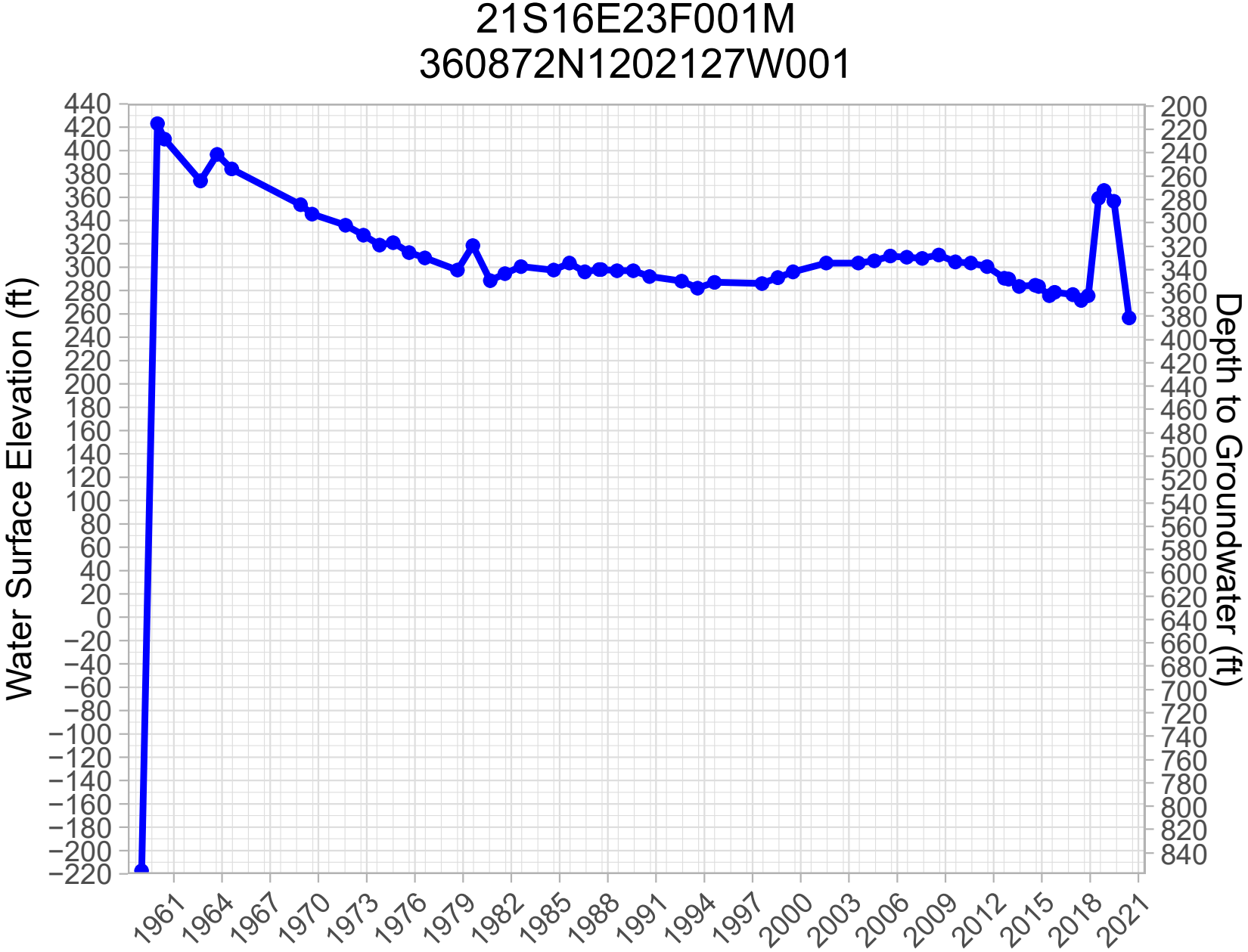
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020

21S16E22L001M
360833N1202254W001



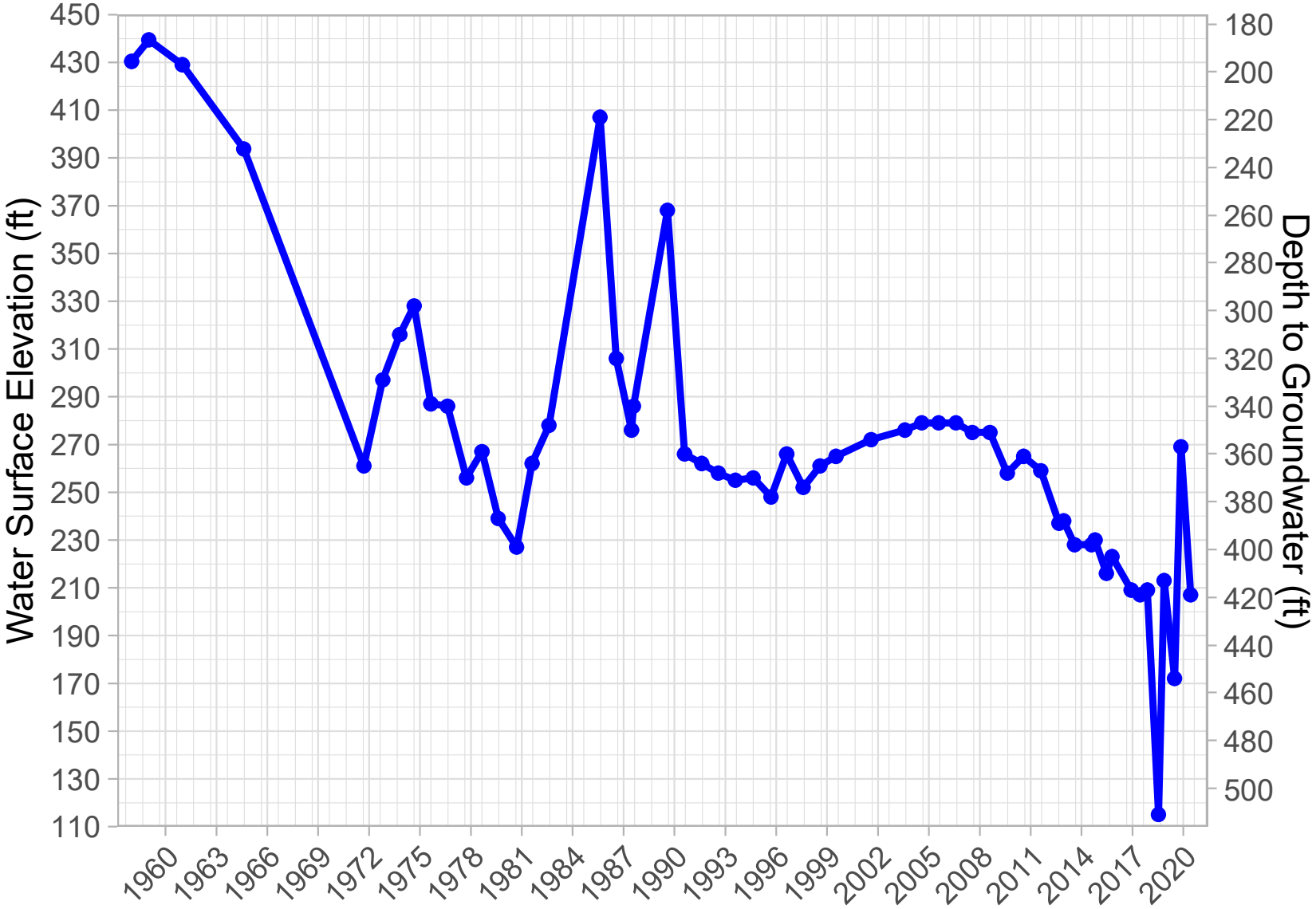





21S16E23F001M
360872N1202127W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
−40
−60
−80
−100
−120
−140
−160
−180
−200
−220
200
220
240
260
280
300
320
340
360
380
400
420
440
460
480
500
520
540
560
580
600
620
640
660
680
700
720
740
760
780
800
820
840
1961
1964
1967
1970
1973
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2015
2018
2021

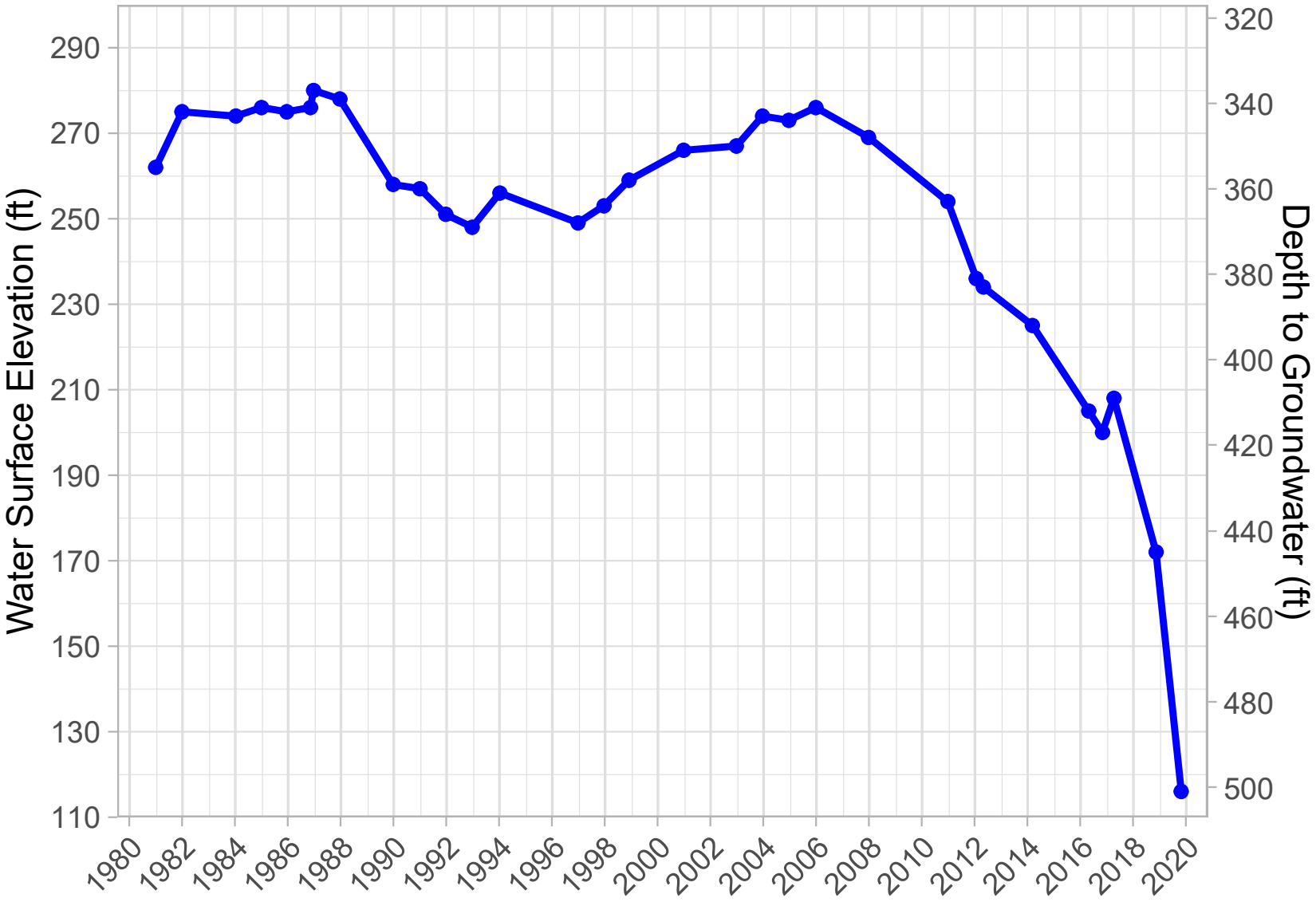


21S16E22E001M
360903N1202354W001

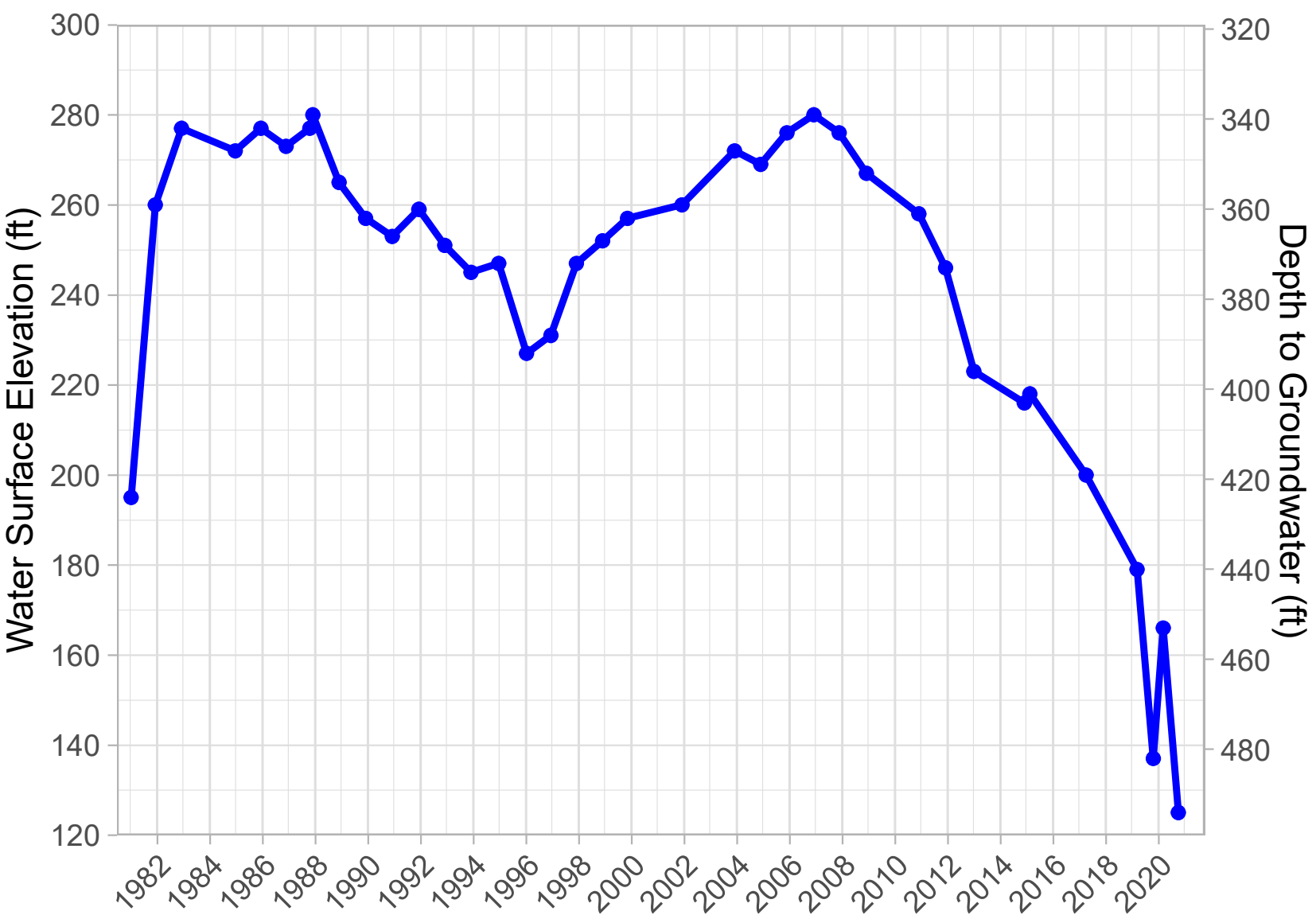




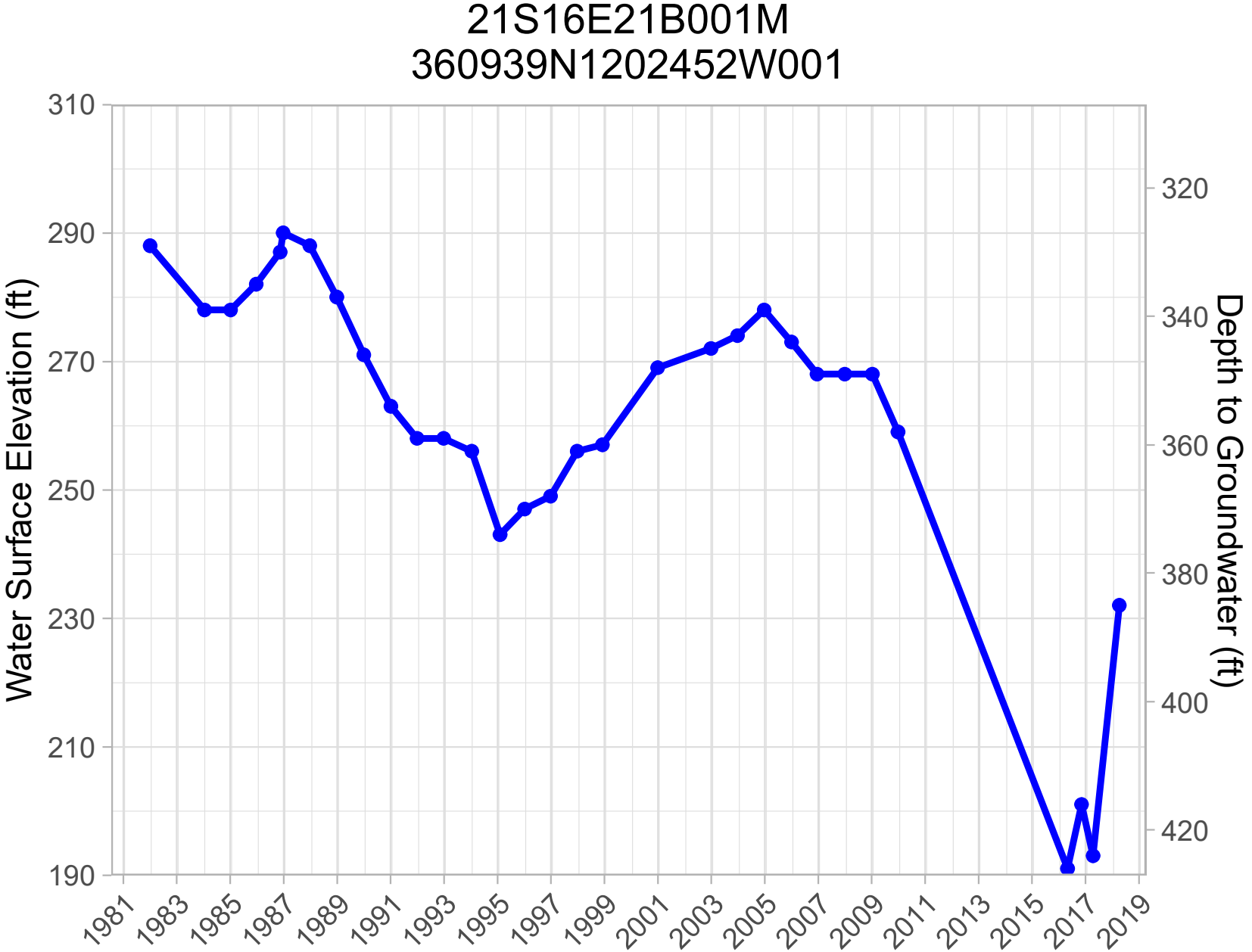
21S16E22B001M
360939N1202271W001





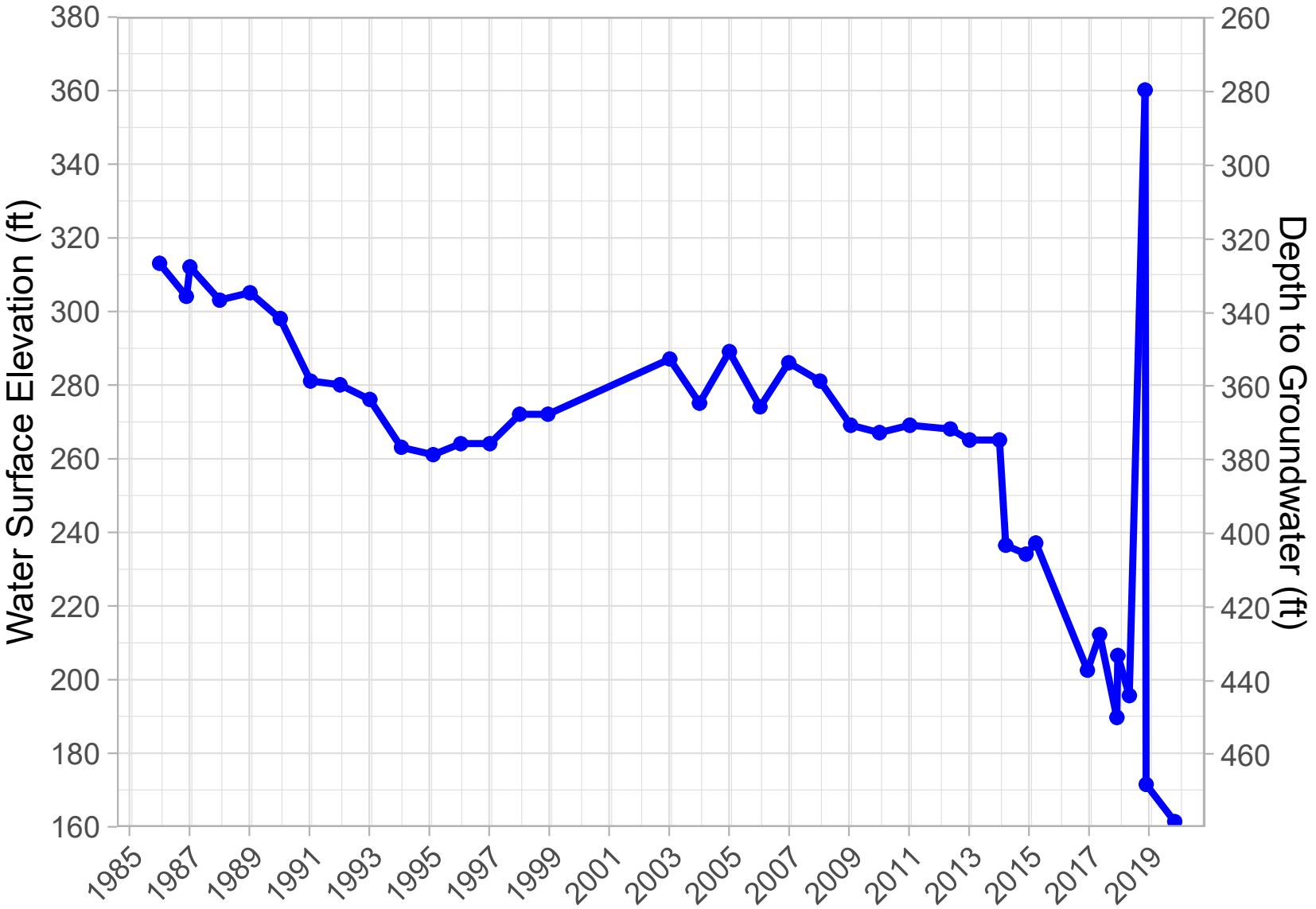

21S16E15N002M
360939N1202321W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
300
280
260
240
220
200
180
160
140
120
320
340
360
380
400
420
440
460
480
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020




21S16E21B001M
360939N1202452W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
310
290
270
250
230
210
190
320
340
360
380
400
420
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019

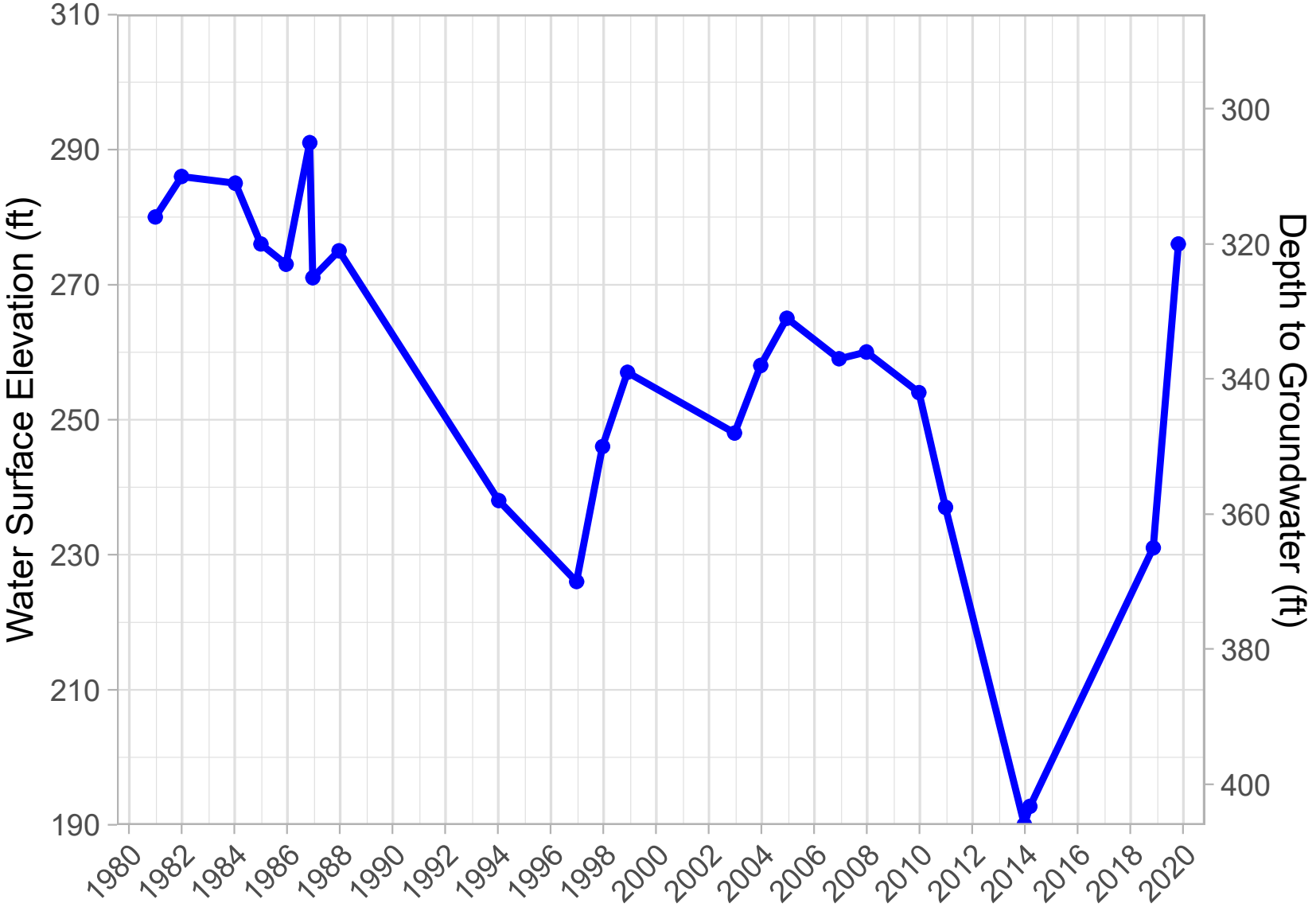


21S15E12Q002M
361078N1202988W001



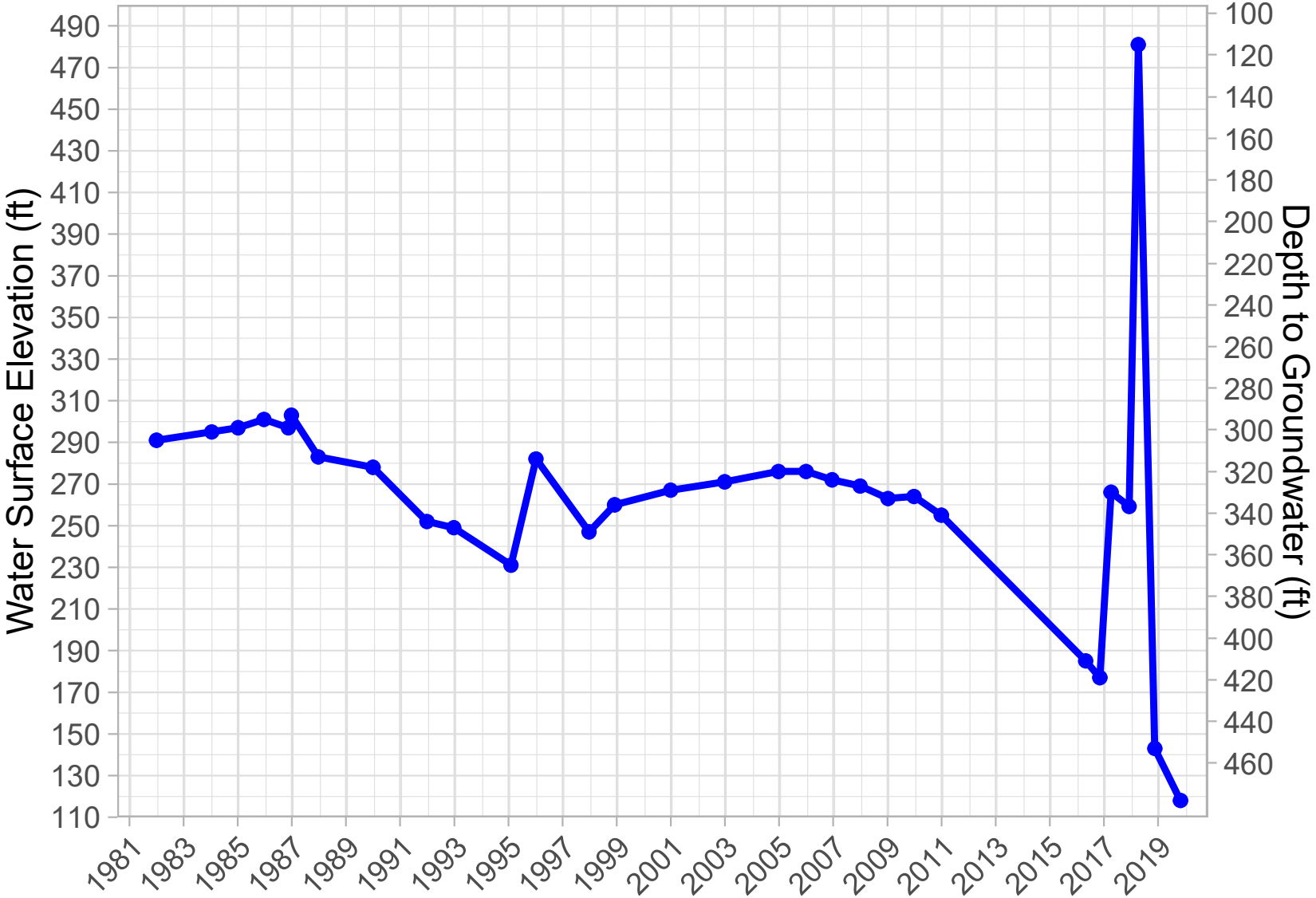


21S16E10N003M
361089N1202363W001



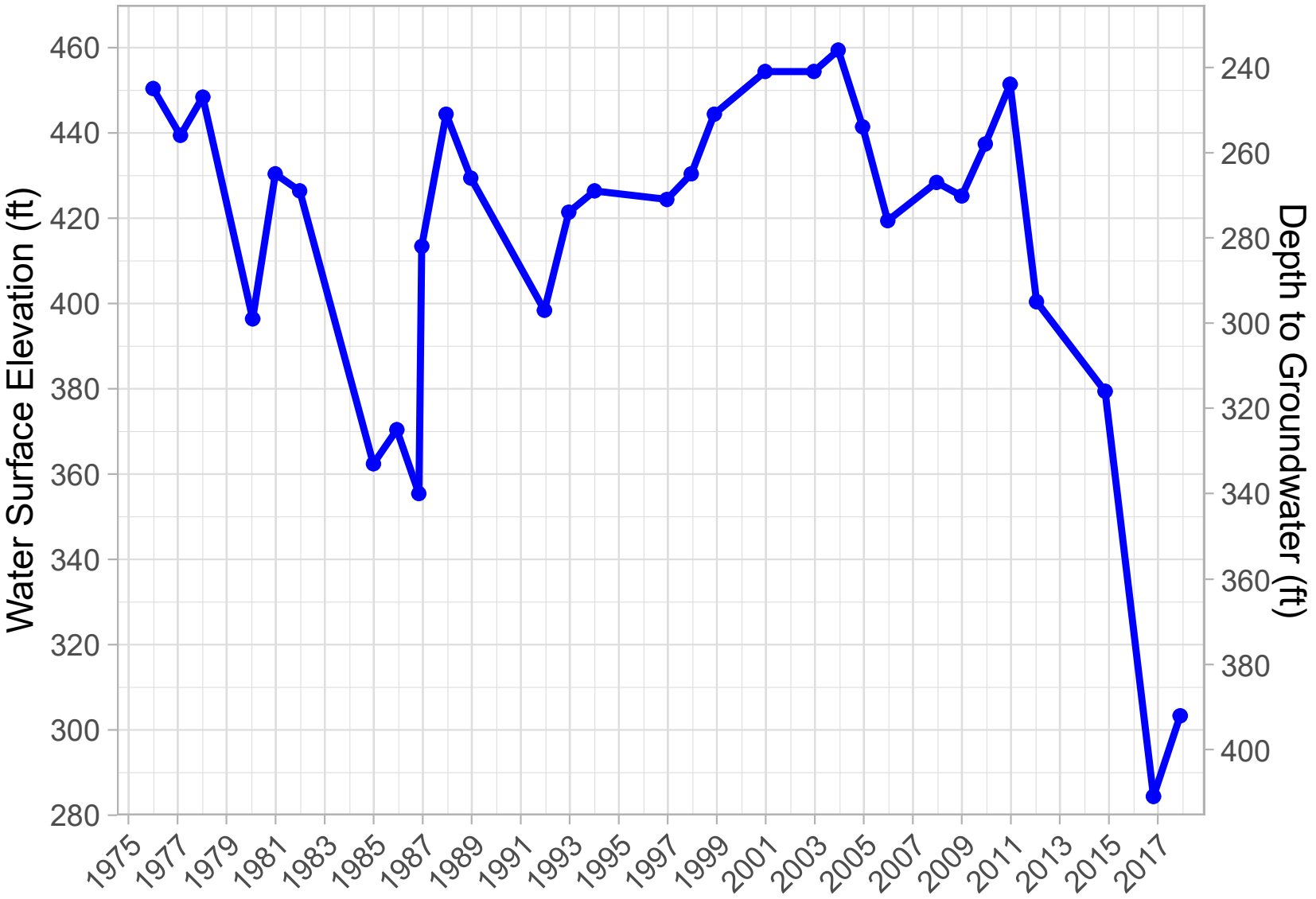
21S16E08J001M
361119N1202585W001



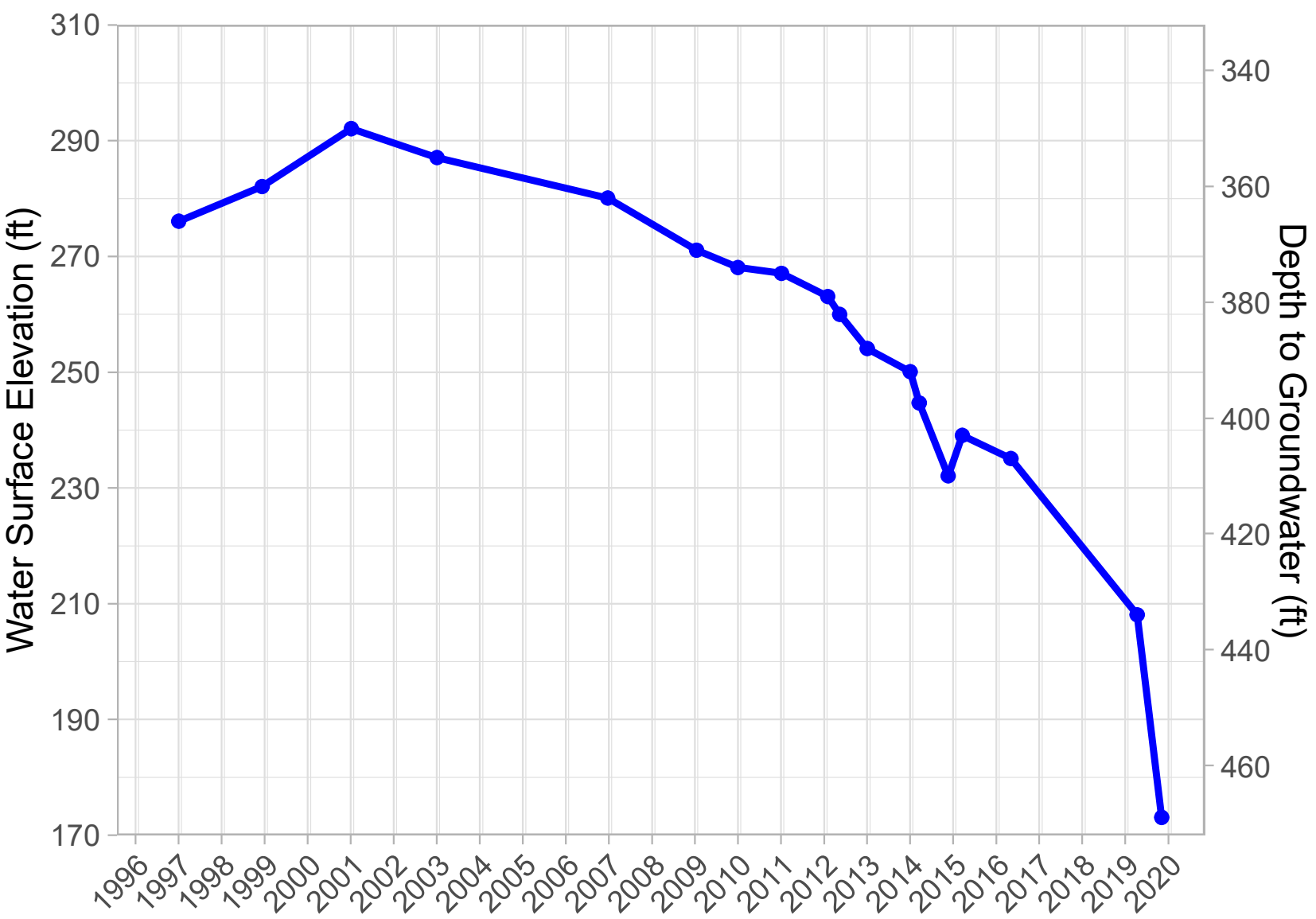




21S15E10K001M
361125N1203341W001

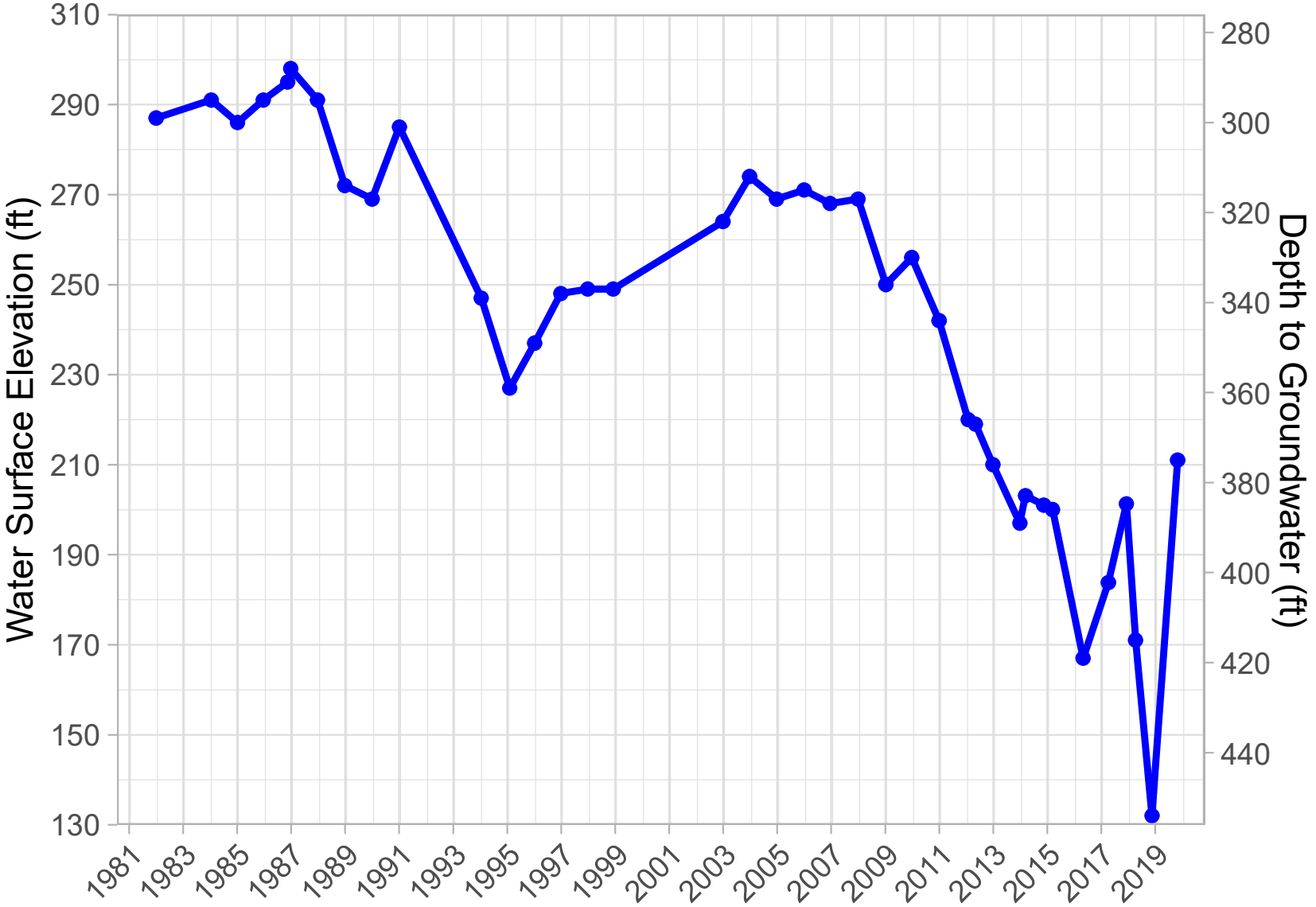





21S15E12F002M
361156N1203004W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
310
290
270
250
230
210
190
170
340
360
380
400
420
440
460
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020

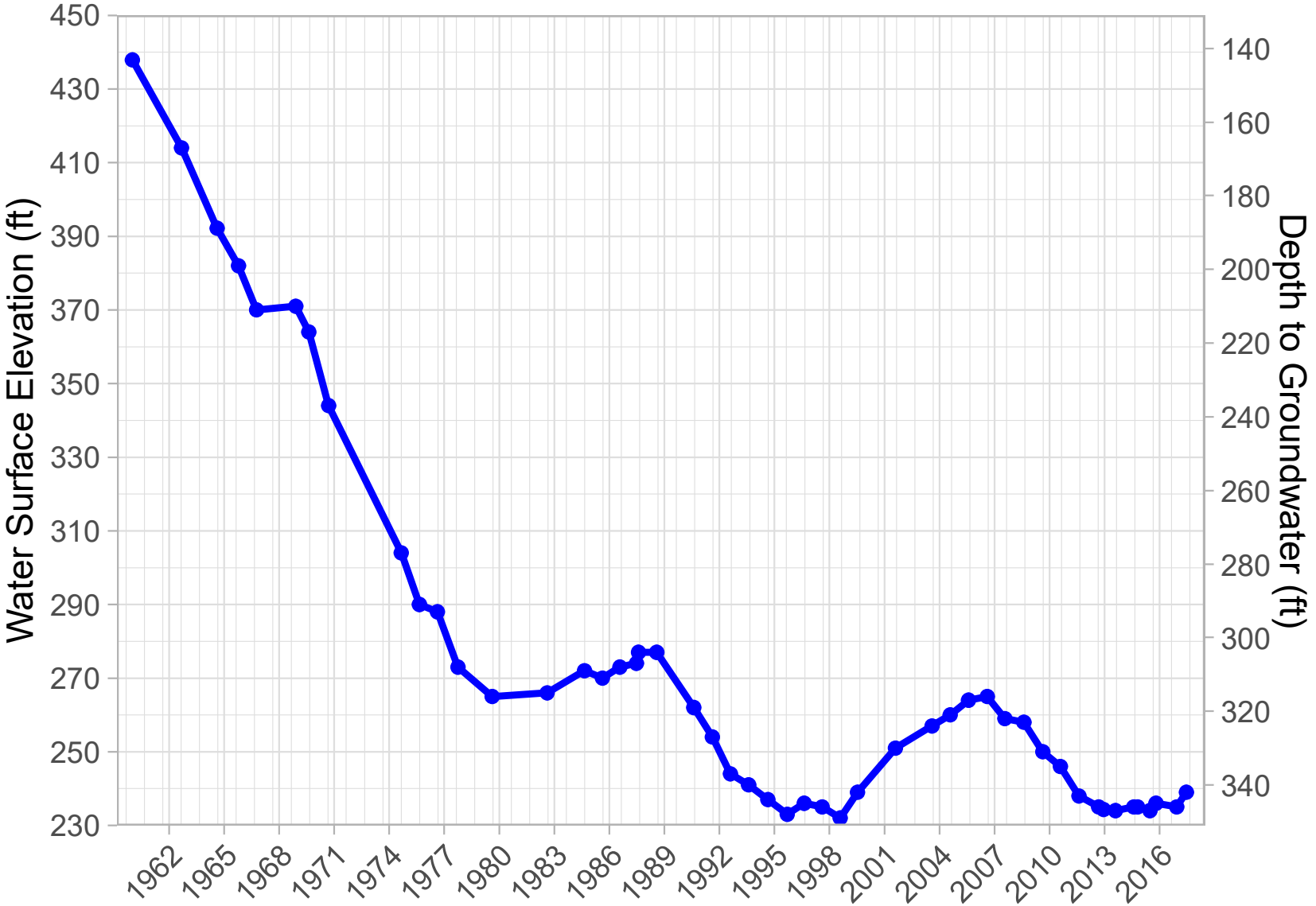


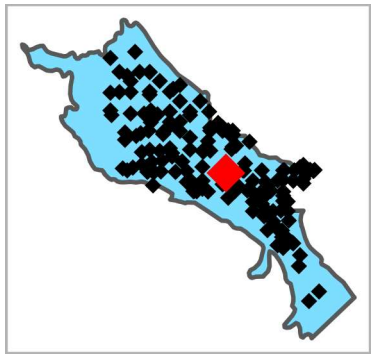
21S16E09L001M
361158N1202452W001

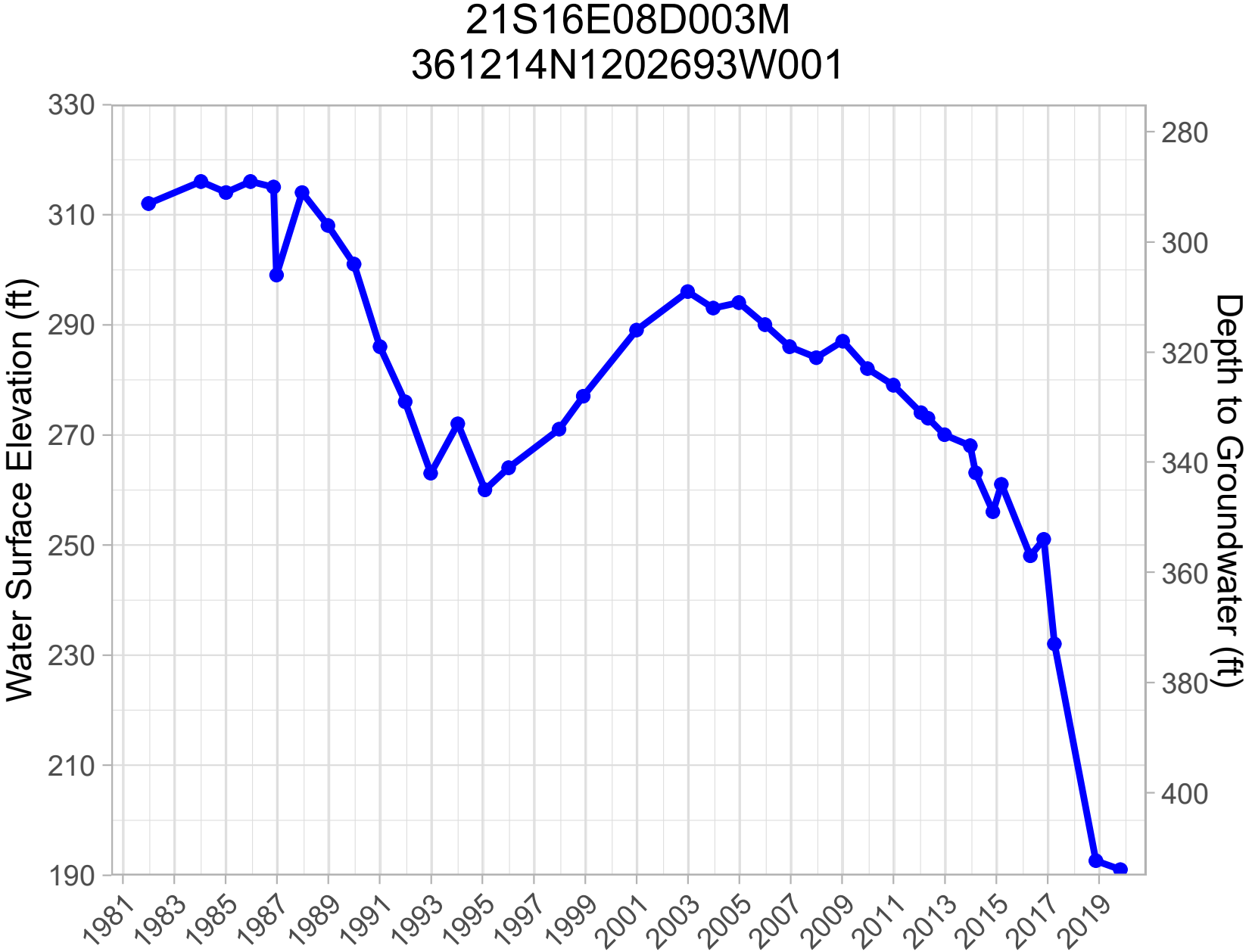


21S16E11E001M
361164N1202179W001

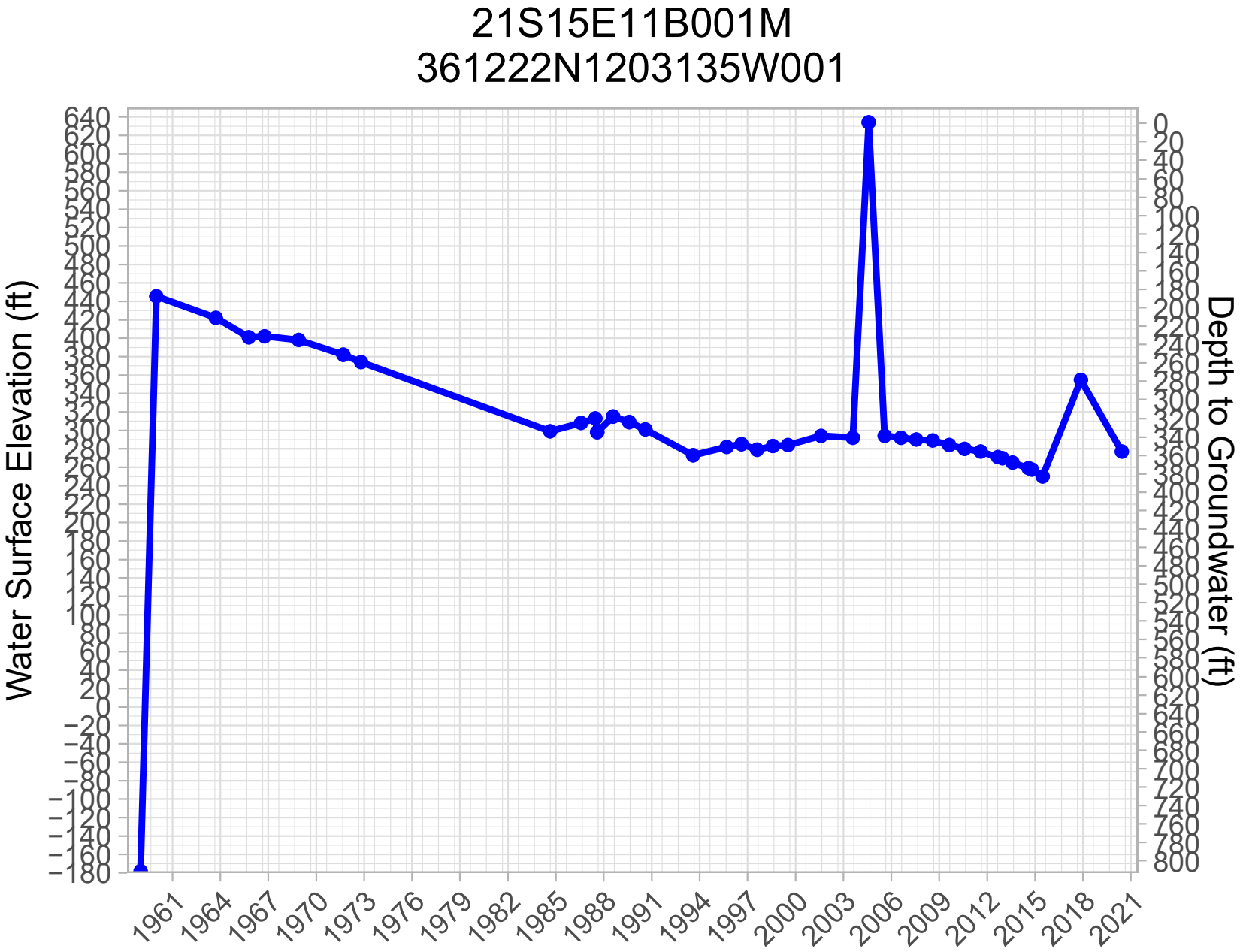




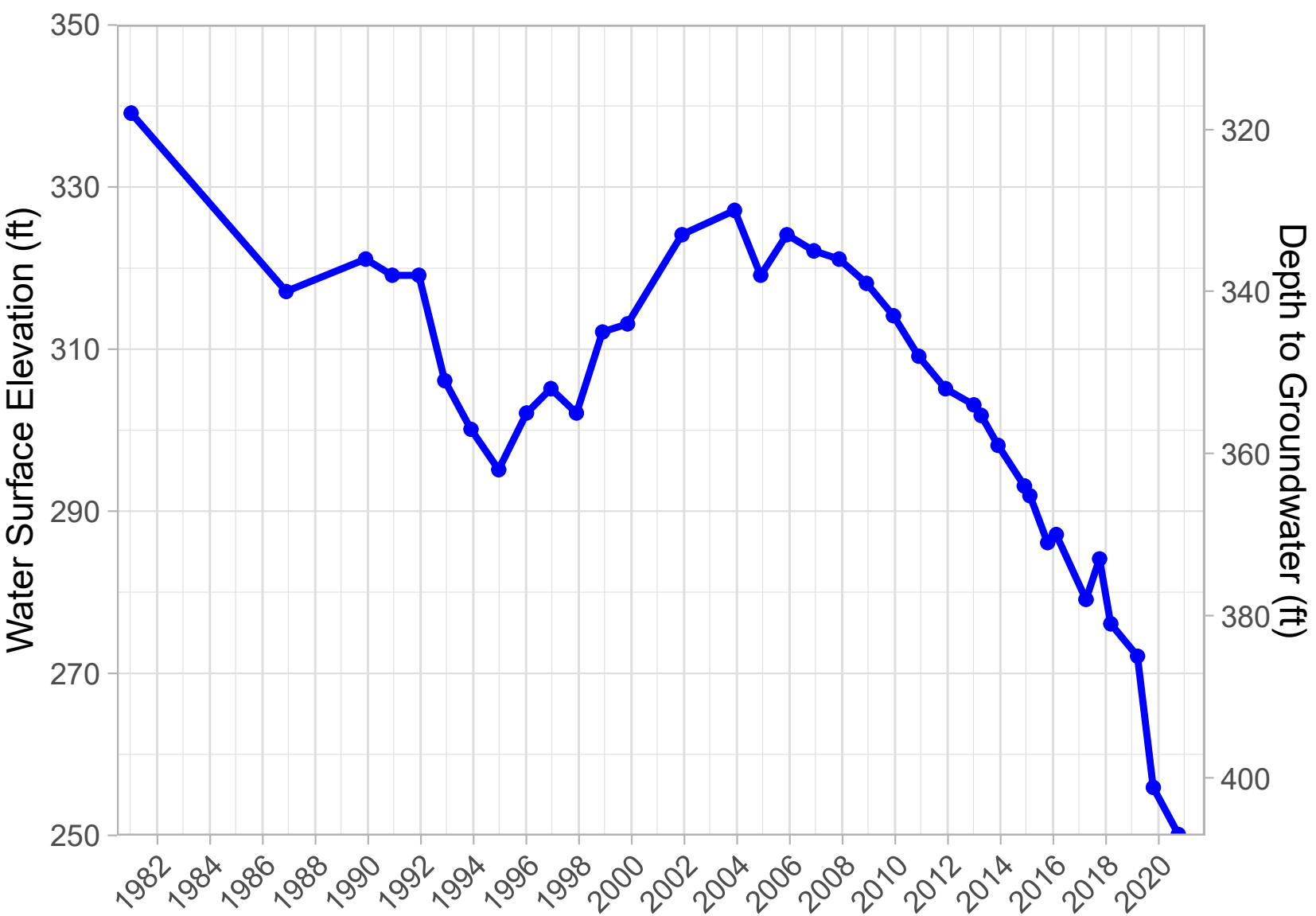



21S16E08D003M
361214N1202693W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
330
310
290
270
250
230
210
190
280
300
320
340
360
380
400
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019

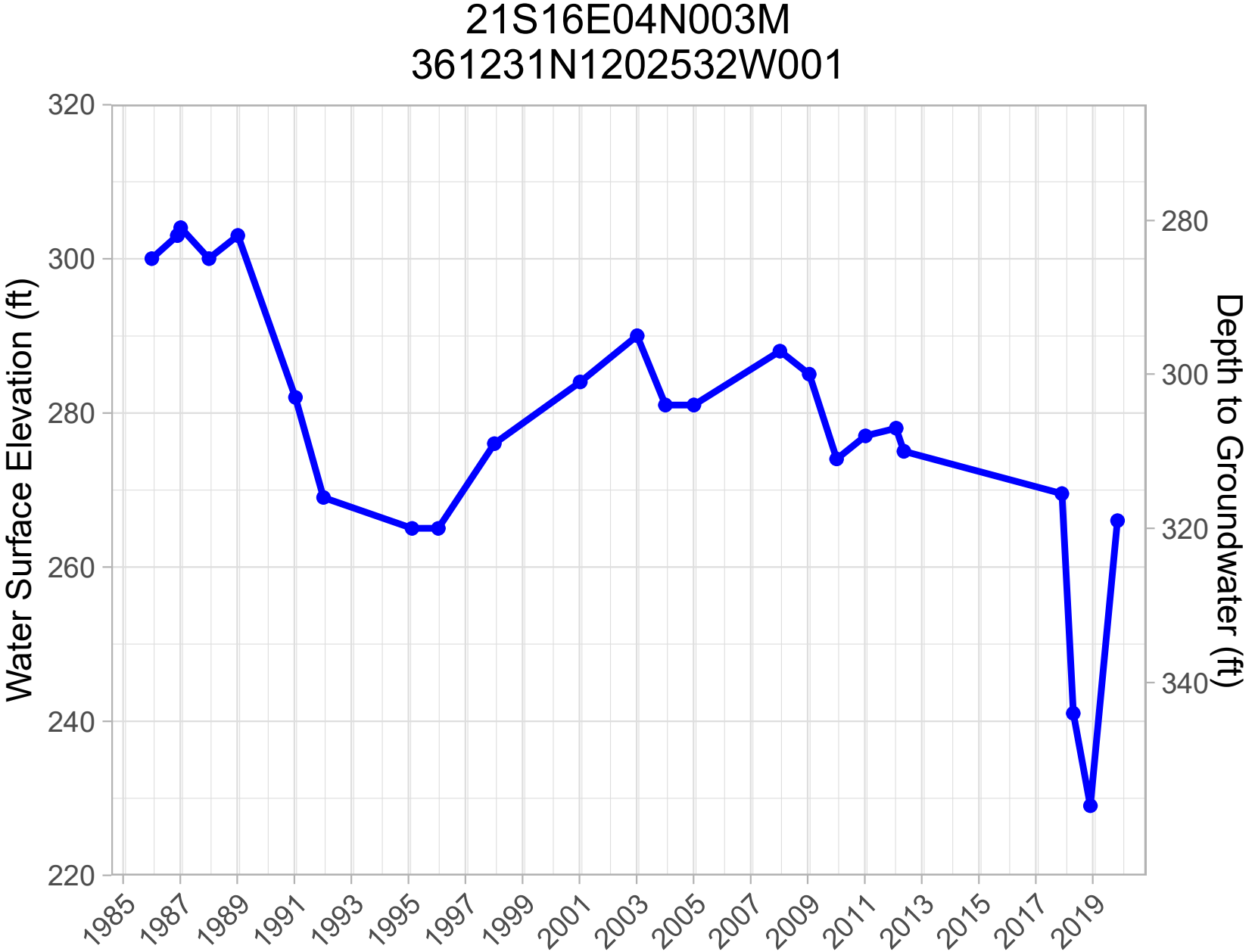



21S15E11B001M
361222N1203135W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
640
620
600
580
560
540
520
500
480
460
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
−40
−60
−80
−100
−120
−140
−160
−180
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
420
440
460
480
500
520
540
560
580
600
620
640
660
680
700
720
740
760
780
800
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012
2015
2018
2021

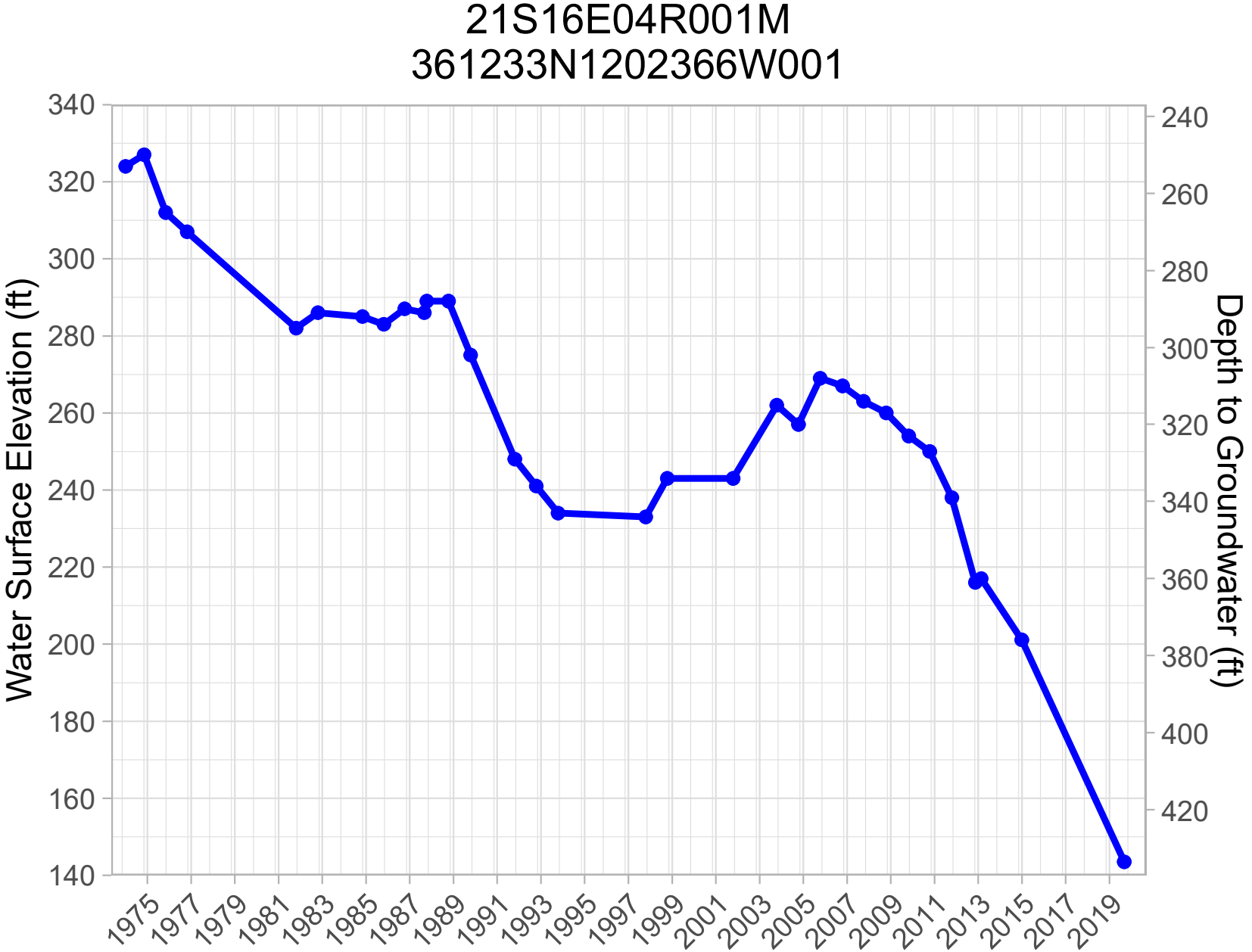


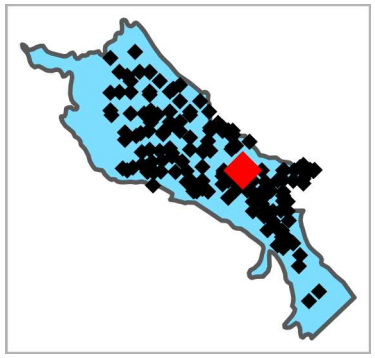

21S15E10B002M
361222N1203343W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
350
330
310
290
270
250
320
340
360
380
400
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020



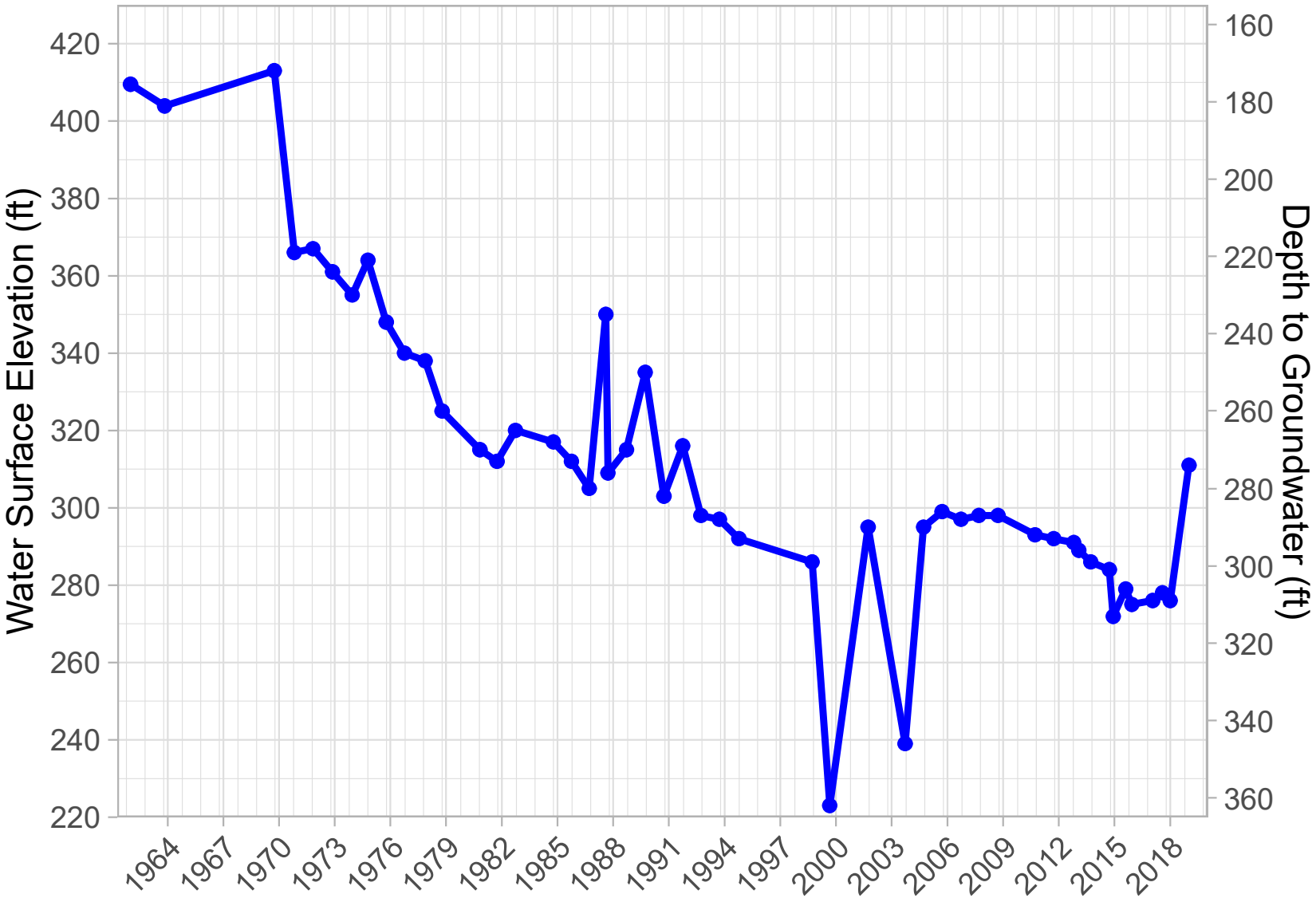

21S16E04N003M
361231N1202532W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
320
300
280
260
240
220
280
300
320
340
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019



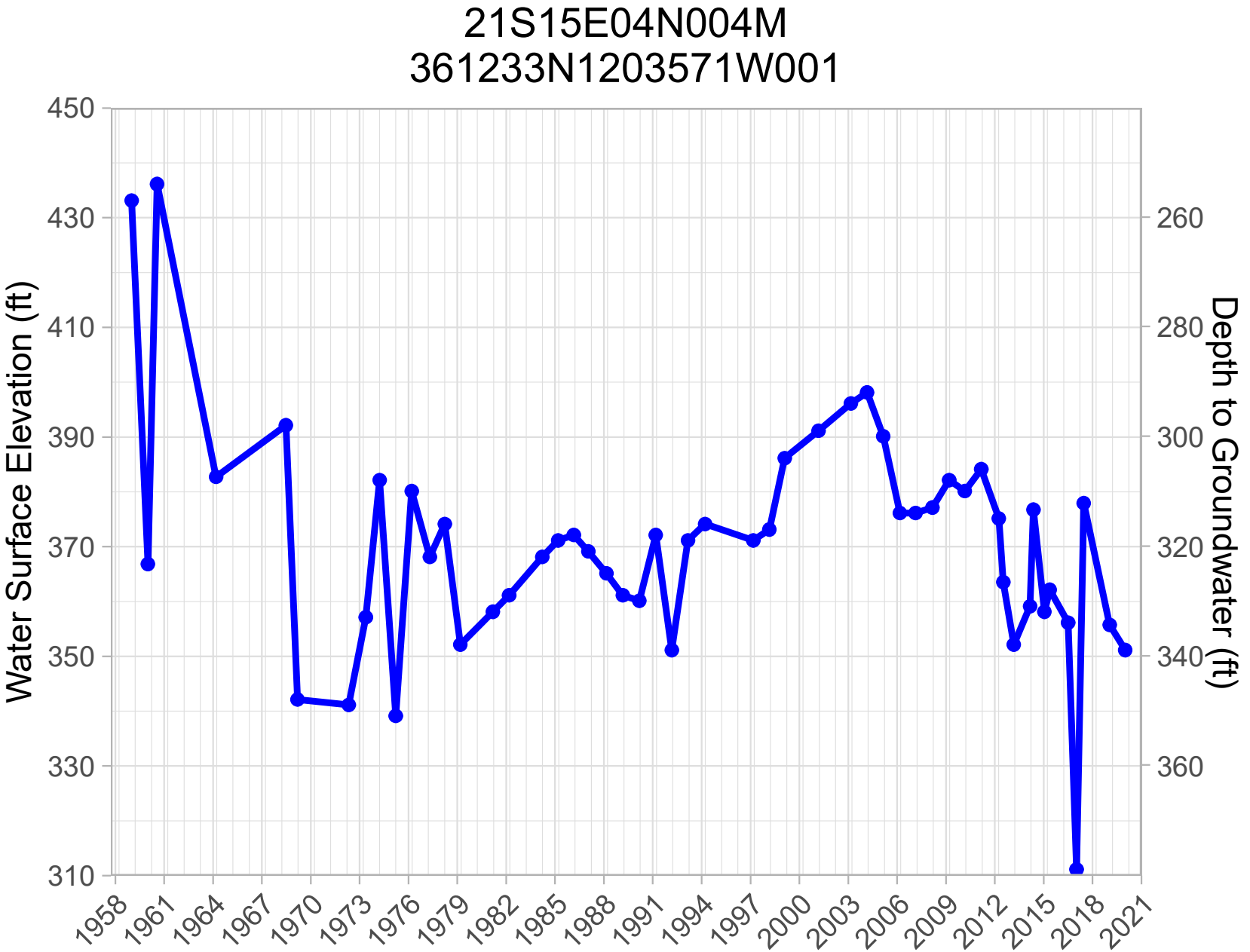

21S16E04R001M
361233N1202366W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
340
320
300
280
260
240
220
200
180
160
140
240
260
280
300
320
340
360
380
400
420
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019



21S16E04N002M
361233N1202538W001






21S15E04N004M
361233N1203571W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
450
430
410
390
370
350
330
310
260
280
300
320
340
360
1958
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012
2015
2018
2021



21S15E04Q001M
361253N1203516W001

Water Surface Elevation (ft)

460
440
420
400
380
360
340
320

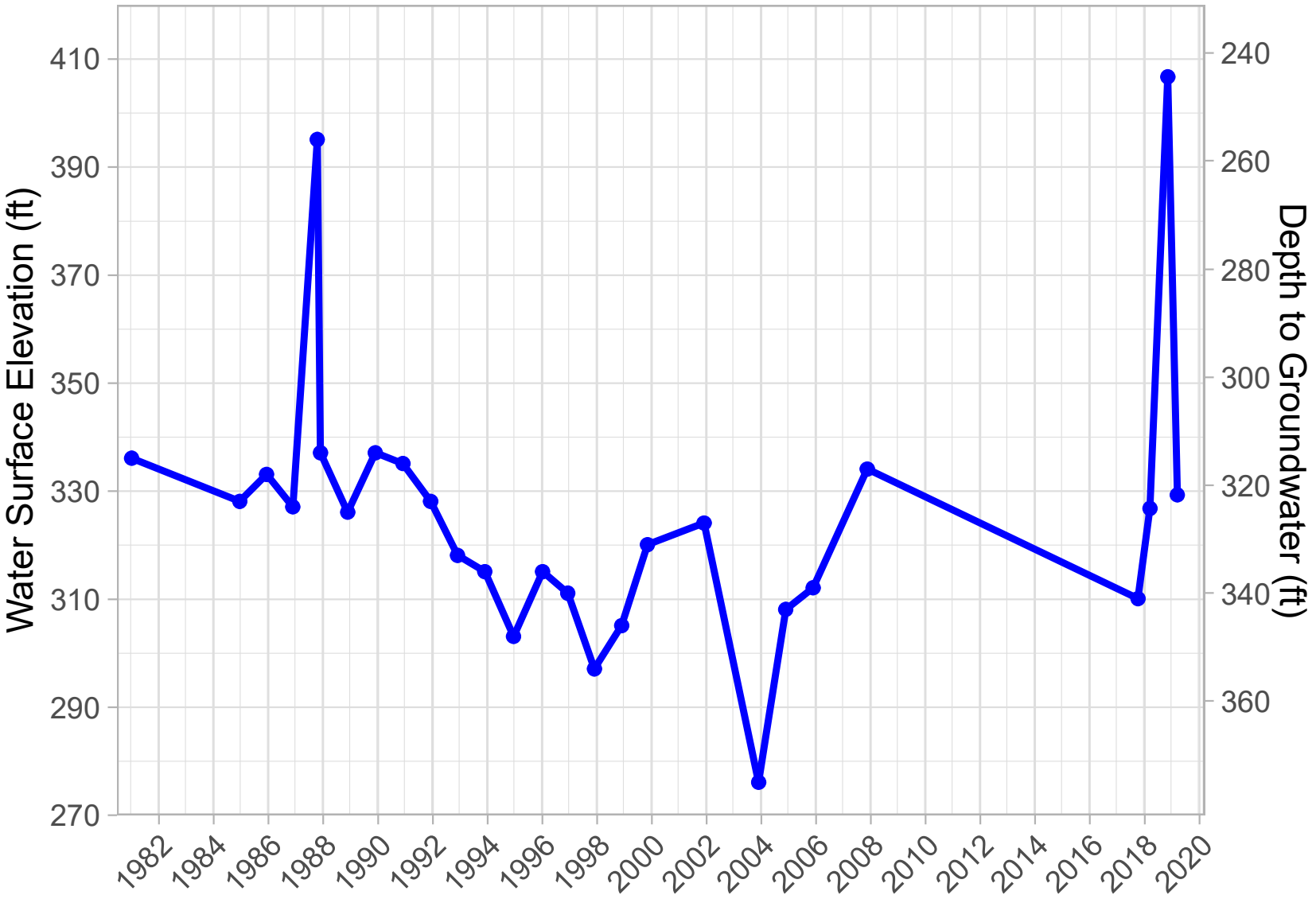
Depth to Groundwater (ft)

220
240
260
280
300
320
340

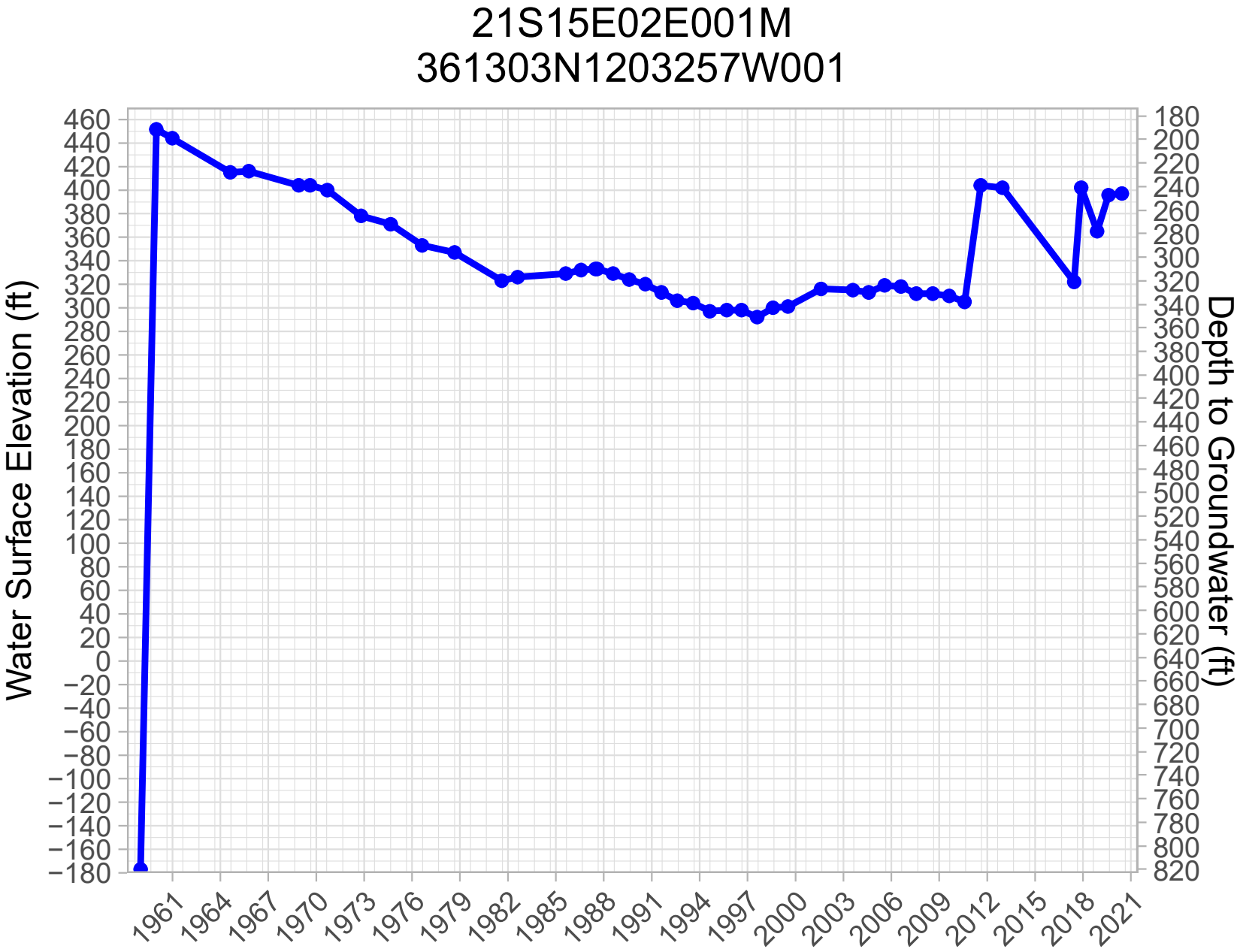
1963 1966 1969 1972 1975 1978 1981 1984 1987 1990 1993 1996 1999 2002 2005 2008 2011 2014 2017 2020

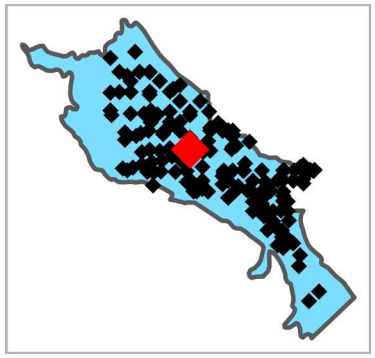


21S15E03F001M
361294N1203349W001






21S15E02E001M
361303N1203257W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
460
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
−40
−60
−80
−100
−120
−140
−160
−180
180
200
220
240
260
280
300
320
340
360
380
400
420
440
460
480
500
520
540
560
580
600
620
640
660
680
700
720
740
760
780
800
820
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012
2015
2018
2021



20S15E36N001M
361383N1203007W001

Water Surface Elevation (ft)

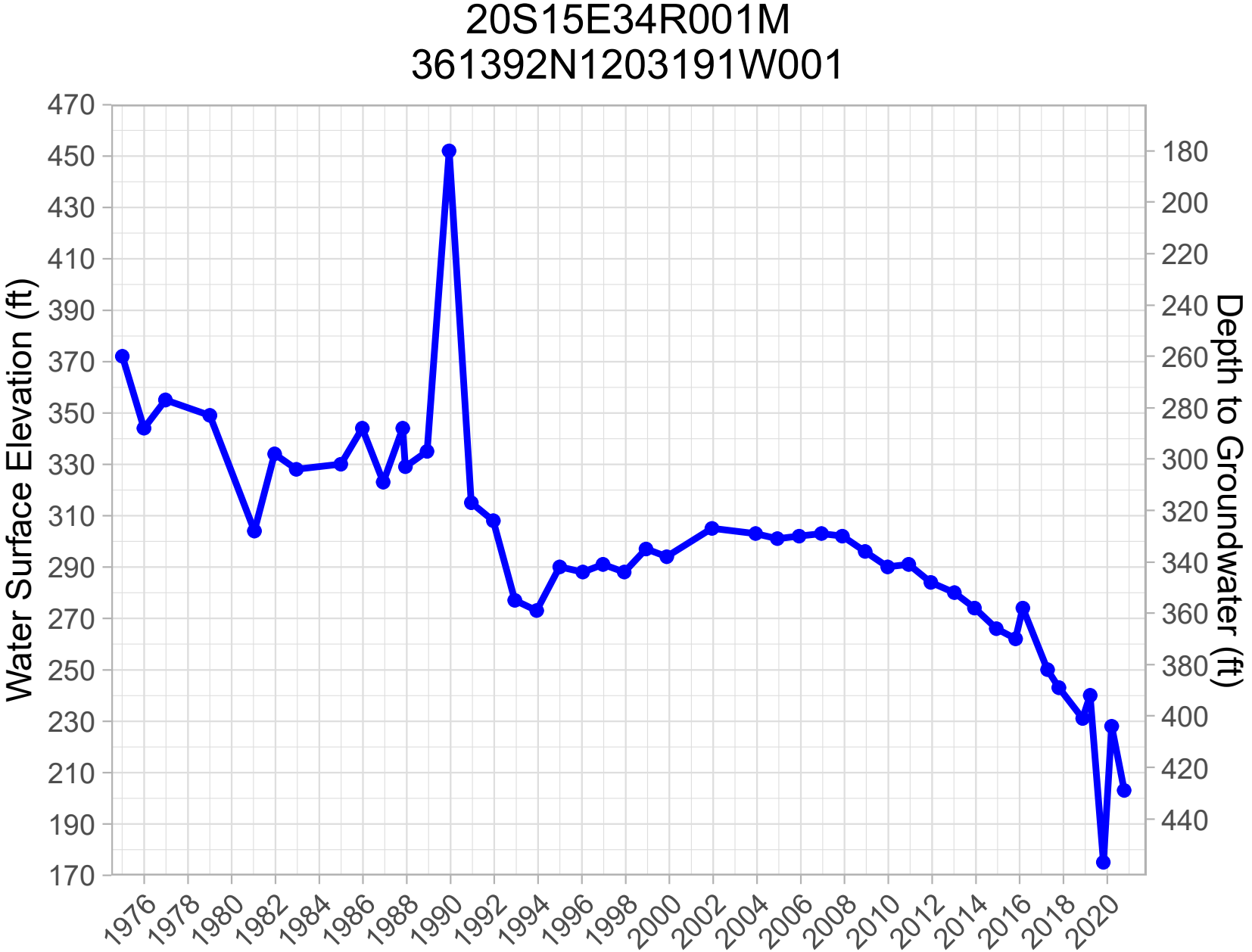
440
420
400
380
360
340
320
300
280
260
240
220
200

Depth to Groundwater (ft)

180
200
220
240
260
280
300
320
340
360
380
400

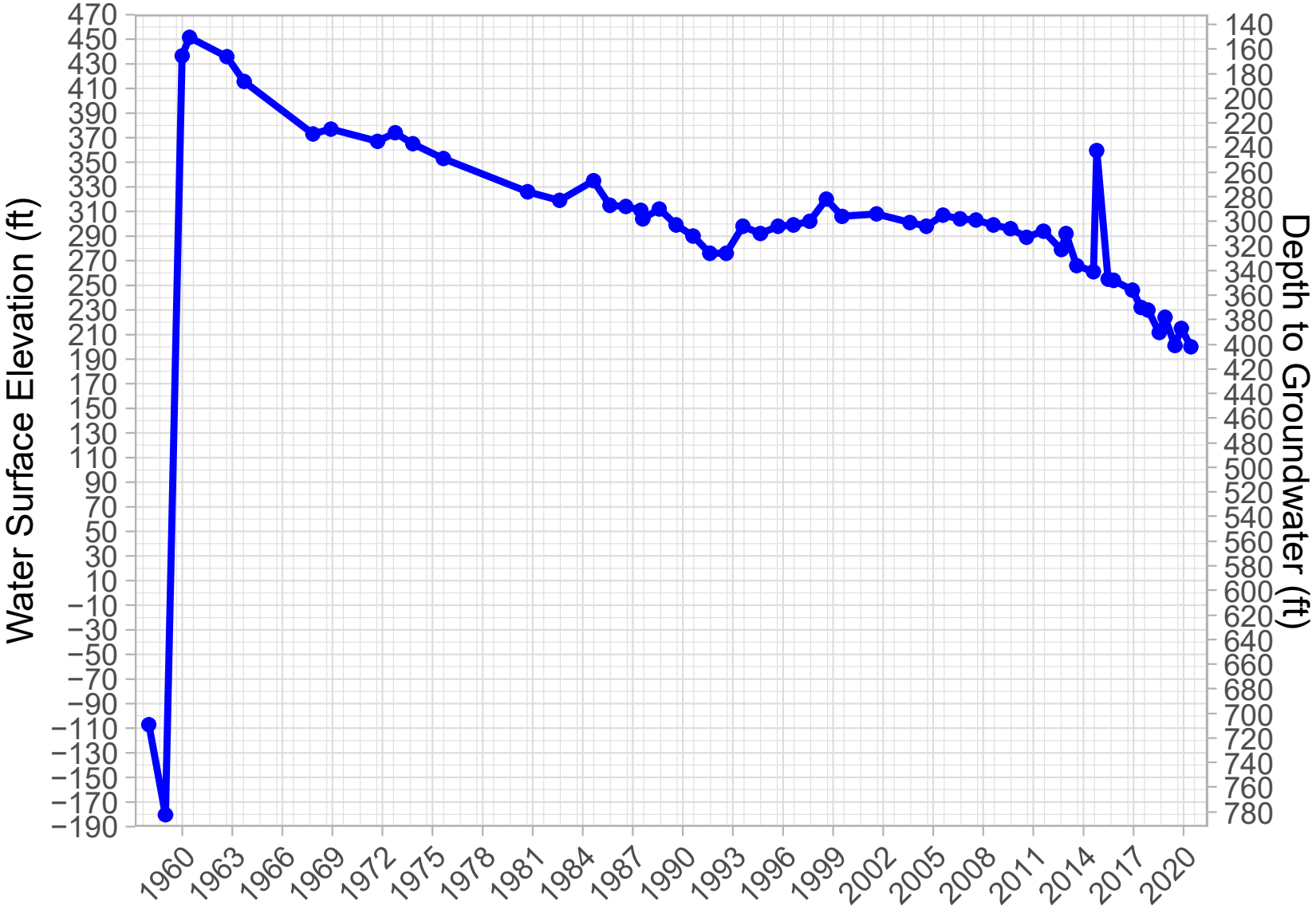
1964 1967 1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021




20S15E34R001M
361392N1203191W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
470
450
430
410
390
370
350
330
310
290
270
250
230
210
190
170
180
200
220
240
260
280
300
320
340
360
380
400
420
440
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020



20S15E36E001M
361469N1203007W001





20S15E33C002M
361481N1203488W001

Water Surface Elevation (ft)

480
460
440
420
400
380
360
340
320
300

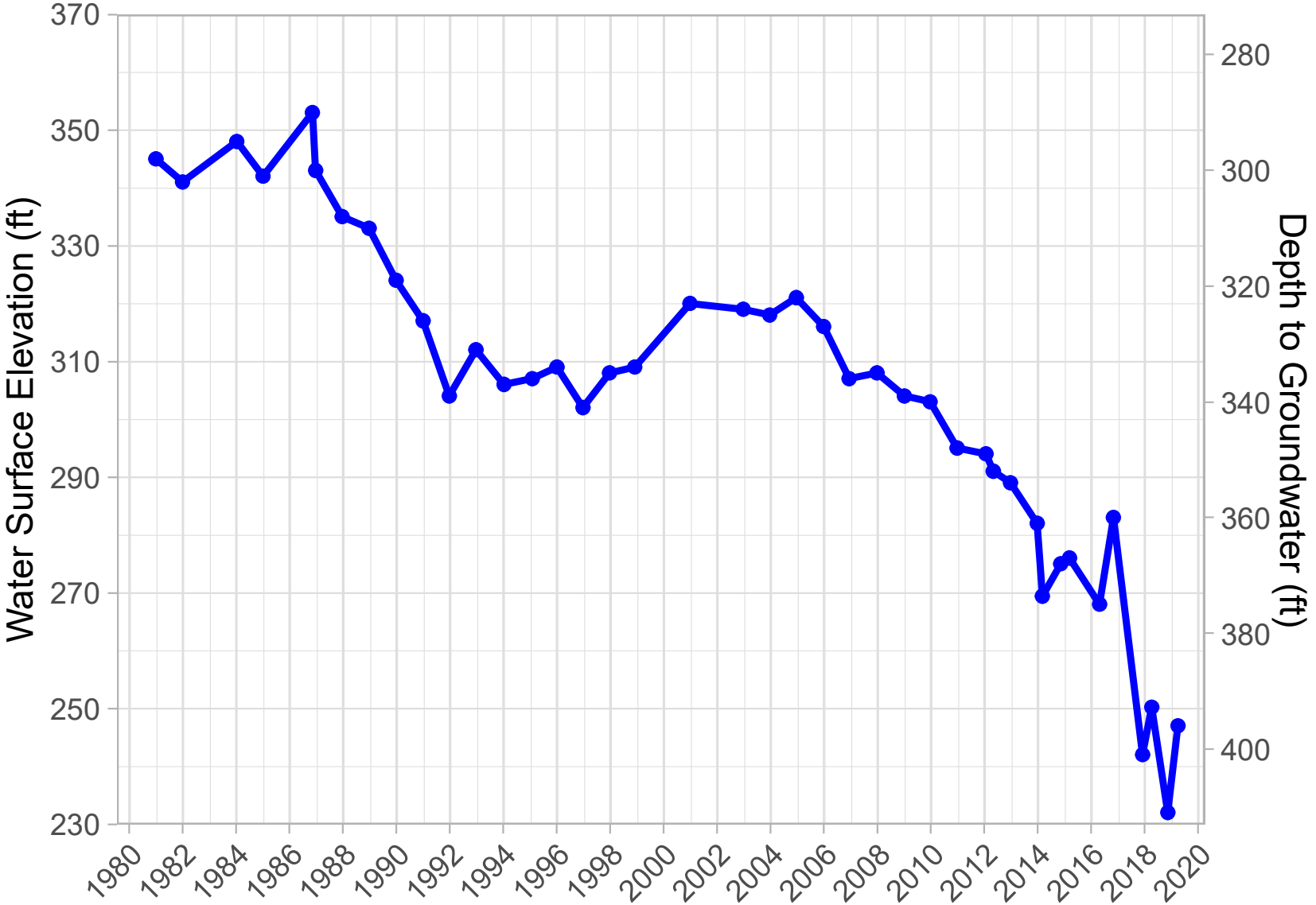
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018

Depth to Groundwater (ft)

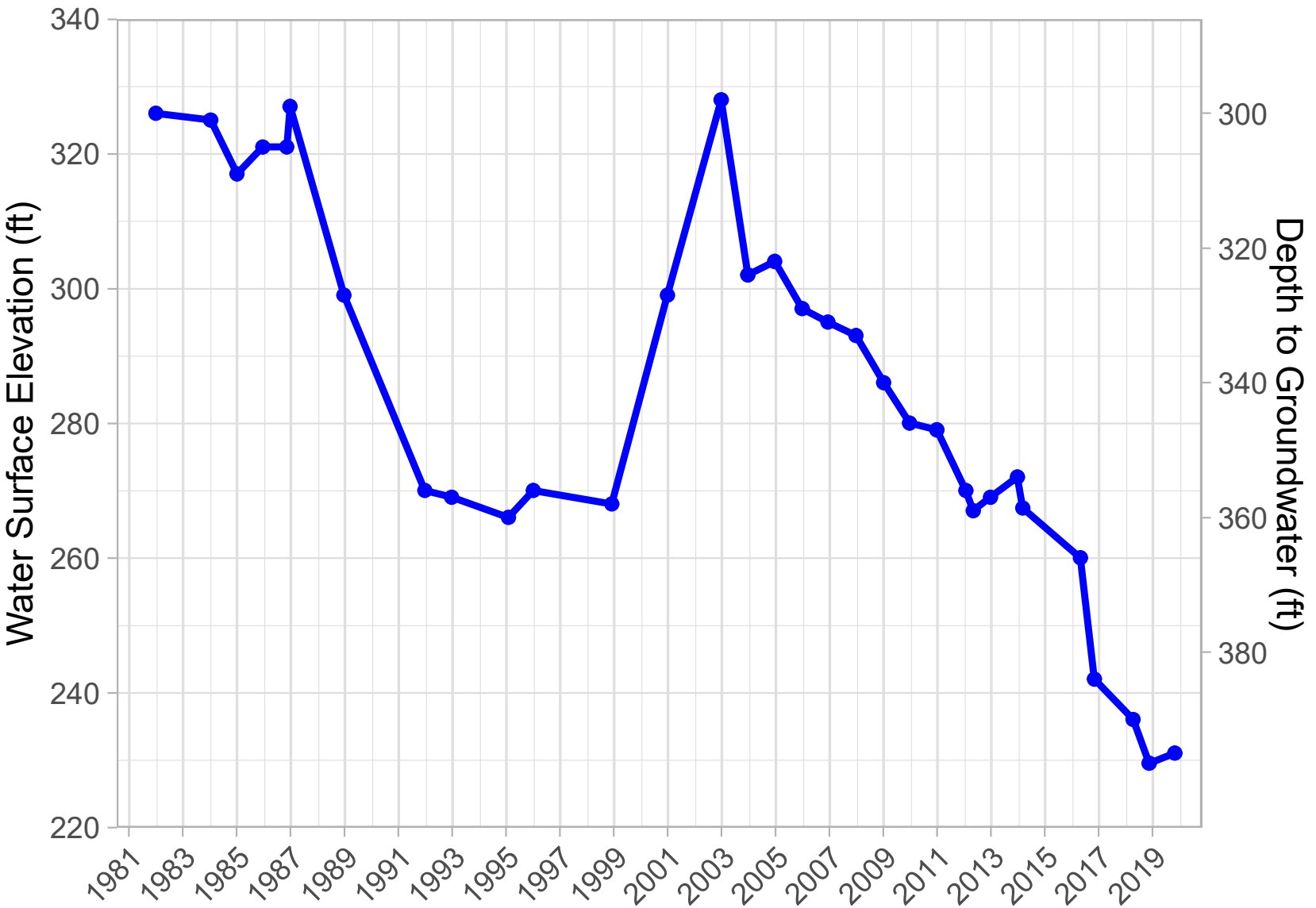
200
220
240
260
280
300
320
340



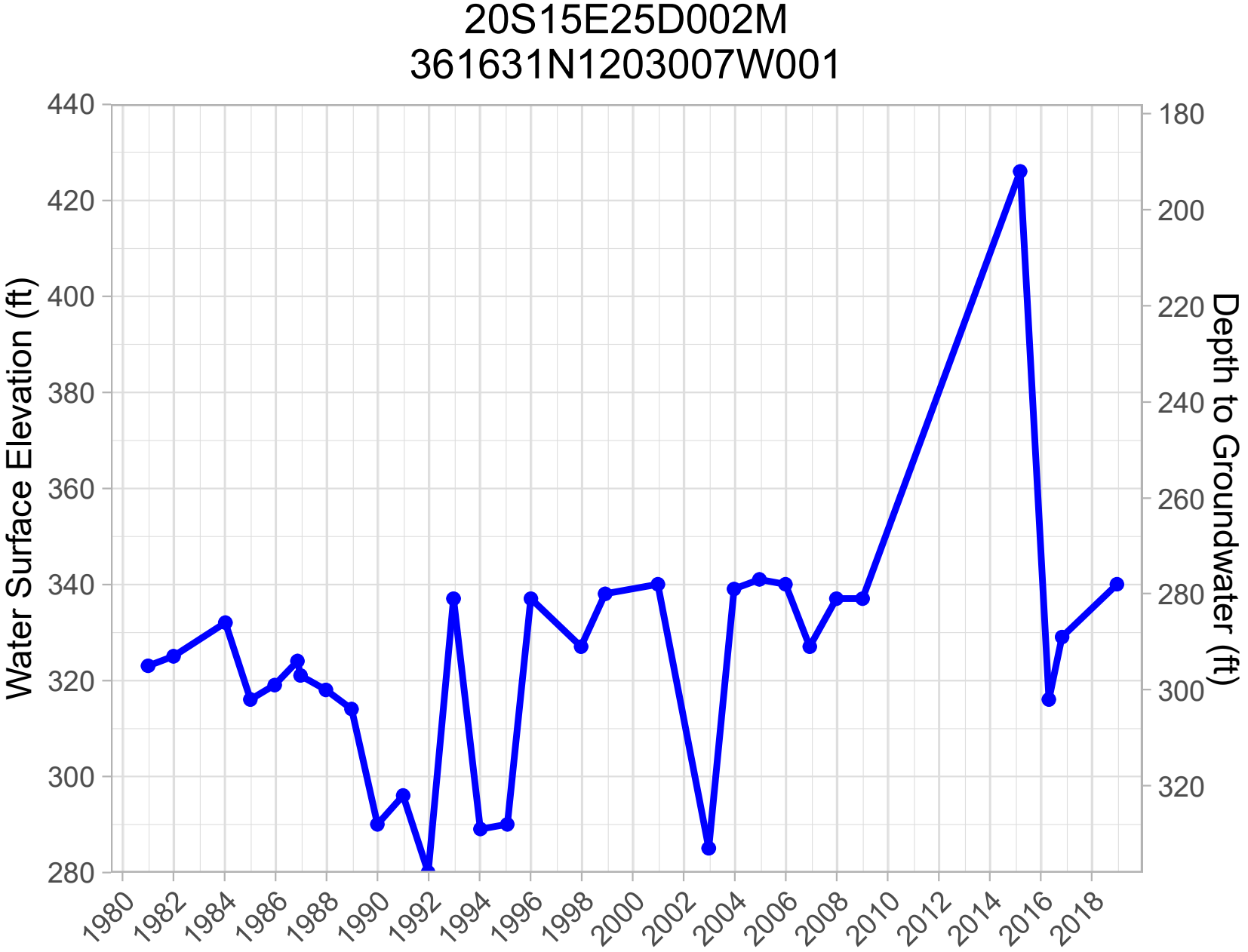
20S15E34B002M
361508N1203252W001






20S15E26L001M
361583N1203099W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
340
320
300
280
260
240
220
300
320
340
360
380
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019




20S15E25D002M
361631N1203007W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
440
420
400
380
360
340
320
300
280
180
200
220
240
260
280
300
320
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018



20S15E27C001M
361636N1203302W001

Water Surface Elevation (ft)

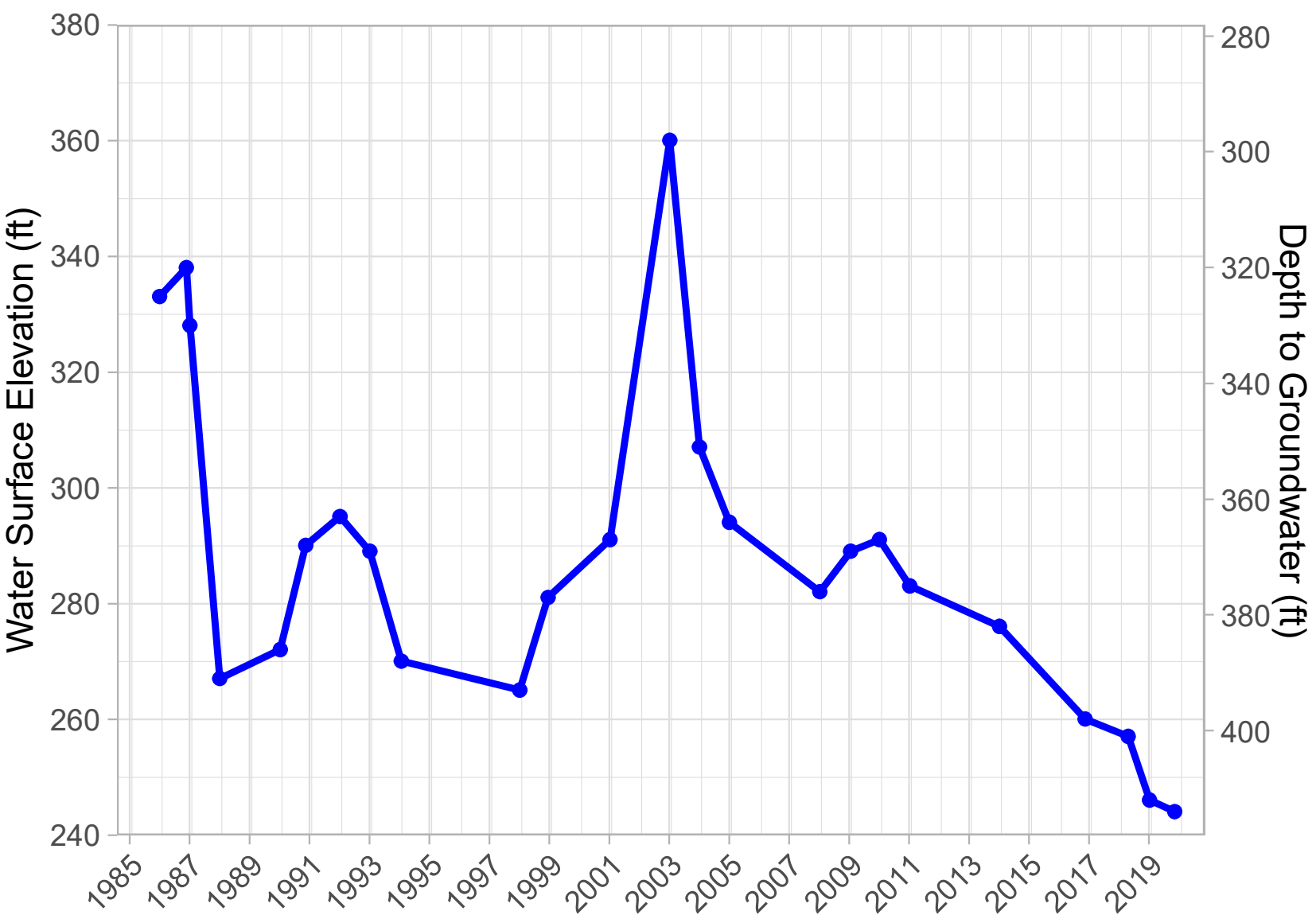
480 460 440 420 400 380 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 −20 −40 −60 −80 −100 −120 −140 −160 −180 −200

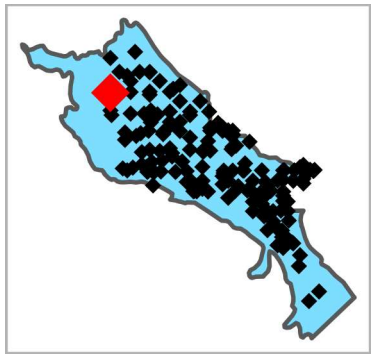
Depth to Groundwater (ft)

200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860

1961 1964 1967 1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021




20S15E23L001M
361731N1203104W001
Water Surface Elevation (ft)
Depth to Groundwater (ft)
380
360
340
320
300
280
260
240
280
300
320
340
360
380
400
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019



20S15E20D001M
361792N1203718W001

Water Surface Elevation (ft)

460
440
420
400
380
360
340
320
300
280
260
240

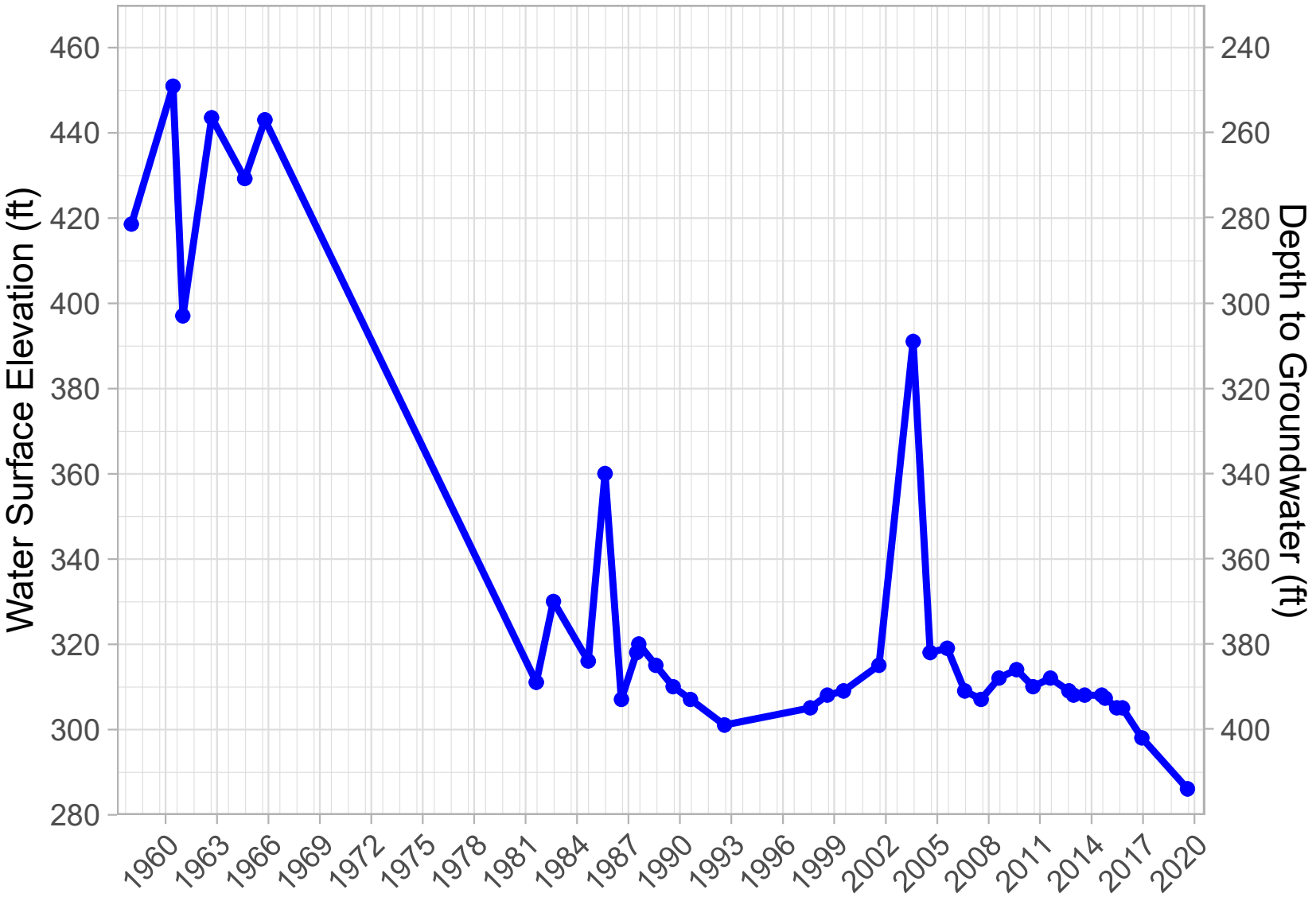
Depth to Groundwater (ft)

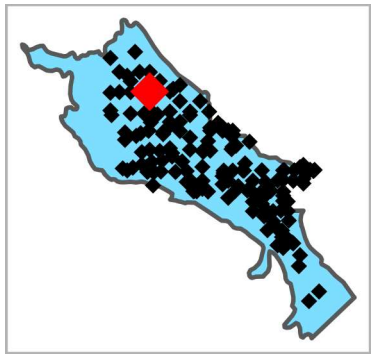
300
320
340
360
380
400
420
440
460
480

1963 1966 1969 1972 1975 1978 1981 1984 1987 1990 1993 1996 1999 2002 2005 2008 2011 2014 2017 2020

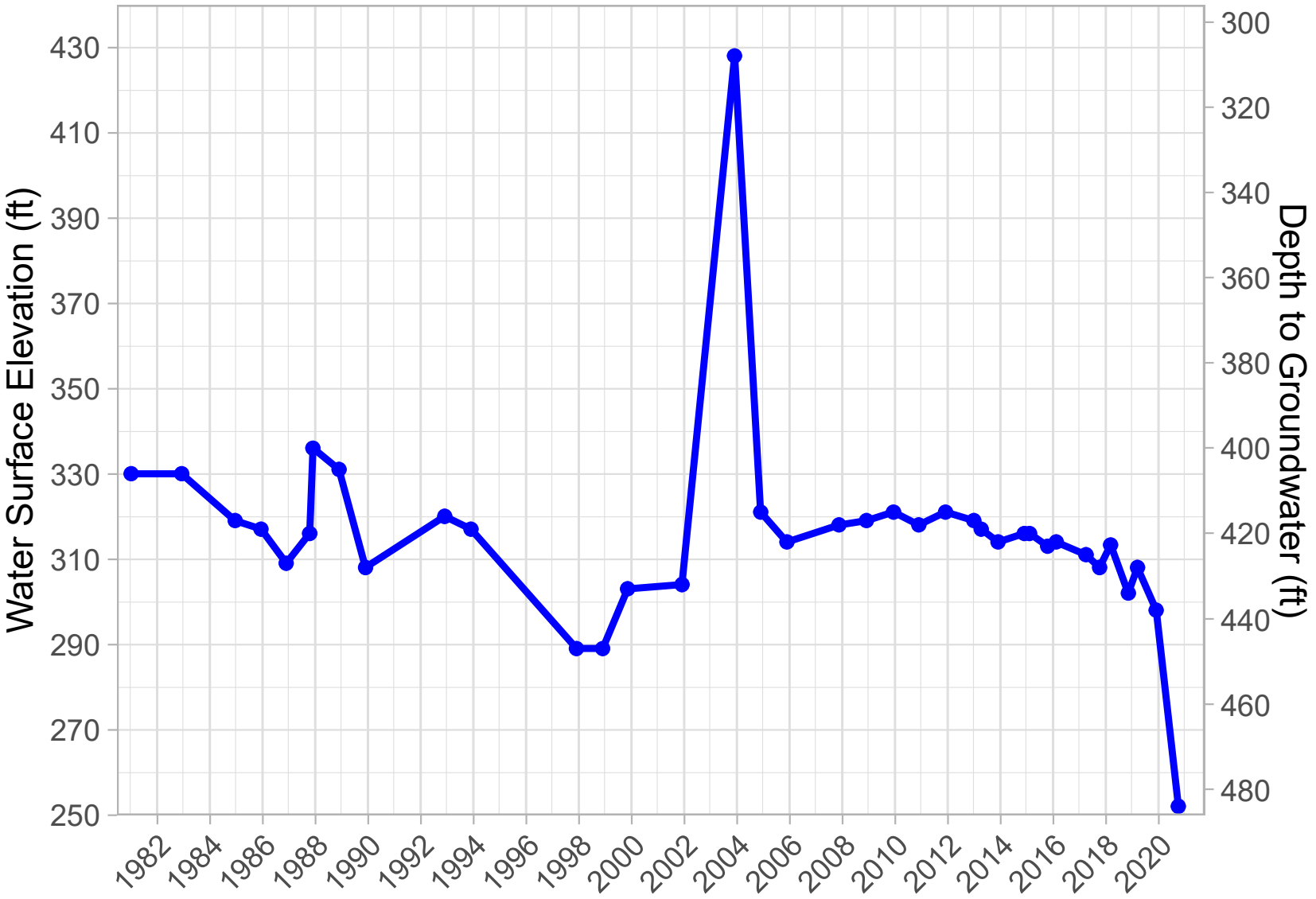


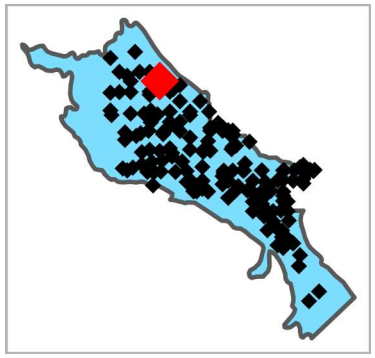
20S15E23D001M
361800N1203188W001



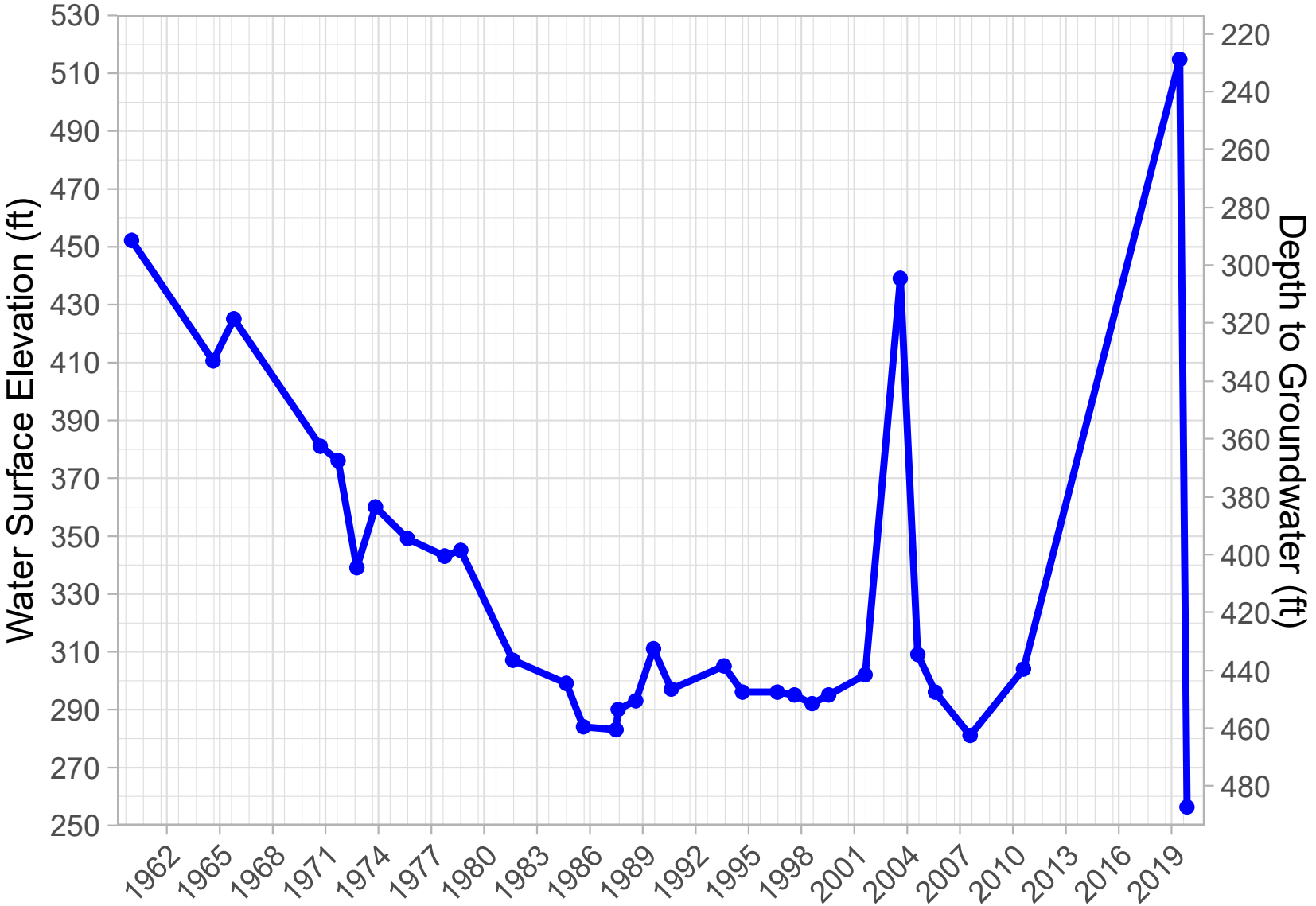


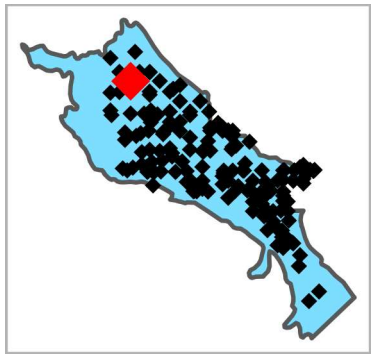
20S15E22D002M
361800N1203366W001



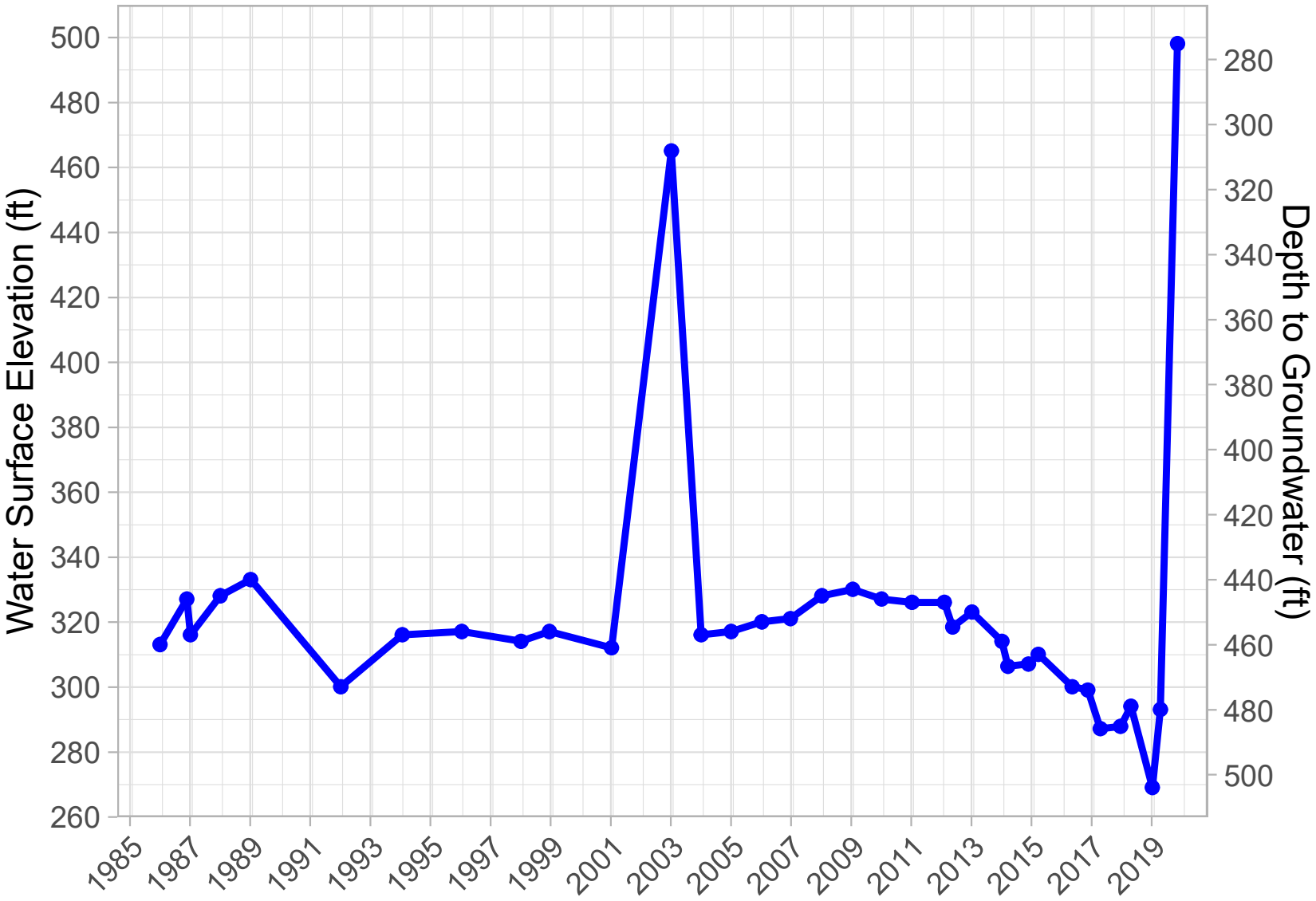


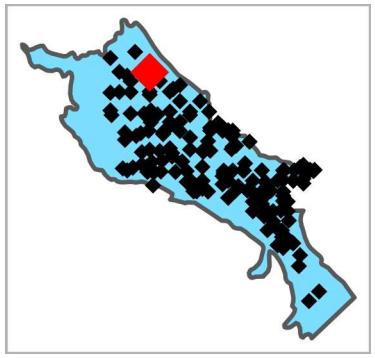
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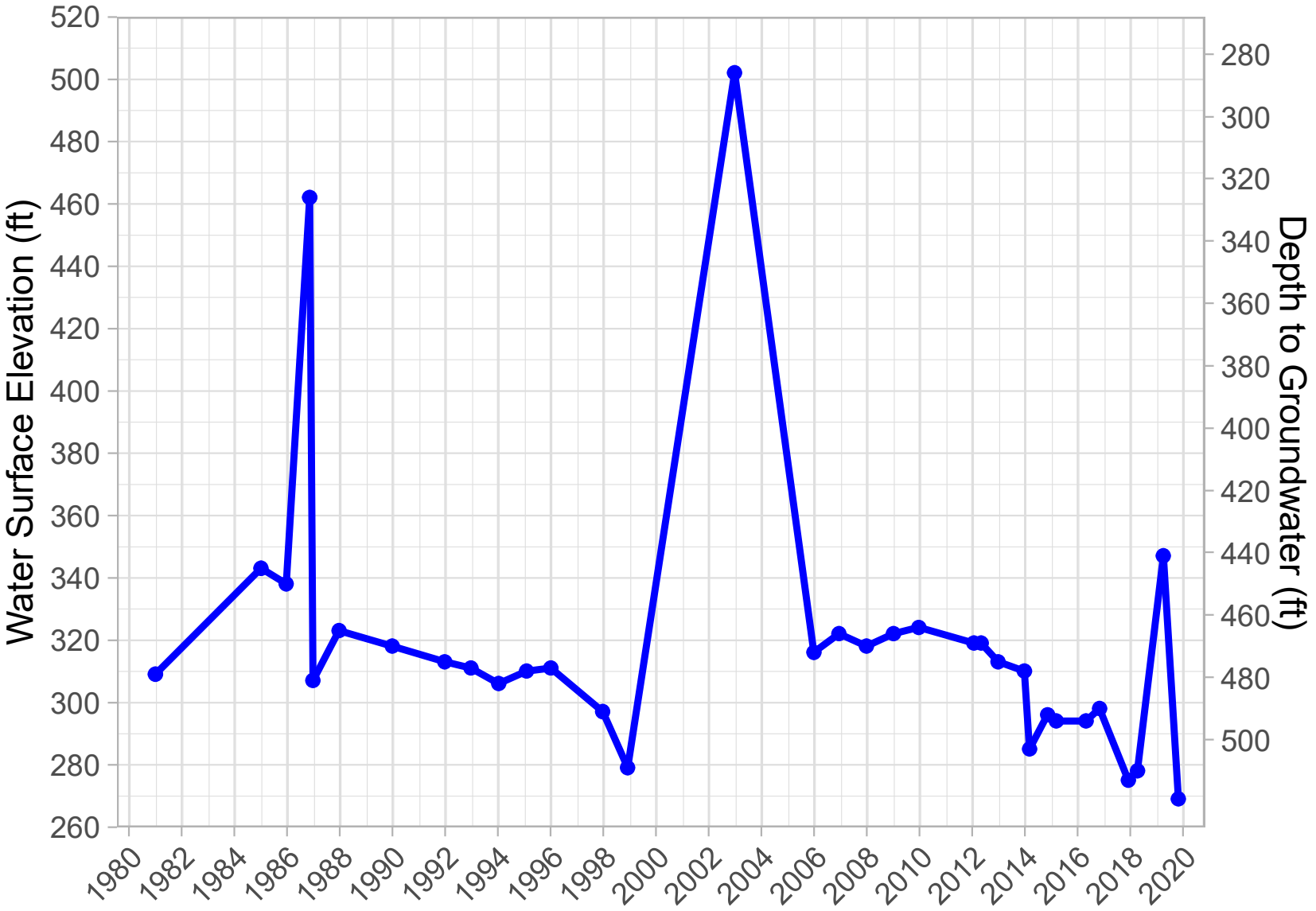


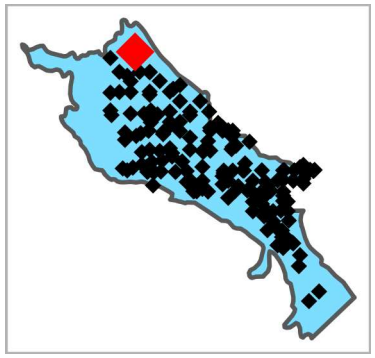
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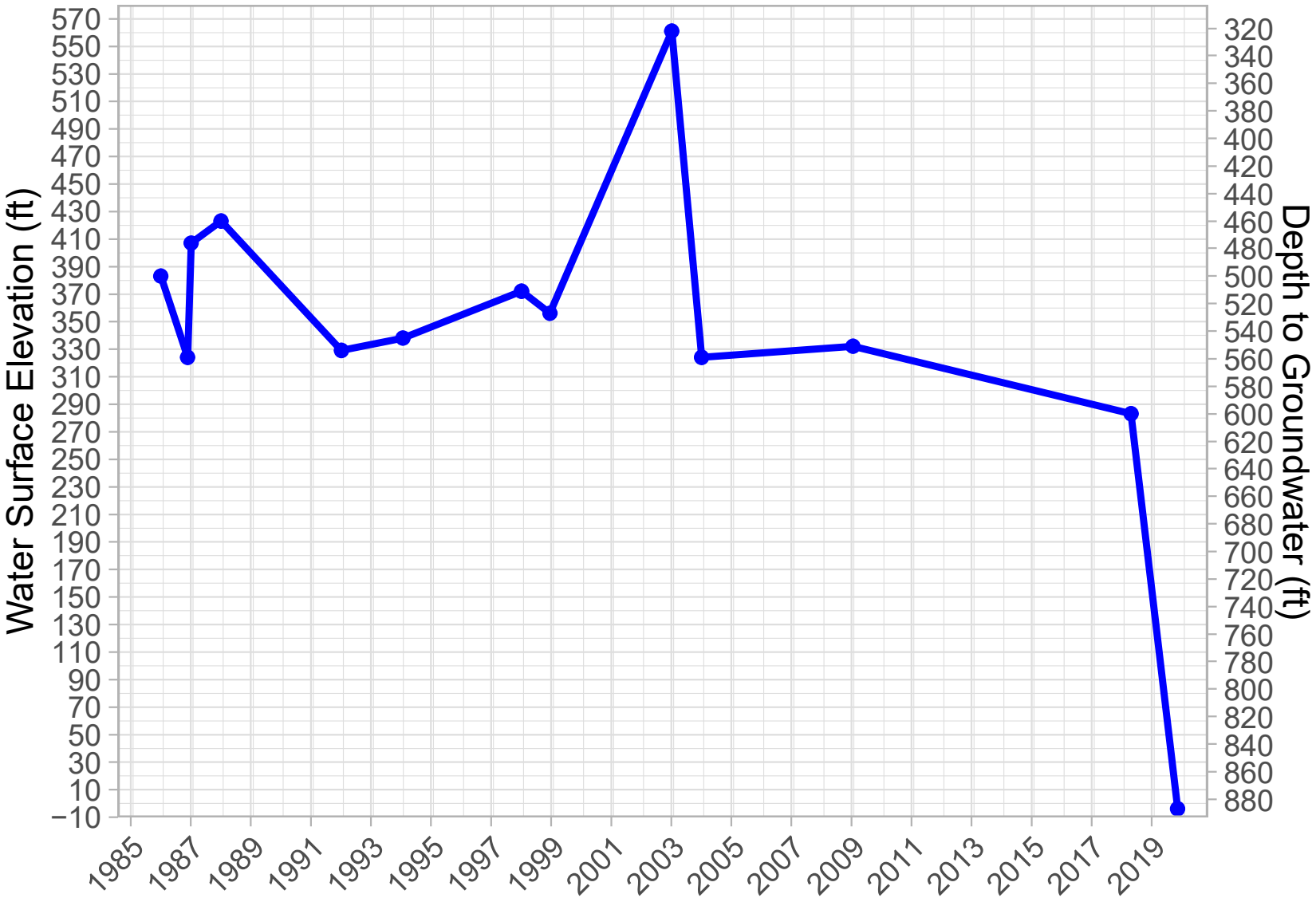


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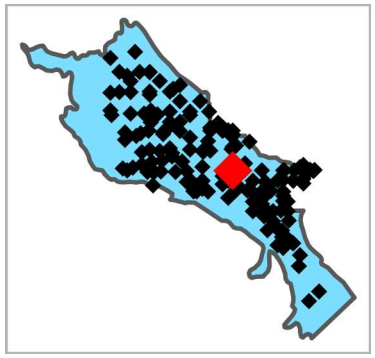


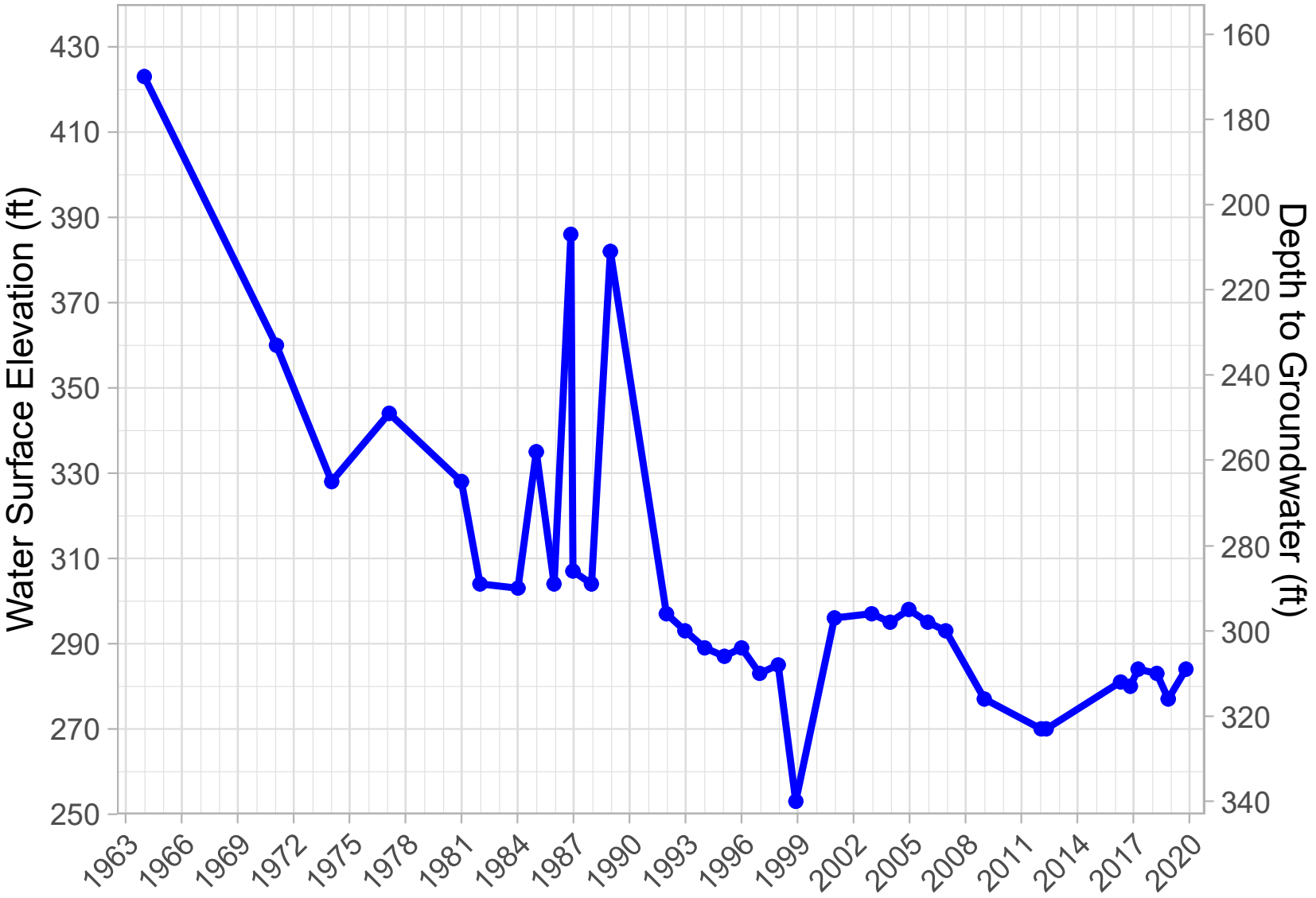


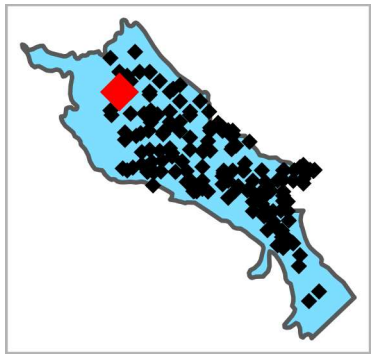
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362086N1203499W001



21S16E05P001M
361231N1202629W001







20S15E20B001M
361797N1203635W001

Water Surface Elevation (ft)

420
400
380
360
340
320
300
280

Depth to Groundwater (ft)

320
340
360
380
400
420
440
460

1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017 2019

Appendix G – Hydrographs Based on Transducer Measurements

20S15E16H001MX-CASGEM1-CASGEM1A-Worth



20S15E22M001MX-
CASGEM 2A-Worth



20S15E26L001MX



20S15E26Q001MX-VNG WF3-Valley Nut-CASGEM 3



20S15E35E001MX Klepper Ag



20S15E35H001MX-VNG
WF4-Valley Nut Growers



20S15E35J001MX-PVP
WF1-Arnold (CA)



20S16E28B001MX

4. TSP W4



20S16E28D001MX



20S16E30L001MX

2. TSP WF2 (All)



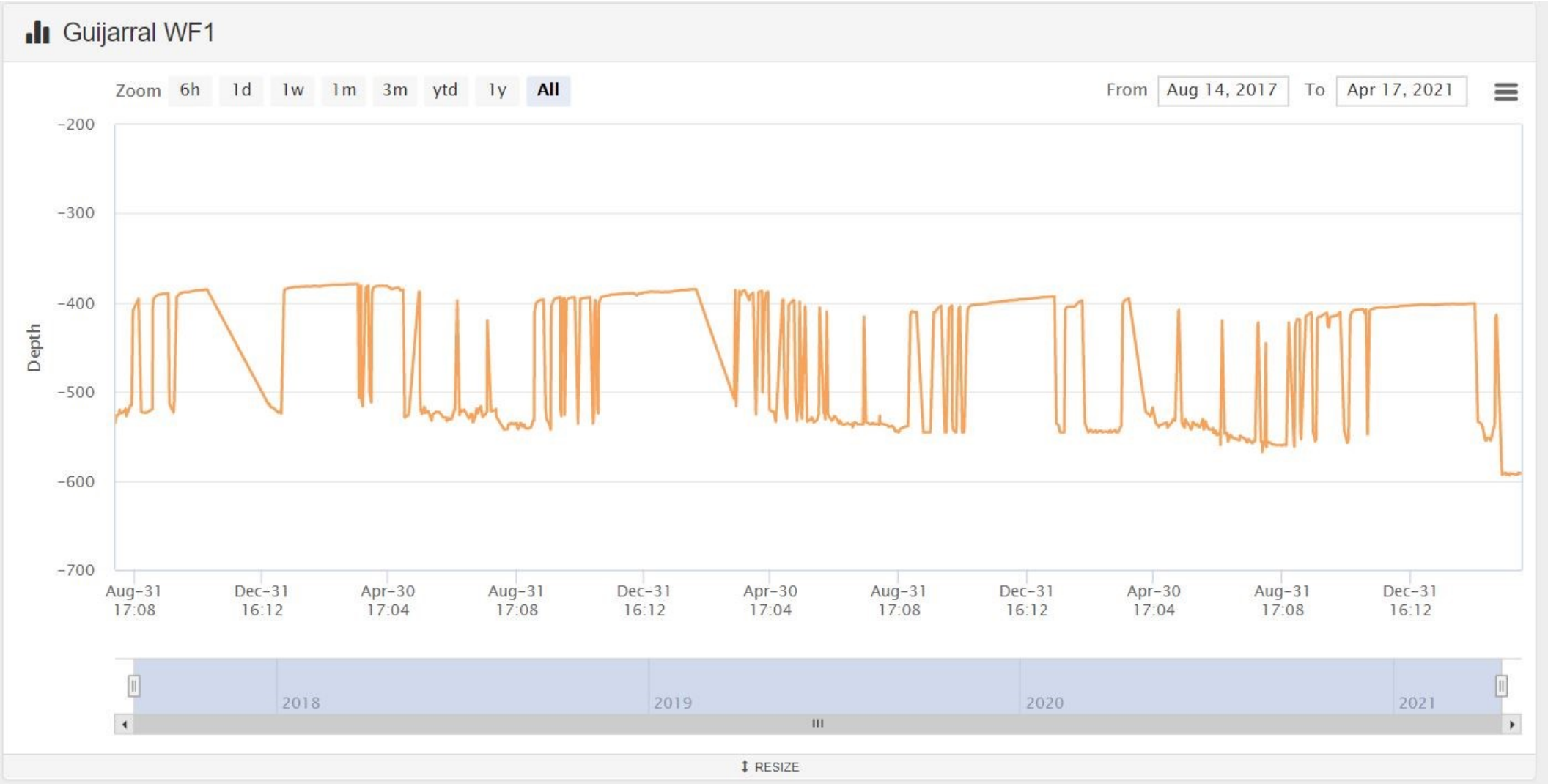
20S16E30N002MX



20S16E30Q002MX



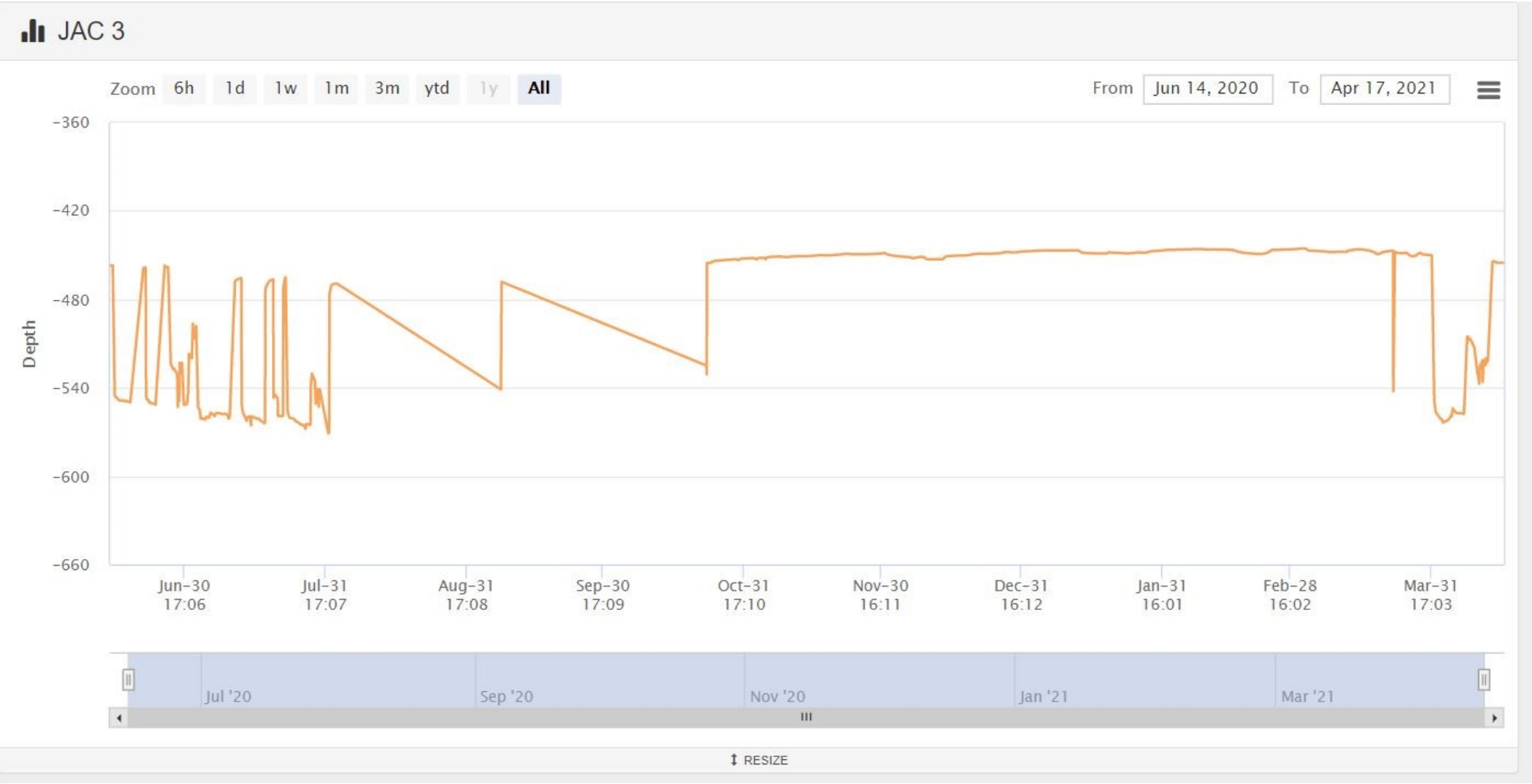
20S16E32L001MX-Guijarral WF1-Setton



21S15E12D001MX-JAC WF2-Jacalitos



21S15E12F002MX-JAC 3-Jacalitos



21S15E12Q003MX-
CASGEM 4-Lovelace



21S16E01L001MX



21S16E12M002MX



21S16E16Q001MX-
CASGEM 5A-Gladstone



21S16E22L002MX-CASGEM 6-Gladstone



Appendix H – Reporting Standards Section 352.4

CALIFORNIA

Water Boards

STATE WATER RESOURCES CONTROL BOARD

REGIONAL WATER QUALITY CONTROL BOARDS

California Code of Regulations, Title 23

(http://ccr.oal.ca.gov)

Excerpts of Divisions 2, 3, and 5 Applicable to the Administration of Water Rights and SGMA

(Current as of January 1, 2021)

JANUARY 2021

HISTORY

1. New article 2 (section 351) and section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

Article 3. Technical and Reporting Standards

§ 352. Introduction to Technical and Reporting Standards.

This Article describes the monitoring protocols, standards for monitoring sites, and other technical elements related to the development or implementation of a Plan.

NOTE: AUTHORITY CITED: SECTION 10733.2, WATER CODE
REFERENCE: SECTION 10733.2, WATER CODE.

HISTORY

1. New article 3 (sections 352-352.6) and section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

§ 352.2. Monitoring Protocols.

Each Plan shall include monitoring protocols adopted by the Agency for data collection and management, as follows:

(a) Monitoring protocols shall be developed according to best management practices.

(b) The Agency may rely on monitoring protocols included as part of the best management practices developed by the Department, or may adopt similar monitoring protocols that will yield comparable data.

(c) Monitoring protocols shall be reviewed at least every five years as part of the periodic evaluation of the Plan, and modified as necessary.

NOTE: AUTHORITY CITED: SECTION 10733.2, WATER CODE
REFERENCE: SECTIONS 10727.2, 10728.2, 10729 AND 10733.2, WATER CODE.

HISTORY

1. New section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

§ 352.4. Data and Reporting Standards.

(a) The following reporting standards apply to all categories of information required of a Plan, unless otherwise indicated:

(1) Water volumes shall be reported in acre-feet.

(2) Surface water flow shall be reported in cubic feet per second and groundwater flow shall be reported in acre-feet per year.

(3) Field measurements of elevations of groundwater, surface water, and land surface shall be measured and reported in feet to an accuracy of at least 0.1 feet relative to NAVD88, or another national standard that is convertible to NAVD88, and the method of measurement described.

(4) Reference point elevations shall be measured and reported in feet to an accuracy of at least 0.5 feet, or the best available information, relative to NAVD88, or another national standard that is convertible to NAVD88, and the method of measurement described.

(5) Geographic locations shall be reported in GPS coordinates by latitude and longitude in decimal degree to five decimal places, to a minimum accuracy of 30 feet, relative to NAD83, or another national standard that is convertible to NAD83.

(b) Monitoring sites shall include the following information:

(1) A unique site identification number and narrative description of the site location.

(2) A description of the type of monitoring, type of measurement taken, and monitoring frequency.

(3) Location, elevation of the ground surface, and identification and description of the reference point.

(4) A description of the standards used to install the monitoring site. Sites that do not conform to best management practices shall be identified and the nature of the divergence from best management practices described.

(c) The following standards apply to wells:

(1) Wells used to monitor groundwater conditions shall be constructed according to applicable construction standards, and shall provide the following information in both tabular and geodatabase-compatible shapefile form:

(A) CASGEM well identification number. If a CASGEM well identification number has not been issued, appropriate well information shall be entered on forms made available by the Department, as described in Section 353.2.

(B) Well location, elevation of the ground surface and reference point, including a description of the reference point.

(C) A description of the well use, such as public supply, irrigation, domestic, monitoring, or other type of well, whether the well is active or inactive, and whether the well is a single, clustered, nested, or other type of well.

(D) Casing perforations, borehole depth, and total well depth.

(E) Well completion reports, if available, from which the names of private owners have been redacted.

(F) Geophysical logs, well construction diagrams, or other relevant information, if available.

(G) Identification of principal aquifers monitored.

(H) Other relevant well construction information, such as well capacity, casing diameter, or casing modifications, as available.

(2) If an Agency relies on wells that lack casing perforations, borehole depth, or total well depth information to monitor groundwater conditions as part of a Plan, the Agency shall describe a schedule for acquiring monitoring wells with the necessary information, or demonstrate to the Department that such information is not necessary to understand and manage groundwater in the basin.

(3) Well information used to develop the basin setting shall be maintained in the Agency's data management system.

(d) Maps submitted to the Department shall meet the following requirements:

(1) Data layers, shapefiles, geodatabases, and other information provided with each map, shall be submitted electronically to the Department in accordance with the procedures described in Article 4.

(2) Maps shall be clearly labeled and contain a level of detail to ensure that the map is informative and useful.

(3) The datum shall be clearly identified on the maps or in an associated legend.

(e) Hydrographs submitted to the Department shall meet the following requirements:

(1) Hydrographs shall be submitted electronically to the Department in accordance with the procedures described in Article 4.

(2) Hydrographs shall include a unique site identification number and the ground surface elevation for each site.

(3) Hydrographs shall use the same datum and scaling to the greatest extent practical.

(f) Groundwater and surface water models used for a Plan shall meet the following standards:

(1) The model shall include publicly available supporting documentation.

(2) The model shall be based on field or laboratory measurements, or equivalent methods that justify the selected values, and calibrated against site-specific field data.

(3) Groundwater and surface water models developed in support of a Plan after the effective date of these regulations shall consist of public domain open-source software.

(g) The Department may request data input and output files used by the Agency, as necessary. The Department may independently evaluate the appropriateness of model results relied upon by the Agency, and use that evaluation in the Department's assessment of the Plan.

NOTE: AUTHORITY CITED: SECTION 10733.2, WATER CODE

REFERENCE: SECTIONS 10727.2, 10727.6 AND 10733.2, WATER CODE.

HISTORY

1. New section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

§ 352.6. Data Management System.

Each Agency shall develop and maintain a data management system that is capable of storing and reporting information relevant to the development or implementation of the Plan and monitoring of the basin.

NOTE: AUTHORITY CITED: SECTION 10733.2, WATER CODE
REFERENCE: SECTIONS 10727.2, 10728, 10728.2 AND 10733.2, WATER CODE.

HISTORY

1. New section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

Article 4. Procedures

§ 353. Introduction to Procedures.

This Article describes various procedural issues related to the submission of Plans and public comment to those Plans.

NOTE: AUTHORITY CITED: SECTION 10733.2, WATER CODE
REFERENCE: SECTION 10733.2, WATER CODE.

HISTORY

1. New article 4 (sections 353-353.10) and section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

§ 353.2. Information Provided by the Department.

(a) The Department shall make forms and instructions for submitting Plans, reports, and other information available on its website.

(b) The Department shall provide information, to the extent available, to assist Agencies in the preparation and implementation of Plans, which shall be posted on the Department's website.

NOTE: AUTHORITY CITED: SECTION 10733.2, WATER CODE
REFERENCE: SECTIONS 10729 AND 10733.2, WATER CODE

HISTORY

1. New section filed 8-15-2016 as an emergency exempt from review by OAL pursuant to Water Code section 10733.2(d); operative 8-15-2016. Pursuant to Water Code section 10733.2(d), these regulations shall remain in effect until revised by the Department of Water Resources (Register 2016, No. 34).

Appendix I – Public Comments and Response Summary

Comments and Responses *(Reg. § 354.10)*

Regulation Requirements:

§ 354.10. Notice and Communication

Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.

(b) A list of public meetings at which the Plan was discussed or considered by the Agency.

(c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.

(d) A communication section of the Plan that includes the following:

- **(1)** An explanation of the Agency's decision-making process.
- **(2)** Identification of opportunities for public engagement and a discussion of how public input and response will be used.
- **(3)** A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.
- **(4)** The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.2, 10727.8, 10728.4, and 10733.2, Water Code

January 12, 2022

VIA EMAIL info@sgma.pleasantvalleywaterdistrict.com

Pleasant Valley GSA
PO Box 468,
Coalinga, CA 93210

Re: City of Coalinga Comments

The City of Coalinga has reviewed the Pleasant Valley Groundwater Sustainability Plan ("GSP") and appreciates the opportunity to review and comment on the GSP pursuant to the Sustainable Groundwater Management Act ("SGMA").

As a GSA serving in an advisory role to the Pleasant Valley Sub-Basin the City of Coalinga wanted to provide its comments on the final draft GSP which have been divided into general/administrative/policy comments and more detailed technical comments.

General/Administrative/Policy Comments

Groundwater recharge by the City of Coalinga via wastewater treatment plant

The City of Coalinga wants to ensure the groundwater being recharged out of the City of Coalinga's wastewater treatment plant is correctly accounted for which was subject to discussion during the technical meetings. The City of Coalinga estimates 1 million gallons a day are recharged into the basin via the wastewater treatment plant. The City found the recharge rates within the GSP to be vague with a range of 200-3000 acre feet time range. (Page 251-252). Also, the City found the recharge from the Prison and Hospital to be missing as these facilities are located in the City limits. Finally, the GSP was vague as to which entity would receive the groundwater credit for the wastewater treatment plant recharge when the City of Coalinga physically recharges the water. The GSP should clearly present the future projected water recharge from the City of Coalinga, State Hospital, and State Prison's wastewater treatment plants. Finally, the GSP should note that any groundwater recharged via the wastewater treatment plants are credited to the City of Coalinga GSA.

Technical Comments

- Number of hospitals and prisons is not correct. There are not "two nearby prisons and a hospital" (page 11). There is a prison and a state hospital both of which are located within the City of Coalinga. If you are referring to the Coalinga Regional Medical Center as the second hospital please clarify.

- The City of Coalinga's wastewater treatment plant is incorrectly labeled as a "lake" in the GSP. (Page 85). The City of Coalinga's wastewater treatment plant should be corrected and relabeled as a wastewater treatment plant.

- Produced water from the oil industry should not be considered under SGMA because this water is extracted from below the groundwater aquifer and produced water does not come from formations yielding usuable groundwater. (Page 109). Second, treated produced water that is extracted and recharged should be accounted for and this data should be provided by the oil companies.

- The City of Coalinga has accurate surface water information both from the Coalinga Canal and out of the surface water treatment plant. The City is willing to share this information. However, the City of Coalinga is requesting the surface water values related to streams flowing through the GSA. (Page 13). Also, the City of Coalinga is requesting this data be integrated within the GSP. Also, the GSP should clarify and distinguish naturally occurring surface water versus imported surface water and the return flow of this imported water.

- The City of Coalinga adopted an Urban Water Management Plan. (Page 107). Within the adopted Plan is a drought contingency plan which is intended to assist the City of Coalinga prepare and manage for a drought.

- The City of Coalinga is not responsible for any of the potential groundwater projects unless the City expressly agrees to join and pay for a project. The City of Coalinga agrees that project costs should be the responsibility of the proponent.

- There are some general concerns about the accuracy of the Land IQ land mapping program. The City of Coalinga wants to ensure Land IQ is in fact accurate and reliable. For example, certain land uses like “truck crops” are not defined and not correctly labeled within the City of Coalinga. Also, there appears to be a higher number of deciduous crop acreage than what is actually grown in the city limits of Coalinga.

We appreciate the opportunity to provide our general and technical comments related to the Pleasant Valley Groundwater Sustainability Plan. We hope these comments are welcomed and addressed a the public meeting and integrated into the Final Plan.

Please do not hesitate to contact me if you have any questions at sbrewer@coalniga.com or 559-935-1533.143.



Sean Brewer, Assistant City Manager

Cc: Sebastian Silveira, Griswold-Lasalle
Marissa Trejo, City Manager
Katie Durham, Provost & Pritchard
Eric Abrahamsen, Provost & Pritchard

PLEASANT VALLEY GROUNDWATER SUSTAINABILITY AGENCY

POST OFFICE BOX 468
COALINGA, CALIFORNIA 93210-0468

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BRIAN E. EHLERS
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DAVID KAHN
LEGAL COUNSEL

JAMES S. ANDERSON
SECRETARY

February 15, 2022

City of Coalinga
Sean Brewer, Assistant City Manager
P.O. Box 468
Coalinga, CA 93210

RE: Pleasant Valley Groundwater Sustainability Plan

Dear Sean,
Thank you for your comments dated January 12, 2022. As you know there has been a lot of time, dedication, and hard work to develop the draft document that is presently out for review. We certainly want to thank you and all those involved at the City as well as the City GSA for the time and effort put forth to develop the draft document.

Again, thank you for your comments and the following is offered in response to your comments:

General/Administrative/Policy Comments

Groundwater recharge by the city of Coalinga via wastewater treatment plant
The City of Coalinga wants to ensure the groundwater being recharged out of the City of Colainga's watswater treatment plant is correctly accounted for which was subject to discussion during the technical meetings. The City of Coalinga estimates 1 million gallons a day are recharged into the basin via the wastewater treatment plant. The City found the recharge rates within the GSP to be vague with a range of 200-3000 acre feet time range. Also the City found the recharge from the Prison and Hospital to be missing as these facilities are located in the City limits. Finally, the GSP was vague as to which entity would receive the groundwater dredit fir the wastwter treatment plant recharge when the City of Coalinga physically recharges the water. The GSP should clearly present the future projected waterrechareg from the City o Coalinga, State Hospital, and State prison's wastewater tretamnet plants. Finally, the GSP should not that any groundwater recharged via the wastewater treatment plants are credited to the City of Coalinga GSA.

Response: This comment relates primarily to the amount of surface water imported into the basin and recharged to the underground. On page 3-80 the GSP identifies and estimates that approximately 1,800 af is recharged though the multiple wastewater treatment plants. While the



management actions have not been developed as yet there has been discussion amongst that parties concerning the importation of surface water for direct use and/or recharge and later recovery. While the management actions have not been adopted it has been the intent of the parties that the entity importing the surface supplies receive credit for the amount of import. As this policy has yet to be established it is hoped that this policy will get established in this next year as identified in chapter 7 implementation and we encourage you and your agency to continue to engage as the policies are developed.

Related to the 200-3000 acre-foot numbers shown above they can be referenced to Table 6-2 on page 6-8. These numbers relate to an estimate of additional surface supplies that could be purchased from the City by agricultural interest and imported into the basin for use by agriculture. These numbers are not reflective of the supplies currently imported to the subbasin.

Technical Comments
Number of Hospitals and prisons is not correct….

Response: Noted. The GSP has been updated on page ES -1.

The City of Coalinga wastewater treatment plant is incorrectly labeled as lake in the GSP

Response: Noted. The data in the figure comes from another source and this is how that agency identified the information. The figure has been altered to note that the lake is indeed the City of Coalinga wastewater treatment plant.

Produced water from the oil industry…..

Response: Noted. The GSP has been revised in section 3.2.5.3 to note that produced water from oil production is not covered under the GSP.

The City of Coalinga has accurate surface water information….

Response: the GSP recognizes the City of Coalinga imports significant surface water supplies into the basin. This is specifically identified on page 3-75 and is noted as approximately 5,500 af per year. It is thought that the information supplied by the City is sufficient and we are thankful for the information that has been supplied. Attached you will find the data that has been developed associated with streamflow in the streams that cross the valley. Of note, the past information documented by the Department of Water Resources has been focused on gaining peak flood event data whereas the district approach has been to identify all flows entering and leaving the valley.

The City of Coalinga adopted an urban water management plan.

Response: Noted. The GSP has been revised on page 2-19.

The City of Coalinga is not responsible for groundwater projects….

Response: Noted. The GSP has been revised on page 6-2.

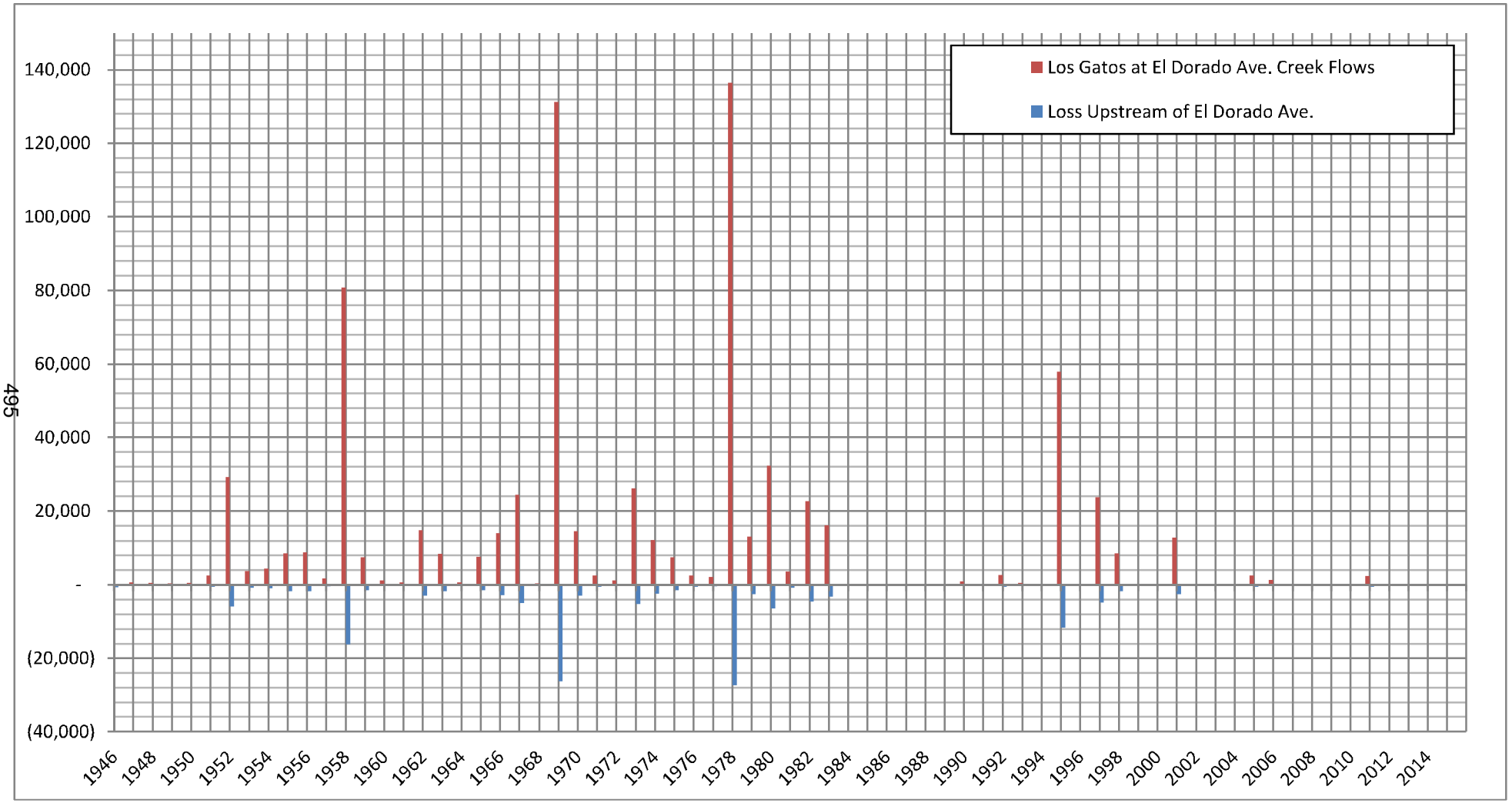
Accuracy of the Land IQ land mapping information……

Response: Noted. The acreage and type of crop are being checked through other sources.

Should you wish to discuss any of these items further or in more detail, feel free to call Brian Ehlers at 559-449-2700.

Sincerely,

Brad Gleason, Board President, Pleasant Valley GSA


Los Gatos at El Dorado Ave. Creek Flows
Loss Upstream of El Dorado Ave.
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-
(20,000)
(40,000)
1946
1948
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014

Pleasant Valley Stream Gauge Yearly Summary Table:

Stream	2017 Upstream Volume (AF)	2017 Downstream Volume (AF)	2017 Total Losses (AF)	2018 Upstream Volume (AF)	2018 Downstream Volume (AF)	2018 Total Losses (AF)	2019 Upstream Volume (AF)	2019 Downstream Volume (AF)	2019 Total Losses (AF)	2020 Upstream Volume (AF)	2020 Downstream Volume (AF)	2020 Total Losses (AF)	2021 Upstream Volume (AF)	2021 Downstream Volume (AF)	2021 Total Losses (AF)	Notes:
Los Gatos Creek	6,326	2,214	4,112	1,533	1	1,532	1,936	274	1,663	74	27	47	703	675	28	Los Gatos is measuring from the DWR site (LGC) located in the mountains to W Gale Avenue.
Warthan Creek	1,190	417	773	1,245	23	1,222	1,759	5	1,754	0	0	0	419	84	334	Warthan is measuring from the DWR site (WRT) located in the mountains to HWY 33/E Polk St.
Jacalitos	N/A	N/A	0	468	0	468	2,666	534	2,132	84	78	6	165	144	20	Jacalitos is measuring from W Lost Hills Rd to HWY33/W Jayne Ave.
Zapato Chino	N/A	N/A	0	5,696	57	5,639	1,435	157	1,279	8,954	1,794	7,160	80	39	41	Zapato Chino is measuring from S Lost Hills Rd to Sutter Ave.
Totals:			4,886			8,861			6,827			7,213			423	

Additional Notes:

Downstream volumes do not account for other tributaires contributing to the stream.

Upstream and downstream volume values represent the maximum AF for that year and not specifically the value/s for the event/s.

No Pump sight stream guage data was available for 2017. The N/A's seen in 2017 for Jacalitos and Zapato Chino represent that there was no data available.

The Los Gatos Creek and Warthan Creek values for 2017 are estimated values since data was not available. These came from the "Stream Data" pdf dated 1/28/2020 that was put together for a Board Meeting.

The Warthan (WRT) data for 2020 was found to be bad data, so the AF values were zeroed out.

December 20, 2021

Pleasant Valley GSA
P.O. BOX 468,
Coalinga, CA 93210

Submitted via email: info@sgma.pleasantvalleywaterdistrict.com

Re: Public Comment Letter for Pleasant Valley Subbasin Draft GSP

Dear Calvin Monreal and Katie Durham,

On behalf of the above-listed organizations, we appreciate the opportunity to comment on the Draft Groundwater Sustainability Plan (GSP) for the Pleasant Valley Subbasin being prepared under the Sustainable Groundwater Management Act (SGMA). Our organizations are deeply engaged in and committed to the successful implementation of SGMA because we understand that groundwater is critical for the resilience of California's water portfolio, particularly in light of changing climate. Under the requirements of SGMA, Groundwater Sustainability Agencies (GSAs) must consider the interests of all beneficial uses and users of groundwater, such as domestic well owners, environmental users, surface water users, federal government, California Native American tribes and disadvantaged communities (Water Code 10723.2).

As stakeholder representatives for beneficial users of groundwater, our GSP review focuses on how well disadvantaged communities, drinking water users, tribes, climate change, and the environment were addressed in the GSP. While we appreciate that some basins have consulted us directly via focus groups, workshops, and working groups, we are providing public comment letters to all GSAs as a means to engage in the development of 2022 GSPs across the state. Recognizing that GSPs are complicated and resource intensive to develop, the intention of this letter is to provide constructive stakeholder feedback that can improve the GSP prior to submission to the State.

Based on our review, we have significant concerns regarding the treatment of key beneficial users in the Draft GSP and consider the GSP to be **insufficient** under SGMA. We highlight the following findings:

1. Beneficial uses and users **are not sufficiently** considered in GSP development.
    a. Human Right to Water considerations **are not sufficiently** incorporated.
    b. Public trust resources **are not sufficiently** considered.
    c. Impacts of Minimum Thresholds, Measurable Objectives and Undesirable Results on beneficial uses and users **are not sufficiently** analyzed.

2. Climate change **is not sufficiently** considered.
3. Data gaps **are not sufficiently** identified and the GSP **does not have a plan** to eliminate them.
4. Projects and Management Actions **do not sufficiently consider** potential impacts or benefits to beneficial uses and users.

Our specific comments related to the deficiencies of the Pleasant Valley Subbasin Draft GSP along with recommendations on how to reconcile them, are provided in detail in **Attachment A.**

Please refer to the enclosed list of attachments for additional technical recommendations:

Attachment A	GSP Specific Comments
Attachment B	SGMA Tools to address DAC, drinking water, and environmental beneficial uses and users
Attachment C	Freshwater species located in the basin
Attachment D	The Nature Conservancy's "Identifying GDEs under SGMA: Best Practices for using the NC Dataset"

Thank you for fully considering our comments as you finalize your GSP.

Best Regards,

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Water Policy Analyst
Clean Water Action/Clean Water Fund

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Western States Climate and Water Scientist
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Samantha Arthur
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Senior Project Director, California Water Program
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Attachment A

Specific Comments on the Pleasant Valley Subbasin Draft Groundwater Sustainability Plan

1. Consideration of Beneficial Uses and Users in GSP development

Consideration of beneficial uses and users in GSP development is contingent upon adequate identification and engagement of the appropriate stakeholders. The (A) identification, (B) engagement, and (C) consideration of disadvantaged communities, drinking water users, tribes,[1] groundwater dependent ecosystems, streams, wetlands, and freshwater species are essential for ensuring the GSP integrates existing state policies on the Human Right to Water and the Public Trust Doctrine.

A. Identification of Key Beneficial Uses and Users

Disadvantaged Communities and Drinking Water Users

The identification of Disadvantaged Communities (DACs) and drinking water users is **incomplete**. The GSP provides information on the identified DAC (City of Coalinga), including identification by name, location on a map (Figure I-2), and the size of the population. While the GSP identifies the water sources for the City of Coalinga in Table 2-5, it should clearly identify the City as an identified DAC in this table and thereby clearly indicate the water sources for DACs in the subbasin.

The GSP fails to provide a density map of domestic wells or information on the depth of domestic wells (such as minimum well depth, average well depth, or depth range) within the subbasin. This information is necessary to understand the distribution of shallow and vulnerable drinking water wells within the subbasin.

These missing elements are required for the GSAs to fully understand the specific interests and water demands of these beneficial users, and to support the consideration of beneficial users in the development of sustainable management criteria and selection of projects and management actions.

RECOMMENDATIONS
• In Table 2-5, clearly identify the City of Coalinga as a DAC within the subbasin. • Provide a domestic well density map and include average well depth across the subbasin.

Interconnected Surface Waters

The identification of Interconnected Surface Waters (ISWs) is **insufficient**, due to lack of supporting information provided for the ISW analysis. The GSP states (p. 3-64): *"Groundwater within the Subbasin is generally encountered at depths between 300 to 500 feet below ground.*

[1] Our letter provides a review of the identification and consideration of federally recognized tribes (Data source: SGMA Data viewer) within the GSP from non-tribal members and NGOs. Based on the likely incomplete information available to our organizations for this review, we recommend that the GSA utilize the California Department of Water Resources' "Engagement with Tribal Governments" Guidance Document (https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents) to comprehensively address these important beneficial users in their GSP.

Due to the natural intermittent nature of surface water in the Subbasin and the depths to groundwater, the Subbasin does not have interconnected surface water and groundwater as defined in the SGMA regulations." The GSP presents depth to groundwater contours in FIgures 3-18 and 3-19, however there is no groundwater elevation data in the western portion of the subbasin. The GSP states (p. 5-20): "*There are no known interconnected surface water systems within the Subbasin, although there are areas where they may exist on the western border. No information is available to assess potential surface water-groundwater interconnection in these areas since there are no wells, and hence no groundwater pumping."* We recommend the GSP discuss the gaps in data needed to adequately characterize the interaction between groundwater and surface water within the subbasin. The GSP should consider any segments with data gaps as potential ISWs and clearly marked as such on maps provided in the GSP.

The GSP states that the groundwater system in the subbasin is comprised of an upper unconfined aquifer and a semi-confined aquifer at greater depths. We recommend that the GSP discuss the screening depths of wells used in developing the groundwater contours for the ISW analysis to ensure that depth to groundwater data used for the analysis represents the upper unconfined aquifer.

RECOMMENDATIONS

- Discuss the screening depths of wells in the subbasin. Ensure that groundwater data used in the ISW analysis represent the upper unconfined aquifer.
- Provide a map of streams in the subbasin. Clearly label reaches as interconnected (gaining/losing) or disconnected. Consider any segments with data gaps as potential ISWs and clearly mark them as such on maps provided in the GSP.
- For the depth-to-groundwater contour maps, use the best practices presented in Attachment D. Specifically, ensure that the first step is contouring groundwater elevations, and then subtracting this layer from land surface elevations from a Digital Elevation Model (DEM) to estimate depth-to-groundwater contours across the landscape. This will provide accurate contours of depth to groundwater along streams and other land surface depressions where GDEs are commonly found.

Groundwater Dependent Ecosystems

The identification of Groundwater Dependent Ecosystems (GDEs) is **insufficient**. The GSP took initial steps to identify and map GDEs using the Natural Communities Commonly Associated with Groundwater dataset (NC dataset). However, insufficient groundwater data was used to characterize groundwater conditions underlying the subbasin's GDEs. The GSP uses depth-to-groundwater data from 2019 to characterize areas where the depth to groundwater was less than 200 feet to identify potential GDEs. We recommend using groundwater data from multiple seasons and water year types to determine the range of depth to groundwater around NC dataset polygons. Using seasonal groundwater elevation data over multiple water year types is an essential component of identifying GDEs and is necessary to capture the variability in groundwater conditions inherent in California's Mediterranean climate.

The GSP does not provide an inventory of the flora or fauna species present in the subbasin's GDEs. Furthermore, the GSP does not acknowledge endangered, threatened, or special status species in the subbasin.

RECOMMENDATIONS

- Use depth-to-groundwater data from multiple seasons and water year types (e.g., wet, dry, average, drought) to determine the range of depth to groundwater around NC dataset polygons. We recommend that a baseline period (10 years from 2005 to 2015) be established to characterize groundwater conditions over multiple water year types. Refer to Attachment D of this letter for best practices for using local groundwater data to verify whether polygons in the NC Dataset are supported by groundwater in an aquifer.
- For the depth-to-groundwater contour maps, use the best practices presented in Attachment D. Specifically, ensure that the first step is contouring groundwater elevations, and then subtracting this layer from land surface elevations from a DEM to estimate depth-to-groundwater contours across the landscape.
- If insufficient data are available to describe groundwater conditions within or near polygons from the NC dataset, include those polygons as "Potential GDEs" in the GSP until data gaps are reconciled in the monitoring network.
- Include an inventory of the fauna and flora present within the subbasin's GDEs (see Attachment C of this letter for a list of freshwater species located in the Pleasant Valley Subbasin). Note any threatened or endangered species.

Native Vegetation and Managed Wetlands

Native vegetation and managed wetlands are water use sectors that are required to be included in the water budget.[2,3] The integration of native vegetation into the water budget is **insufficient**. The water budget did not include the current, historical, and projected demands of native vegetation. The omission of explicit water demands for native vegetation is problematic because key environmental uses of groundwater are not being accounted for as water supply decisions are made using this budget, nor will they likely be considered in project and management actions. Managed wetlands are not mentioned in the GSP, so it is not known whether or not they are present in the subbasin.

RECOMMENDATIONS

- Quantify and present all water use sector demands in the historical, current, and projected water budgets with individual line items for each water use sector, including native vegetation.

[2] "'Water use sector' refers to categories of water demand based on the general land uses to which the water is applied, including urban, industrial, agricultural, managed wetlands, managed recharge, and native vegetation." [23 CCR §351(al)]

[3] "The water budget shall quantify the following, either through direct measurements or estimates based on data: (3) Outflows from the groundwater system by water use sector, including evapotranspiration, groundwater extraction, groundwater discharge to surface water sources, and subsurface groundwater outflow." [23 CCR §354.18]

- State whether or not there are managed wetlands in the subbasin. If there are, ensure that their groundwater demands are included as separate line items in the historical, current, and projected water budgets.

B. Engaging Stakeholders

Stakeholder Engagement During GSP Development

Stakeholder engagement during GSP development is **insufficient**. SGMA's requirement for public notice and engagement of stakeholders is not fully met by the description in the Pleasant Valley Communication and Engagement Plan.[4]

We note the following deficiencies with the overall stakeholder engagement process:

- The GSP documents opportunities for public involvement and engagement in very general terms for listed stakeholders. Public notice and engagement activities include educational and outreach meetings with Spanish translation services, distribution of stakeholder surveys, question and answer sessions, solicitations for stakeholder input, opportunities for GSP comments, presentations to government agencies, outreach meetings for stakeholders, public hearings, and printed materials with Spanish translations including fliers, fact sheets, letters, newsletters, and presentation materials. The GSP does not state whether there was direct engagement with DACs, or whether DACs are represented on a GSP Advisory Committee or Board for the subbasin.

- The plan does not include documentation on how stakeholder input from the above-mentioned outreach and engagement was solicited, considered and incorporated into the GSP development process.

- The GSP fails to identify environmental stakeholders within the subbasin in order to consider and incorporate the interest of environmental users in the GSP development process. We recommend that the GSAs engage with environmental stakeholders such as the California Department of Fish and Wildlife or environmental non-profits.

- Page V-2 of Communication and Engagement Plan states: *"Printed materials will incorporate the visual imagery established through branding efforts and will be tailored for specific means of communication throughout the phases of GSP development, public review, and implementation,"* suggesting that plans for outreach to all identified stakeholders will continue during the implementation phase of the GSP. However, the GSP does not include a detailed plan for continual opportunities for engagement through the implementation phase of the GSP that is specifically directed to DACs, domestic well owners, and environmental stakeholders within the subbasin. The plan should also clarify whether a GSP Advisory Committee exists for the subbasin and if it will continue to meet and inform the GSP implementation for the subbasin after the GSP is adopted by the GSAs.

[4] "A communication section of the Plan shall include a requirement that the GSP identify how it encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin." [23 CCR §354.10(d)(3)]

RECOMMENDATIONS

- In the Communication and Engagement Plan, describe active and targeted outreach to engage DACs, drinking water users, and environmental stakeholders throughout the GSP development and implementation phases. Refer to Attachment B for specific recommendations on how to actively engage stakeholders during all phases of the GSP process.
- Engage with environmental stakeholders in the subbasin, which could include California Department of Fish and Wildlife or environmental non-profits.
- Provide documentation on how stakeholder input was incorporated into the GSP development process.
- Utilize DWR's tribal engagement guidance to comprehensively identify, involve, and address all tribes and tribal interests that may be present in the subbasin.[5]

C. Considering Beneficial Uses and Users When Establishing Sustainable Management Criteria and Analyzing Impacts on Beneficial Uses and Users

The consideration of beneficial uses and users when establishing sustainable management criteria (SMC) is **insufficient**. The consideration of potential impacts on all beneficial users of groundwater in the basin are required when defining undesirable results and establishing minimum thresholds.[6,7,8]

Disadvantaged Communities and Drinking Water Users

For chronic lowering of groundwater levels, minimum thresholds are defined in terms of reducing the rate of the decline in water levels over time. Minimum threshold elevations are set to levels well below historical minimums. The GSP does not mention or discuss the impacts of groundwater levels on domestic wells in the subbasin. Therefore, the GSP does not sufficiently describe whether minimum thresholds will avoid significant and unreasonable loss of drinking water to domestic well users, especially given the absence of a domestic well mitigation plan in the GSP. In addition, the GSP does not sufficiently describe or analyze direct or indirect impacts on DACs or drinking water users when defining undesirable results, nor does it describe how the groundwater level minimum thresholds are consistent with Human Right to Water policy and will avoid significant and unreasonable impacts on these beneficial users.[9]

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[5] Engagement with Tribal Governments Guidance Document. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/Guidance-Doc-for-SGM-Engagement-with-Tribal-Govt_ay_19.pdf

[6] "The description of undesirable results shall include [...] potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results." [23 CCR §354.26(b)(3)]

[7] "The description of minimum thresholds shall include [...] how minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests." [23 CCR §354.28(b)(4)]

[8] "The description of minimum thresholds shall include [...] how state, federal, or local standards relate to the relevant sustainability indicator. If the minimum threshold differs from other regulatory standards, the agency shall explain the nature of and the basis for the difference." [23 CCR §354.28(b)(5)]

[9] California Water Code §106.3. Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=WAT&sectionNum=106.3

For degraded water quality, the GSP only establishes SMC for electric conductivity (EC). The minimum threshold for groundwater quality for the subbasin is set to an EC of 5,000 micromhos/cm, designed to be protective of pistachio crops. However, this value is well above the upper secondary maximum contaminant limit (MCL) for EC of 1,600 micromhos/cm. According to the state's anti-degradation policy,[10] water quality should be protected and is only allowed to worsen to the MCL if a finding is made that it is in the best interest of the people of the State of California. No analysis has been done and no such finding has been made. Furthermore, Section 3.2.5 of the GSP (Groundwater Quality Issues) discusses other constituents of concern (COCs) in the subbasin. Significantly, nitrate is an acute contaminant which, at levels above the maximum contaminant level, can affect public health. This is a particular concern for domestic wells, as nitrate exceedances do not affect the taste or smell of the water. All COCs in the sub basin that may be impacted or exacerbated by groundwater use and/or management should be included in the SMC, in addition to coordinating with water quality regulatory programs.

The GSP does not mention or discuss direct and indirect impacts on DACs or drinking water users when defining undesirable results for degraded water quality, nor does it evaluate the cumulative or indirect impacts of proposed minimum thresholds on DACs or drinking water users.

RECOMMENDATIONS

Chronic Lowering of Groundwater Levels

- Describe direct and indirect impacts on drinking water users and DACs when describing undesirable results and defining minimum thresholds for chronic lowering of groundwater levels. Include information on the impacts during prolonged periods of below average water years.

- Consider and evaluate the impacts of selected minimum thresholds and measurable objectives on drinking water users and DACs within the subbasin. Further describe the impact of passing the minimum threshold for these users. For example, provide the number of domestic wells that would be fully or partially de-watered at the minimum threshold.

Degraded Water Quality

- Describe direct and indirect impacts on drinking water users and DACs when defining undesirable results for degraded water quality.[11] For specific guidance on how to consider these users, refer to "Guide to Protecting Water Quality Under the Sustainable Groundwater Management Act."[12]

- Evaluate the cumulative or indirect impacts of proposed minimum thresholds for degraded water quality on drinking water users and DACs.

[10] Anti-degradation Policy
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

[11] "Degraded Water Quality [...] collect sufficient spatial and temporal data from each applicable principal aquifer to determine groundwater quality trends for water quality indicators, as determined by the Agency, to address known water quality issues." [23 CCR §354.34(c)(4)]

[12] Guide to Protecting Water Quality under the Sustainable Groundwater Management Act
https://d3n8a8pro7vhmx.cloudfront.net/communitywatercenter/pages/293/attachments/original/1559328858/Guide_to_Protecting_Drinking_Water_Quality_Under_the_Sustainable_Groundwater_Management_Act.pdf?1559328858.

- Set minimum thresholds and measurable objectives for all water quality constituents within the subbasin that can be impacted and/or exacerbated as a result of groundwater use or groundwater management.

- Set minimum thresholds that do not allow water quality to degrade to levels at or above the MCL trigger level.

Groundwater Dependent Ecosystems and Interconnected Surface Waters

Sustainable management criteria for chronic lowering of groundwater levels provided in the GSP do not consider potential impacts to environmental beneficial users. The GSP neither describes nor analyzes direct or indirect impacts on environmental users of groundwater when defining undesirable results. This is problematic because without identifying potential impacts on GDEs, minimum thresholds may compromise, or even destroy, these environmental beneficial users. Since GDEs are present in the subbasin, they must be considered when developing SMC.

The GSP does not establish SMC for depletion of interconnected surface water. The GSP states (p. 4-42): *"As described in Chapter 3, groundwater levels are very deep compared to surface features. There are only small areas of land where groundwater levels may be in close proximity to the surface water feature. These may occur where the creek systems exit the more mountainous terrain in the western portion of the Subbasin. In general, these areas are not developed, are still within the canyon before opening into the Subbasin, have shallow alluvium, have steep slopes, are in areas where the land activity is devoted to cattle grazing, and are more than two miles from active wells used for agricultural production. It is for these reasons that this sustainability indicator is considered not likely to occur and sustainable management criteria are not established."* The GSP should further discuss data gaps for GDEs and ISWs, and provide specific plans to fill these data gaps in the monitoring network and projects and management actions sections of the GSP. While these data gaps are being filled, the GSP could be improved by including further discussion of significant and unreasonable effects for GDEs and ISWs in the subbasin, including surface water beneficial users (see Attachment C for a list of environmental users in the subbasin), such as increased mortality and inability to perform key life processes (e.g., reproduction, migration). As SMC that consider GDEs and ISWs are established in the future, note our further recommendations below.

RECOMMENDATIONS

- When establishing SMC for the subbasin, consider that the SGMA statute [Water Code §10727.4(l)] specifically calls out that GSPs shall include "impacts on groundwater dependent ecosystems."

- When defining undesirable results for chronic lowering of groundwater levels, provide specifics on what biological responses (e.g., extent of habitat, growth, recruitment rates) would best characterize a significant and unreasonable impact to GDEs. Undesirable results to environmental users occur when 'significant and unreasonable' effects on beneficial users are caused by one of the sustainability indicators (i.e., chronic lowering of groundwater levels, degraded water quality, or depletion of interconnected surface water). Thus, potential impacts on environmental beneficial uses and users need to be considered when defining undesirable results in the

subbasin.[13] Defining undesirable results is the crucial first step before the minimum thresholds can be determined.[14]

- When defining undesirable results for depletion of interconnected surface water, include a description of potential impacts on instream habitats within ISWs when minimum thresholds in the subbasin are reached.[15] The GSP should confirm that minimum thresholds for ISWs avoid adverse impacts on environmental beneficial users of interconnected surface waters as these environmental users could be left unprotected by the GSP. These recommendations apply especially to environmental beneficial users that are already protected under pre-existing state or federal law.[8,16]

2. Climate Change

The SGMA statute identifies climate change as a significant threat to groundwater resources and one that must be examined and incorporated in the GSPs. The GSP Regulations require integration of climate change into the projected water budget to ensure that projects and management actions sufficiently account for the range of potential climate futures.[17] The effects of climate change will intensify the impacts of water stress on GDEs, making available shallow groundwater resources especially critical to their survival. Condon *et al.* (2020) shows that GDEs are more likely to succumb to water stress and rely more on groundwater during times of drought.[18] When shallow groundwater is unavailable, riparian forests can die off and key life processes (e.g., migration and spawning) for aquatic organisms, such as steelhead, can be impeded.

The integration of climate change into the projected water budget is **insufficient**. The GSP incorporates climate change into the projected water budget using DWR change factors for both 2030 and 2070. However, the plan does not consider multiple climate scenarios (e.g., the 2070 extremely wet and extremely dry climate scenarios) in the projected water budget. The GSP would benefit from clearly and transparently incorporating the extremely wet and dry scenarios provided by DWR into projected water budgets or select more appropriate extreme scenarios for the subbasin. While these extreme scenarios may have a lower likelihood of occurring and their consideration is not required (only suggested) by DWR, their consequences could be significant and their inclusion can help identify important vulnerabilities in the subbasin's approach to groundwater management.

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[13] "The description of undesirable results shall include [...] potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results". [23 CCR §354.26(b)(3)]

[14] The description of minimum thresholds shall include [...] how minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests." [23 CCR §354.28(b)(4)]

[15] "The minimum threshold for depletions of interconnected surface water shall be the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results." [23 CCR §354.28(c)(6)]

[16] Rohde MM, Seapy B, Rogers R, Castañeda X, editors. 2019. Critical Species LookBook: A compendium of California's threatened and endangered species for sustainable groundwater management. The Nature Conservancy, San Francisco, California. Available at: https://groundwaterresourcehub.org/public/uploads/pdfs/Critical_Species_LookBook_91819.pdf

[17] "Each Plan shall rely on the best available information and best available science to quantify the water budget for the basin in order to provide an understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater and surface water interaction, and subsurface groundwater flow." [23 CCR §354.18(e)]

[18] Condon et al. 2020. Evapotranspiration depletes groundwater under warming over the contiguous United States. Nature Communications. Available at: https://www.nature.com/articles/s41467-020-14688-0

The GSP integrates climate change into key inputs (e.g., changes in precipitation and evapotranspiration) of the projected water budget. However, the plan fails to include surface water flow inputs (inclusive of imported water to the City of Coalinga) for the projected water budget and incorporate the effects of climate change on these flows. Additionally, the two sustainable yield estimates provided in the GSP are not calculated based on the projected water budget with climate change incorporated. If the water budgets are incomplete, including the omission of extremely wet and dry scenarios, omission of projected climate change effects on imported water inputs, and omission of climate change projections in the sustainable yield calculations, then there is increased uncertainty in virtually every subsequent calculation used to plan for projects, derive measurable objectives, and set minimum thresholds. Plans that do not adequately include climate change projections may underestimate future impacts on vulnerable beneficial users of groundwater such as ecosystems, DACs, and domestic well owners.

RECOMMENDATIONS

- Integrate climate change, including extreme climate scenarios, into all elements of the projected water budget to form the basis for development of sustainable management criteria and projects and management actions.
- Include surface water flow inputs, inclusive of imported water, in the projected water budget and incorporate climate change effects on these flows.
- Calculate sustainable yield based on the projected water budget with climate change incorporated.
- Incorporate climate change scenarios into projects and management actions.

3. Data Gaps

The consideration of beneficial users when establishing monitoring networks is **insufficient**, due to lack of adequate plans to increase the Representative Monitoring Sites (RMSs) in the monitoring network that represent water quality conditions and shallow groundwater elevations around DACs, domestic wells, and GDEs in the subbasin. These beneficial users may remain unprotected by the GSP without adequate monitoring and identification of data gaps in the shallow aquifer. The Plan therefore fails to meet SGMA's requirements for the monitoring network.[19]

Figure 5-2 (Groundwater Level Representative Network) and Figure 5-3 (Water Quality Network) show insufficient representation of DACs and drinking water users for groundwater elevation and water quality monitoring. Furthermore, the GSP fails to provide discussion of data gaps for GDEs and ISWs. The GSP states in Section 5.10.6.2 (Identification of Interconnected Surface Water Data Gaps): *"The Subbasin does not recognize any data gaps at this time."* However, the GSP appears to acknowledge these data gaps with the following statement (p. 5-20): *"There are no known interconnected surface water systems within the Subbasin, although there are areas where they may exist on the western border. No information is available to assess potential surface water-groundwater interconnection in these areas since there are no wells, and hence no groundwater pumping."* We recommend that the GSP further discuss these data gaps and provide specific plans, such as locations and a timeline, to fill them.

[19] "The monitoring network objectives shall be implemented to accomplish the following: [...] (2) Monitor impacts to the beneficial uses or users of groundwater." [23 CCR §354.34(b)(2)]

RECOMMENDATIONS

- Provide maps that overlay current and proposed monitoring well locations with the locations of DACs, domestic wells, and GDEs to clearly identify monitored areas.
- Increase the number of RMSs in the shallow aquifer across the subbasin as needed to map ISWs and adequately monitor all groundwater condition indicators across the subbasin and at appropriate depths for *all* beneficial users. Prioritize proximity to DACs, domestic wells, GDEs, and ISWs when identifying new RMSs.
- Ensure groundwater elevation and water quality RMSs are monitoring groundwater conditions spatially and at the correct depth for *all* beneficial users - especially DACs, domestic wells, and GDEs.
- Describe biological monitoring that can be used to assess the potential for significant and unreasonable impacts to GDEs or ISWs due to groundwater conditions in the subbasin.

4. Addressing Beneficial Users in Projects and Management Actions

The consideration of beneficial users when developing projects and management actions is **insufficient**, due to the failure to completely identify benefits or impacts of identified projects and management actions, including water quality impacts, to key beneficial users of groundwater such as GDEs, aquatic habitats, surface water users, DACs, and drinking water users. Therefore, potential project and management actions may not protect these beneficial users. Groundwater sustainability under SGMA is defined not just by sustainable yield, but by the avoidance of undesirable results for *all* beneficial users.

The GSP includes recharge and habitat restoration projects with explicit benefits to the environment, such as the North Pipeline Project and Los Gatos Creek Gravel Pits Recharge Project. However, the GSP fails to describe this or other projects' explicit benefits or impacts to other beneficial users such as DACs or drinking water users.

We note that the plan does not include a domestic well mitigation program to avoid significant and unreasonable loss of drinking water. We recommend inclusion of a drinking water well impact mitigation program to proactively monitor and protect drinking water wells for DACs and domestic users through GSP implementation.

RECOMMENDATIONS

- For DACs and domestic well owners, include a drinking water well impact mitigation program to proactively monitor and protect drinking water wells through GSP implementation. Refer to Attachment B for specific recommendations on how to implement a drinking water well mitigation program.

- For DACs and domestic well owners, include a discussion of whether potential impacts to water quality from projects and management actions could occur and how the GSAs plan to mitigate such impacts.

- Recharge ponds, reservoirs, and facilities for managed aquifer recharge can be designed as multiple-benefit projects to include elements that act functionally as wetlands and provide a benefit for wildlife and aquatic species. For guidance on how to integrate multi-benefit recharge projects into your GSP, refer to the "Multi-Benefit Recharge Project Methodology Guidance Document."[20]

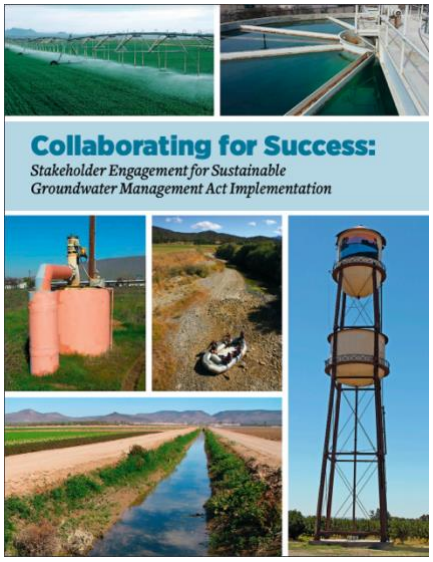
- Develop management actions that incorporate climate and water delivery uncertainties to address future water demand and prevent future undesirable results.

[20] The Nature Conservancy. 2021. Multi-Benefit Recharge Project Methodology for Inclusion in Groundwater Sustainability Plans. Sacramento. Available at: https://groundwaterresourcehub.org/sgma-tools/multi-benefit-recharge-project-methodology-guidance/

Attachment B

SGMA Tools to address DAC, drinking water, and environmental beneficial uses and users

Stakeholder Engagement and Outreach



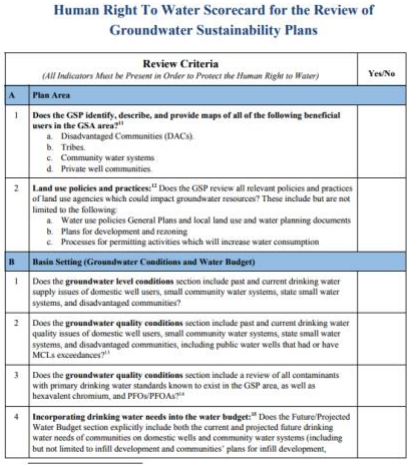
Clean Water Action, Community Water Center and Union of Concerned Scientists developed a guidance document called Collaborating for success: Stakeholder engagement for Sustainable Groundwater Management Act Implementation. It provides details on how to conduct targeted and broad outreach and engagement during Groundwater Sustainability Plan (GSP) development and implementation. Conducting a targeted outreach involves:

- Developing a robust Stakeholder Communication and Engagement plan that includes outreach at frequented locations (schools, farmers markets, religious settings, events) across the plan area to increase the involvement and participation of disadvantaged communities, drinking water users and the environmental stakeholders.

- Providing translation services during meetings and technical assistance to enable easy participation for non-English speaking stakeholders.

- GSP should adequately describe the process for requesting input from beneficial users and provide details on how input is incorporated into the GSP.

The Human Right to Water

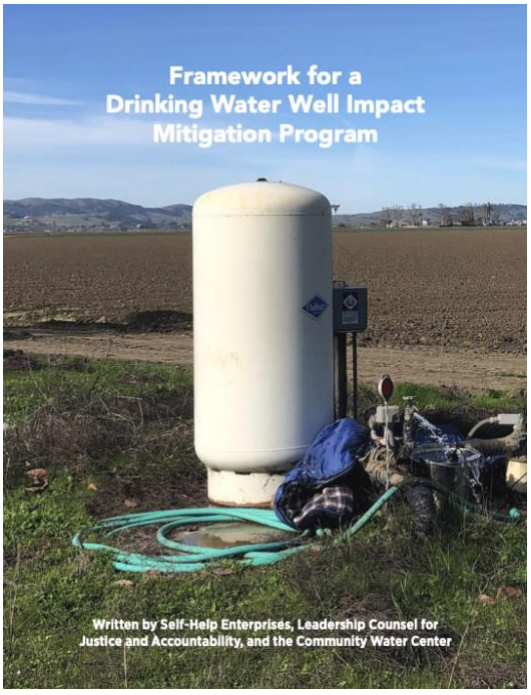


Human Right To Water Scorecard for the Review of Groundwater Sustainability Plans

	Review Criteria *(All Indicators Must be Present in Order to Protect the Human Right to Water)*	Yes/No
A	**Plan Area**	
1	**Does the GSP identify, describe, and provide maps of all of the following beneficial users in the GSA area?**[43] a. Disadvantaged Communities (DACs). b. Tribes. c. Community water systems. d. Private well communities.	
2	**Land use policies and practices:**[44] Does the GSP review all relevant policies and practices of land use agencies which could impact groundwater resources? These include but are not limited to the following: a. Water use policies General Plans and local land use and water planning documents b. Plans for development and rezoning c. Processes for permitting activities which will increase water consumption	
B	**Basin Setting (Groundwater Conditions and Water Budget)**	
1	Does the **groundwater level conditions** section include past and current drinking water supply issues of domestic well users, small community water systems, state small water systems, and disadvantaged communities?	
2	Does the **groundwater quality conditions** section include past and current drinking water quality issues of domestic well users, small community water systems, state small water systems, and disadvantaged communities, including public water wells that had or have MCLs exceedances?[45]	
3	Does the **groundwater quality conditions** section include a review of all contaminants with primary drinking water standards known to exist in the GSP area, as well as hexavalent chromium, and PFOs/PFOAs?[46]	
4	**Incorporating drinking water needs into the water budget:**[47] Does the Future/Projected Water Budget section explicitly include both the current and projected future drinking water needs of communities on domestic wells and community water systems (including but not limited to infill development and communities' plans for infill development,	

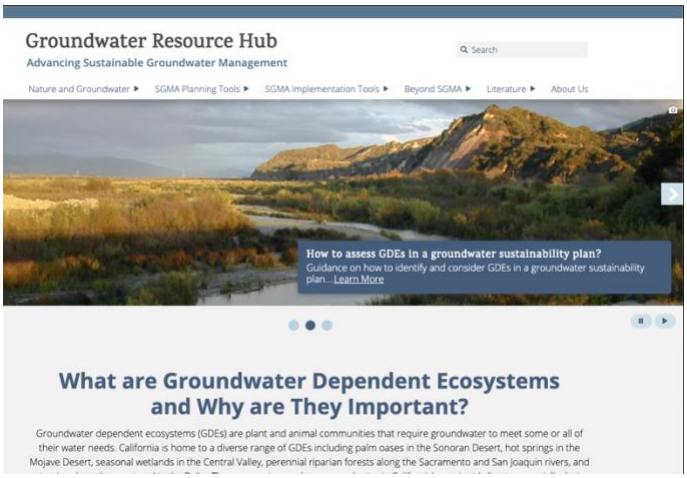
The Human Right to Water Scorecard was developed by Community Water Center, Leadership Counsel for Justice and Accountability and Self Help Enterprises to aid Groundwater Sustainability Agencies (GSAs) in prioritizing drinking water needs in SGMA. The scorecard identifies elements that must exist in GSPs to adequately protect the Human Right to Drinking water.

Drinking Water Well Impact Mitigation Framework



The Drinking Water Well Impact Mitigation Framework was developed by Community Water Center, Leadership Counsel for Justice and Accountability and Self Help Enterprises to aid GSAs in the development and implementation of their GSPs. The framework provides a clear roadmap for how a GSA can best structure its data gathering, monitoring network and management actions to proactively monitor and protect drinking water wells and mitigate impacts should they occur.

Groundwater Resource Hub



The Nature Conservancy has developed a suite of tools based on best available science to help GSAs, consultants, and stakeholders efficiently incorporate nature into GSPs. These tools and resources are available online at GroundwaterResourceHub.org. The Nature Conservancy's tools and resources are intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

Rooting Depth Database



The Plant Rooting Depth Database provides information that can help assess whether groundwater-dependent vegetation are accessing groundwater. Actual rooting depths will depend on the plant species and site-specific conditions, such as soil type and

availability of other water sources. Site-specific knowledge of depth to groundwater combined with rooting depths will help provide an understanding of the potential groundwater levels are needed to sustain GDEs.

How to use the database

The maximum rooting depth information in the Plant Rooting Depth Database is useful when verifying whether vegetation in the Natural Communities Commonly Associated with Groundwater (NC Dataset) are connected to groundwater. A 30 ft depth-to-groundwater threshold, which is based on averaged global rooting depth data for phreatophytes[1], is relevant for most plants identified in the NC Dataset since most plants have a max rooting depth of less than 30 feet. However, it is important to note that deeper thresholds are necessary for other plants that have reported maximum root depths that exceed the averaged 30 feet threshold, such as valley oak (*Quercus lobata*), Euphrates poplar (*Populus euphratica*), salt cedar (*Tamarix spp.*), and shadescale (*Atriplex confertifolia*). The Nature Conservancy advises that the reported max rooting depth for these deeper-rooted plants be used. For example, a depth-to groundwater threshold of 80 feet should be used instead of the 30 ft threshold, when verifying whether valley oak polygons from the NC Dataset are connected to groundwater. It is important to re-emphasize that actual rooting depth data are limited and will depend on the plant species and site-specific conditions such as soil and aquifer types, and availability to other water sources.

The Plant Rooting Depth Database is an Excel workbook composed of four worksheets:

1. California phreatophyte rooting depth data (included in the NC Dataset)
2. Global phreatophyte rooting depth data
3. Metadata
4. References

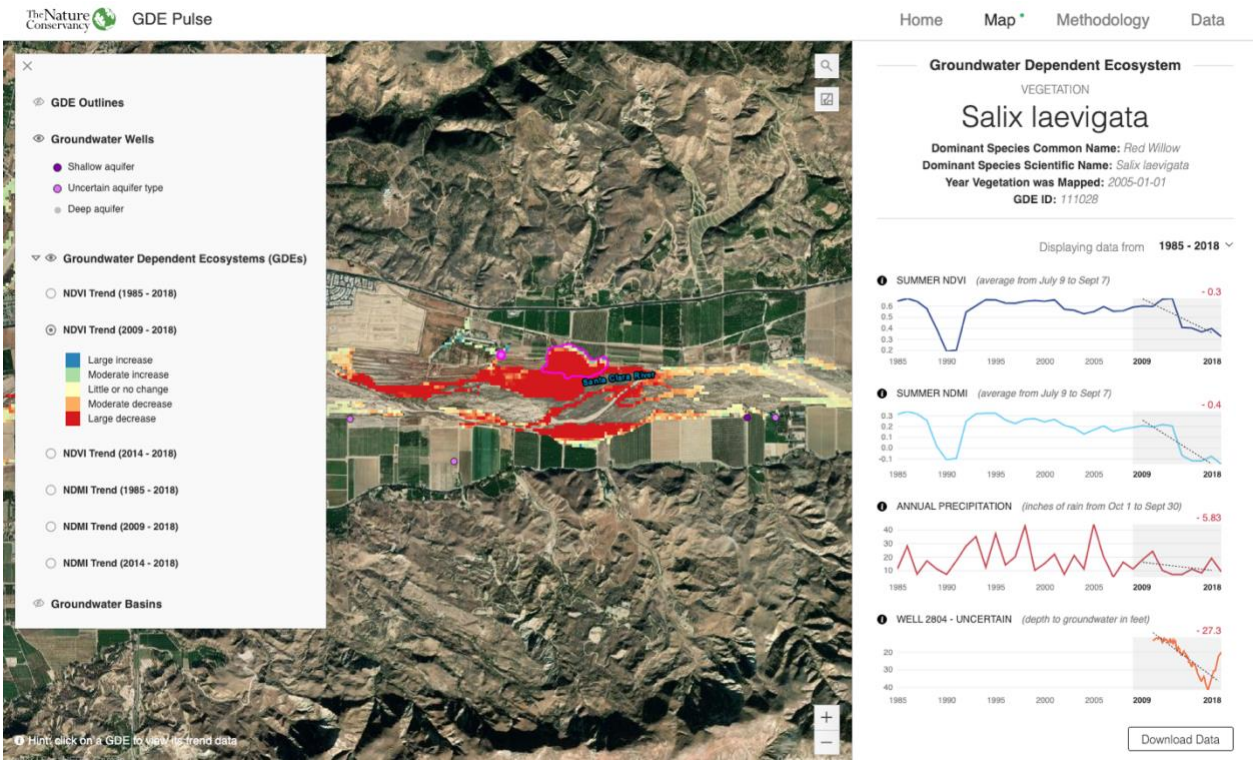
How the database was compiled

The Plant Rooting Depth Database is a compilation of rooting depth information for the groundwater-dependent plant species identified in the NC Dataset. Rooting depth data were compiled from published scientific literature and expert opinion through a crowdsourcing campaign. As more information becomes available, the database of rooting depths will be updated. Please Contact Us if you have additional rooting depth data for California phreatophytes.

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[1] Canadell, J., Jackson, R.B., Ehleringer, J.B. et al. 1996. Maximum rooting depth of vegetation types at the global scale. Oecologia 108, 583–595. https://doi.org/10.1007/BF00329030

GDE Pulse



GDE Pulse is a free online tool that allows Groundwater Sustainability Agencies to assess changes in groundwater dependent ecosystem (GDE) health using satellite, rainfall, and groundwater data. Remote sensing data from satellites has been used to monitor the health of vegetation all over the planet. GDE pulse has compiled 35 years of satellite imagery from NASA's Landsat mission for every polygon in the Natural Communities Commonly Associated with Groundwater Dataset. The following datasets are available for downloading:

Normalized Difference Vegetation Index (NDVI) is a satellite-derived index that represents the greenness of vegetation. Healthy green vegetation tends to have a higher NDVI, while dead leaves have a lower NDVI. We calculated the average NDVI during the driest part of the year (July - Sept) to estimate vegetation health when the plants are most likely dependent on groundwater.

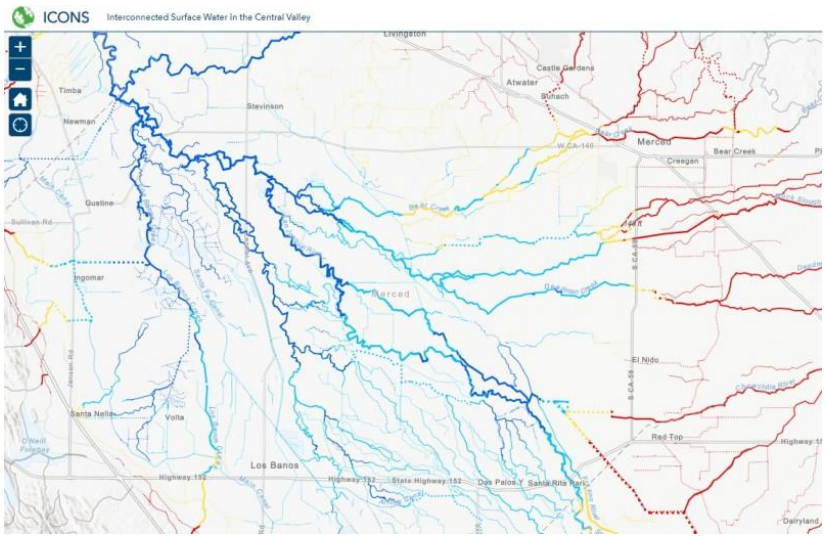
Normalized Difference Moisture Index (NDMI) is a satellite-derived index that represents water content in vegetation. NDMI is derived from the Near-Infrared (NIR) and Short-Wave Infrared (SWIR) channels. Vegetation with adequate access to water tends to have higher NDMI, while vegetation that is water stressed tends to have lower NDMI. We calculated the average NDVI during the driest part of the year (July–September) to estimate vegetation health when the plants are most likely dependent on groundwater.

Annual Precipitation is the total precipitation for the water year (October 1st – September 30th) from the PRISM dataset. The amount of local precipitation can affect vegetation with more precipitation generally leading to higher NDVI and NDMI.

Depth to Groundwater measurements provide an indication of the groundwater levels and changes over time for the surrounding area. We used groundwater well measurements from nearby (<1km) wells to estimate the depth to groundwater below the GDE based on the average elevation of the GDE (using a digital elevation model) minus the measured groundwater surface elevation.

ICONOS Mapper

Interconnected Surface Water in the Central Valley



ICONS maps the likely presence of interconnected surface water (ISW) in the Central Valley using depth to groundwater data. Using data from 2011-2018, the ISW dataset represents the likely connection between surface water and groundwater for rivers and streams in California's Central Valley. It includes information on the mean, maximum, and minimum depth to groundwater for each stream segment over the years with available data, as well as the likely presence of ISW based on the minimum depth to groundwater. The Nature Conservancy developed this database, with guidance and input from expert academics, consultants, and state agencies.

We developed this dataset using groundwater elevation data available online from the California Department of Water Resources (DWR). DWR only provides this data for the Central Valley. For GSAs outside of the valley, who have groundwater well measurements, we recommend following our methods to determine likely ISW in your region. The Nature Conservancy's ISW dataset should be used as a first step in reviewing ISW and should be supplemented with local or more recent groundwater depth data.

Attachment C

Freshwater Species Located in the Pleasant Valley Basin

To assist in identifying the beneficial users of surface water necessary to assess the undesirable result "depletion of interconnected surface waters", Attachment C provides a list of freshwater species located in the Pleasant Valley Basin. To produce the freshwater species list, we used ArcGIS to select features within the California Freshwater Species Database version 2.0.9 within the basin boundary. This database contains information on ~4,000 vertebrates, macroinvertebrates and vascular plants that depend on fresh water for at least one stage of their life cycle. The methods used to compile the California Freshwater Species Database can be found in Howard et al. 2015[1]. The spatial database contains locality observations and/or distribution information from ~400 data sources. The database is housed in the California Department of Fish and Wildlife's BIOS[2] as well as on The Nature Conservancy's science website[3].

Scientific Name	Common Name	Legal Protected Status		
		Federal	State	Other
BIRDS				
Agelaius tricolor	Tricolored Blackbird	Bird of Conservation Concern	Special Concern	BSSC - First priority
HERPS				
Actinemys marmorata marmorata	Western Pond Turtle		Special Concern	ARSSC
Ambystoma californiense californiense	California Tiger Salamander	Threatened	Threatened	ARSSC
Anaxyrus boreas boreas	Boreal Toad			
Rana boylii	Foothill Yellow-legged Frog	Under Review in the Candidate or Petition Process	Special Concern	ARSSC
Rana draytonii	California Red-legged Frog	Threatened	Special Concern	ARSSC
Spea hammondii	Western Spadefoot	Under Review in the Candidate or Petition Process	Special Concern	ARSSC
Thamnophis hammondii hammondii	Two-striped Gartersnake		Special Concern	ARSSC
Thamnophis sirtalis sirtalis	Common Gartersnake			

[1] Howard, J.K. et al. 2015. Patterns of Freshwater Species Richness, Endemism, and Vulnerability in California. PLoSONE, 11(7). Available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0130710

[2] California Department of Fish and Wildlife BIOS: https://www.wildlife.ca.gov/data/BIOS

[3] Science for Conservation: https://www.scienceforconservation.org/products/california-freshwater-species-database

Pseudacris regilla	Northern Pacific Chorus Frog			
PLANTS				
Baccharis salicina				Not on any status lists
Euthamia occidentalis	Western Fragrant Goldenrod			
Myosurus minimus	NA			

Attachment D

The Nature Conservancy

July 2019



IDENTIFYING GDEs UNDER SGMA

Best Practices for using the NC Dataset

The Sustainable Groundwater Management Act (SGMA) requires that groundwater dependent ecosystems (GDEs) be identified in Groundwater Sustainability Plans (GSPs). As a starting point, the Department of Water Resources (DWR) is providing the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) online[1] to help Groundwater Sustainability Agencies (GSAs), consultants, and stakeholders identify GDEs within individual groundwater basins. To apply information from the NC Dataset to local areas, GSAs should combine it with the best available science on local hydrology, geology, and groundwater levels to verify whether polygons in the NC dataset are likely supported by groundwater in an aquifer (Figure 1)[2]. This document highlights six best practices for using local groundwater data to confirm whether mapped features in the NC dataset are supported by groundwater.

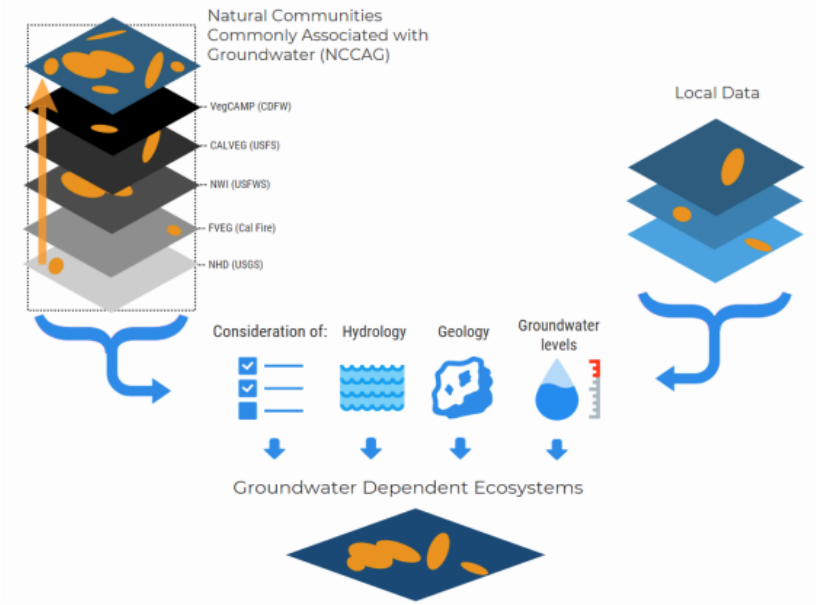


Figure 1. Considerations for GDE identification.
Source: DWR[2]

[1] NC Dataset Online Viewer: https://gis.water.ca.gov/app/NCDatasetViewer/
[2] California Department of Water Resources (DWR). 2018. Summary of the "Natural Communities Commonly Associated with Groundwater" Dataset and Online Web Viewer. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/Natural-Communities-Dataset-Summary-Document.pdf

The NC Dataset identifies vegetation and wetland features that are good indicators of a GDE. The dataset is comprised of 48 publicly available state and federal datasets that map vegetation, wetlands, springs, and seeps commonly associated with groundwater in California[3]. It was developed through a collaboration between DWR, the Department of Fish and Wildlife, and The Nature Conservancy (TNC). TNC has also provided detailed guidance on identifying GDEs from the NC dataset[4] on the Groundwater Resource Hub[5], a website dedicated to GDEs.

BEST PRACTICE #1. Establishing a Connection to Groundwater

Groundwater basins can be comprised of one continuous aquifer (Figure 2a) or multiple aquifers stacked on top of each other (Figure 2b). In unconfined aquifers (Figure 2a), using the depth-to-groundwater and the rooting depth of the vegetation is a reasonable method to infer groundwater dependence for GDEs. If groundwater is well below the rooting (and capillary) zone of the plants and any wetland features, the ecosystem is considered disconnected and groundwater management is not likely to affect the ecosystem (Figure 2d). However, it is important to consider local conditions (e.g., soil type, groundwater flow gradients, and aquifer parameters) and to review groundwater depth data from multiple seasons and water year types (wet and dry) because intermittent periods of high groundwater levels can replenish perched clay lenses that serve as the water source for GDEs (Figure 2c). Maintaining these natural groundwater fluctuations are important to sustaining GDE health.

Basins with a stacked series of aquifers (Figure 2b) may have varying levels of pumping across aquifers in the basin, depending on the production capacity or water quality associated with each aquifer. If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, such as perched aquifers, that support springs, surface water, domestic wells, and GDEs (Figure 2). This is because vertical groundwater gradients across aquifers may result in pumping from deeper aquifers to cause adverse impacts onto beneficial users reliant on shallow aquifers or interconnected surface water. The goal of SGMA is to sustainably manage groundwater resources for current and future social, economic, and environmental benefits. While groundwater pumping may not be currently occurring in a shallower aquifer, use of this water may become more appealing and economically viable in future years as pumping restrictions are placed on the deeper production aquifers in the basin to meet the sustainable yield and criteria. Thus, identifying GDEs in the basin should done irrespective to the amount of current pumping occurring in a particular aquifer, so that future impacts on GDEs due to new production can be avoided. A good rule of thumb to follow is: *if groundwater can be pumped from a well - it's an aquifer*.

[3] For more details on the mapping methods, refer to: Klausmeyer, K., J. Howard, T. Keeler-Wolf, K. Davis-Fadtke, R. Hull, A. Lyons. 2018. Mapping Indicators of Groundwater Dependent Ecosystems in California: Methods Report. San Francisco, California. Available at: https://groundwaterresourcehub.org/public/uploads/pdfs/iGDE_data_paper_20180423.pdf
[4] "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans" is available at: https://groundwaterresourcehub.org/gde-tools/gsp-guidance-document/
[5] The Groundwater Resource Hub: www.GroundwaterResourceHub.org

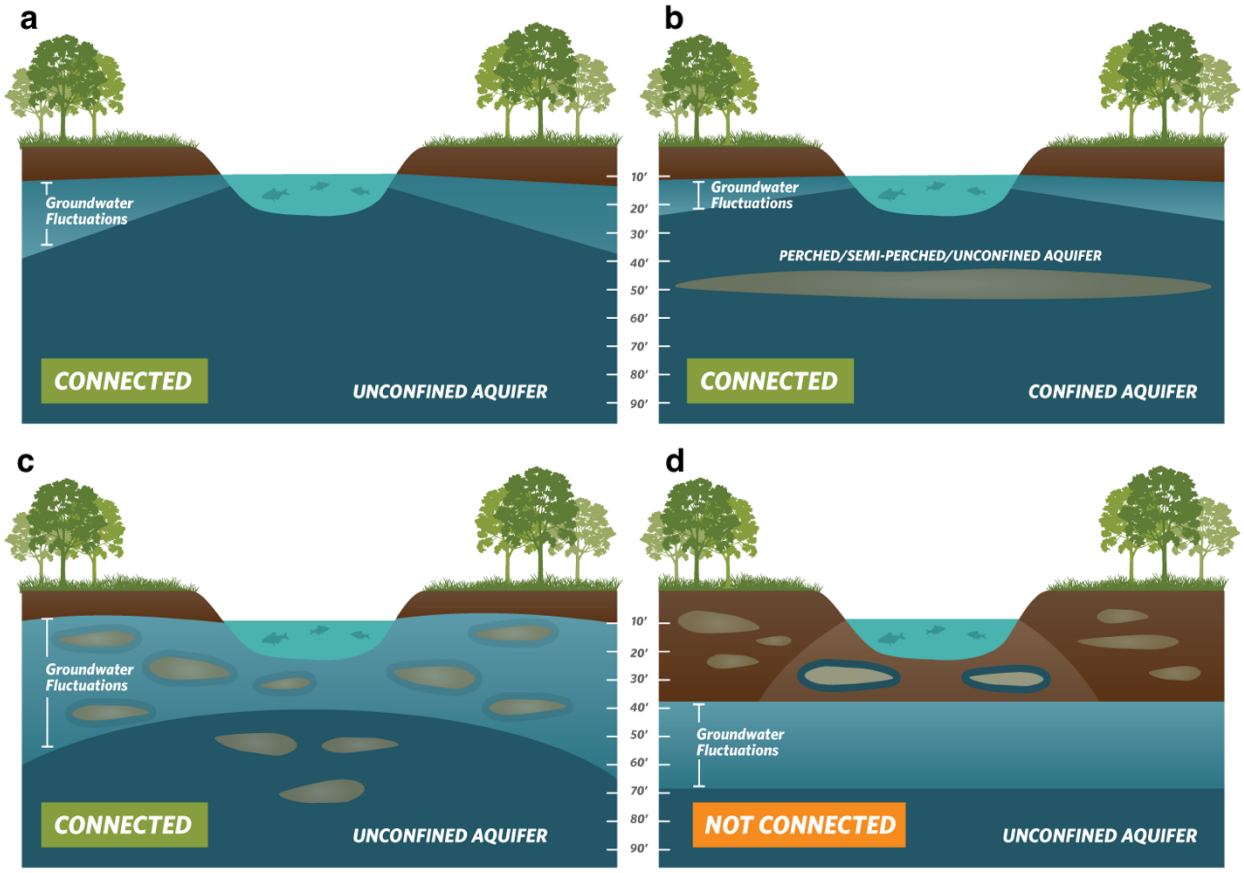


Figure 2. Confirming whether an ecosystem is connected to groundwater. Top: (a) Under the ecosystem is an unconfined aquifer with depth-to-groundwater fluctuating seasonally and interannually within 30 feet from land surface. **(b)** Depth-to-groundwater in the shallow aquifer is connected to overlying ecosystem. Pumping predominately occurs in the confined aquifer, but pumping is possible in the shallow aquifer. **Bottom: (c)** Depth-to-groundwater fluctuations are seasonally and interannually large, however, clay layers in the near surface prolong the ecosystem's connection to groundwater. **(d)** Groundwater is disconnected from surface water, and any water in the vadose (unsaturated) zone is due to direct recharge from precipitation and indirect recharge under the surface water feature. These areas are not connected to groundwater and typically support species that do not require access to groundwater to survive.

BEST PRACTICE #2. Characterize Seasonal and Interannual Groundwater Conditions

SGMA requires GSAs to describe current and historical groundwater conditions when identifying GDEs [23 CCR §354.16(g)]. Relying solely on the SGMA benchmark date (January 1, 2015) or any other single point in time to characterize groundwater conditions (e.g., depth-to-groundwater) is inadequate because managing groundwater conditions with data from one time point fails to capture the seasonal and interannual variability typical of California's climate. DWR's Best Management Practices document on water budgets[6] recommends using 10 years of water supply and water budget information to describe how historical conditions have impacted the operation of the basin within sustainable yield, implying that a baseline[7] could be determined based on data between 2005 and 2015. Using this or a similar time period, depending on data availability, is recommended for determining the depth-to-groundwater.

GDEs depend on groundwater levels being close enough to the land surface to interconnect with surface water systems or plant rooting networks. The most practical approach[8] for a GSA to assess whether polygons in the NC dataset are connected to groundwater is to rely on groundwater elevation data. As detailed in TNC's GDE guidance document[4], one of the key factors to consider when mapping GDEs is to contour depth-to-groundwater in the aquifer that is supporting the ecosystem (see Best Practice #5).

Groundwater levels fluctuate over time and space due to California's Mediterranean climate (dry summers and wet winters), climate change (flood and drought years), and subsurface heterogeneity in the subsurface (Figure 3). Many of California's GDEs have adapted to dealing with intermittent periods of water stress, however if these groundwater conditions are prolonged, adverse impacts to GDEs can result. While depth-to-groundwater levels within 30 feet[4] of the land surface are generally accepted as being a proxy for confirming that polygons in the NC dataset are supported by groundwater, it is highly advised that fluctuations in the groundwater regime be characterized to understand the seasonal and interannual groundwater variability in GDEs. Utilizing groundwater data from one point in time can misrepresent groundwater levels required by GDEs, and inadvertently result in adverse impacts to the GDEs. Time series data on groundwater elevations and depths are available on the SGMA Data Viewer[9]. However, if insufficient data are available to describe groundwater conditions within or near polygons from the NC dataset, include those polygons in the GSP until data gaps are reconciled in the monitoring network (see Best Practice #6).

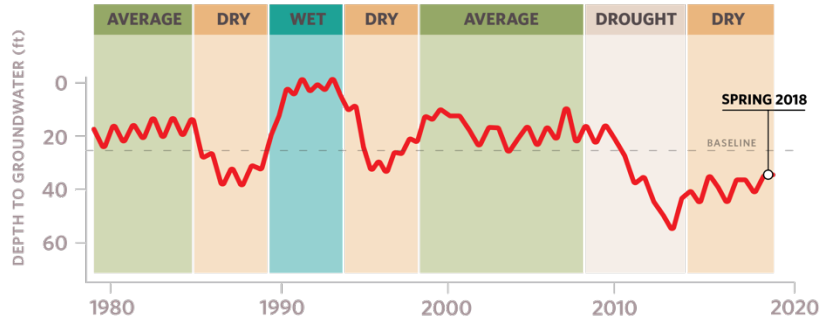


Figure 3. Example seasonality and interannual variability in depth-to-groundwater over time. Selecting one point in time, such as Spring 2018, to characterize groundwater conditions in GDEs fails to capture what groundwater conditions are necessary to maintain the ecosystem status into the future so adverse impacts are avoided.

[6] DWR. 2016. Water Budget Best Management Practice. Available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/BMP_Water_Budget_Final_2016-12-23.pdf

[7] Baseline is defined under the GSP regulations as "historic information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin." [23 CCR §351(e)]

[8] Groundwater reliance can also be confirmed via stable isotope analysis and geophysical surveys. For more information see The GDE Assessment Toolbox (Appendix IV, GDE Guidance Document for GSPs[4]).

[9] SGMA Data Viewer: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer

BEST PRACTICE #3. Ecosystems Often Rely on Both Groundwater and Surface Water

GDEs are plants and animals that rely on groundwater for all or some of its water needs, and thus can be supported by multiple water sources. The presence of non-groundwater sources (e.g., surface water, soil moisture in the vadose zone, applied water, treated wastewater effluent, urban stormwater, irrigated return flow) within and around a GDE does not preclude the possibility that it is supported by groundwater, too. SGMA defines GDEs as "ecological communities and species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface" [23 CCR §351(m)]. Hence, depth-to-groundwater data should be used to identify whether NC polygons are supported by groundwater and should be considered GDEs. In addition, SGMA requires that significant and undesirable adverse impacts to beneficial users of surface water be avoided. Beneficial users of surface water include environmental users such as plants or animals[10], which therefore must be considered when developing minimum thresholds for depletions of interconnected surface water.

GSAs are only responsible for impacts to GDEs resulting from groundwater conditions in the basin, so if adverse impacts to GDEs result from the diversion of applied water, treated wastewater, or irrigation return flow away from the GDE, then those impacts will be evaluated by other permitting requirements (e.g., CEQA) and may not be the responsibility of the GSA. However, if adverse impacts occur to the GDE due to changing groundwater conditions resulting from pumping or groundwater management activities, then the GSA would be responsible (Figure 4).

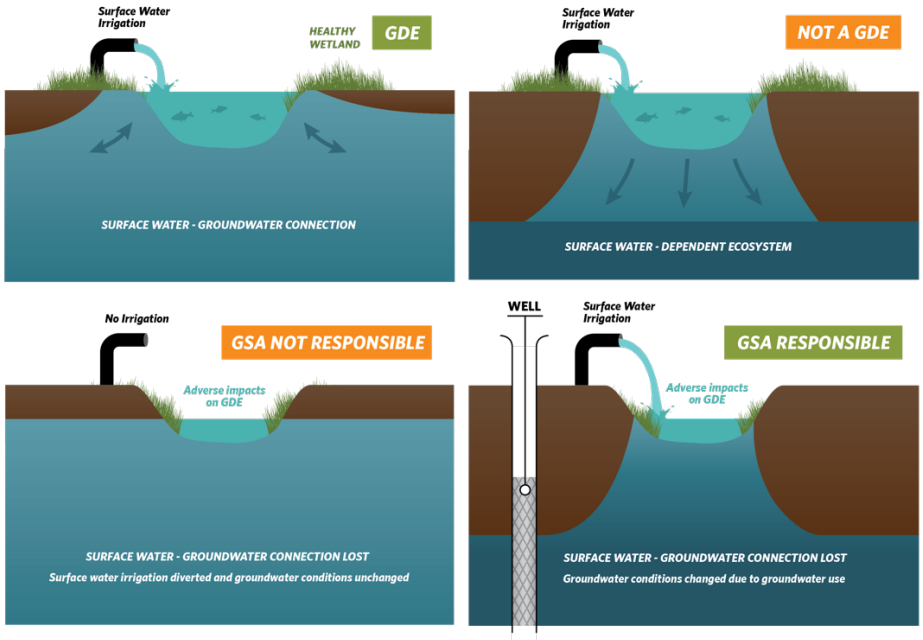


Figure 4. Ecosystems often depend on multiple sources of water. Top: (Left) Surface water and groundwater are interconnected, meaning that the GDE is supported by both groundwater and surface water. **(Right)** Ecosystems that are only reliant on non-groundwater sources are not groundwater-dependent. **Bottom: (Left)** An ecosystem that was once dependent on an interconnected surface water, but loses access to groundwater solely due to surface water diversions may not be the GSA's responsibility. **(Right)** Groundwater dependent ecosystems once dependent on an interconnected surface water system, but loses that access due to groundwater pumping is the GSA's responsibility.

[10] For a list of environmental beneficial users of surface water by basin, visit: https://groundwaterresourcehub.org/gde-tools/environmental-surface-water-beneficiaries/

BEST PRACTICE #4. Select Representative Groundwater Wells

Identifying GDEs in a basin requires that groundwater conditions are characterized to confirm whether polygons in the NC dataset are supported by the underlying aquifer. To do this, proximate groundwater wells should be identified to characterize groundwater conditions (Figure 5). When selecting representative wells, it is particularly important to consider the subsurface heterogeneity around NC polygons, especially near surface water features where groundwater and surface water interactions occur around heterogeneous stratigraphic units or aquitards formed by fluvial deposits. The following selection criteria can help ensure groundwater levels are representative of conditions within the GDE area:

- Choose wells that are within 5 kilometers (3.1 miles) of each NC Dataset polygons because they are more likely to reflect the local conditions relevant to the ecosystem. If there are no wells within 5km of the center of a NC dataset polygon, then there is insufficient information to remove the polygon based on groundwater depth. Instead, it should be retained as a potential GDE until there are sufficient data to determine whether or not the NC Dataset polygon is supported by groundwater.

- Choose wells that are screened within the surficial unconfined aquifer and capable of measuring the true water table.

- Avoid relying on wells that have insufficient information on the screened well depth interval for excluding GDEs because they could be providing data on the wrong aquifer. This type of well data should not be used to remove any NC polygons.

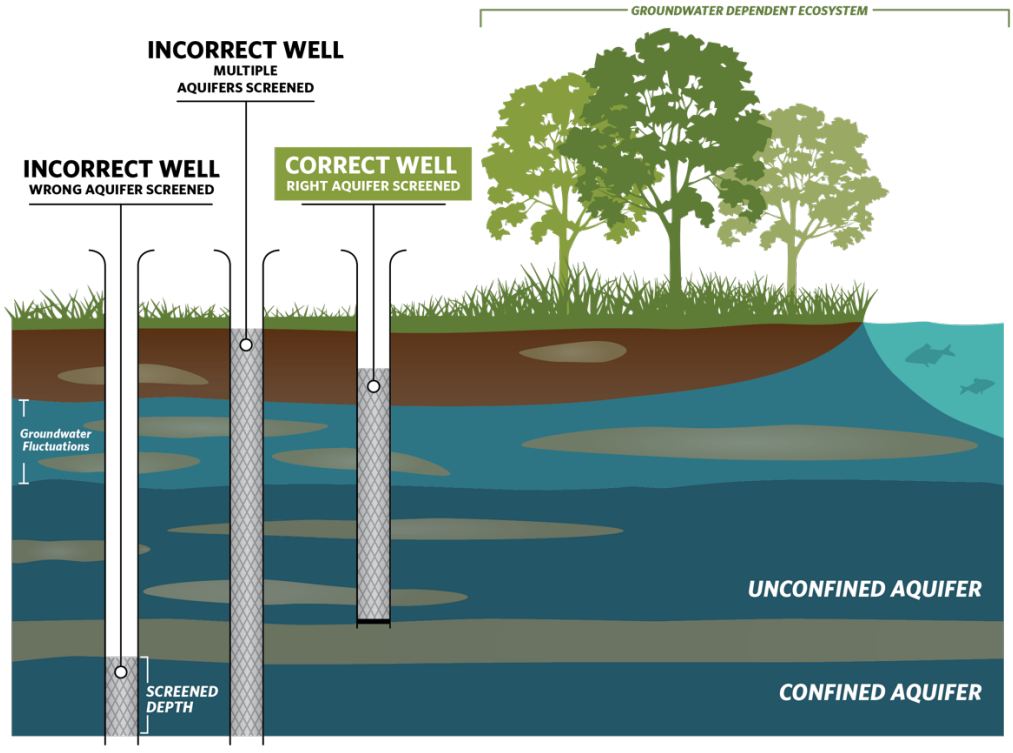


Figure 5. Selecting representative wells to characterize groundwater conditions near GDEs.

BEST PRACTICE #5. Contouring Groundwater Elevations

The common practice to contour depth-to-groundwater over a large area by interpolating measurements at monitoring wells is unsuitable for assessing whether an ecosystem is supported by groundwater. This practice causes errors when the land surface contains features like stream and wetland depressions because it assumes the land surface is constant across the landscape and depth-to-groundwater is constant below these low-lying areas (Figure 6a). A more accurate approach is to interpolate **groundwater elevations** at monitoring wells to get groundwater elevation contours across the landscape. This layer can then be subtracted from land surface elevations from a Digital Elevation Model (DEM)[11] to estimate depth-to-groundwater contours across the landscape (Figure b; Figure 7). This will provide a much more accurate contours of depth-to-groundwater along streams and other land surface depressions where GDEs are commonly found.

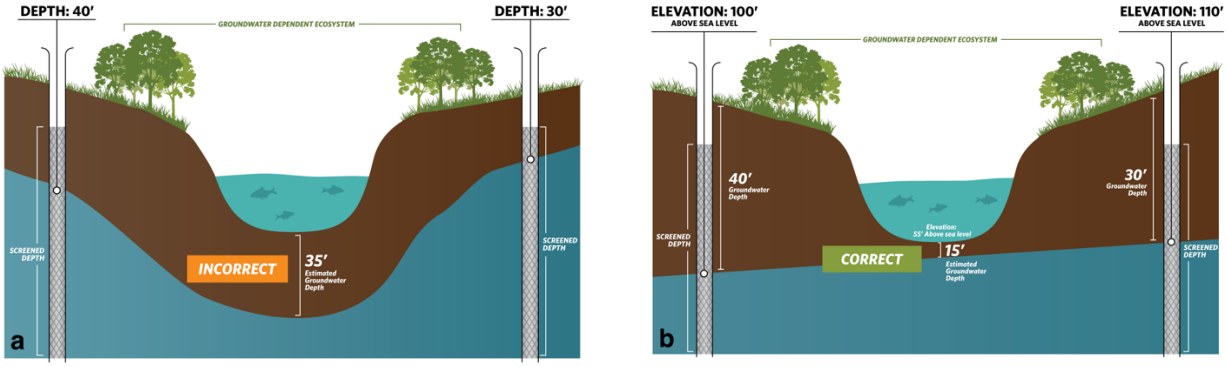


Figure 6. Contouring depth-to-groundwater around surface water features and GDEs. (a) Groundwater level interpolation using depth-to-groundwater data from monitoring wells. **(b)** Groundwater level interpolation using groundwater elevation data from monitoring wells and DEM data.

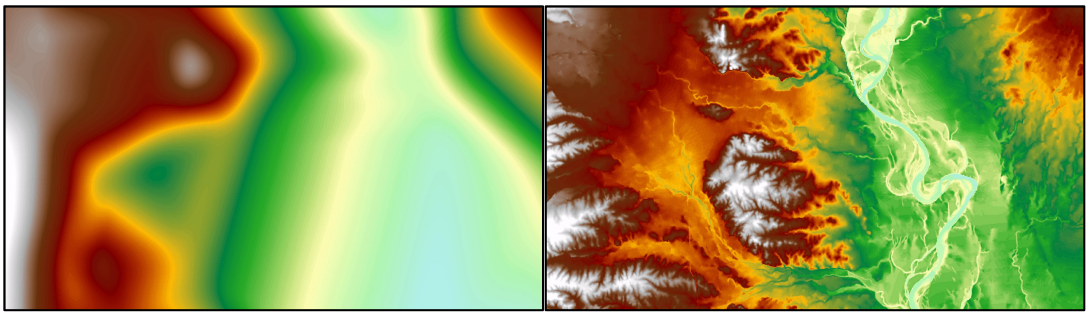


Figure 7. Depth-to-groundwater contours in Northern California. (Left) Contours were interpolated using depth-to-groundwater measurements determined at each well. **(Right)** Contours were determined by interpolating groundwater elevation measurements at each well and superimposing ground surface elevation from DEM spatial data to generate depth-to-groundwater contours. The image on the right shows a more accurate depth-to-groundwater estimate because it takes the local topography and elevation changes into account.

[11] USGS Digital Elevation Model data products are described at: https://www.usgs.gov/core-science-systems/ngp/3dep/about-3dep-products-services and can be downloaded at: https://iewer.nationalmap.gov/basic/

BEST PRACTICE #6. Best Available Science

Adaptive management is embedded within SGMA and provides a process to work toward sustainability over time by beginning with the best available information to make initial decisions, monitoring the results of those decisions, and using the data collected through monitoring programs to revise decisions in the future. In many situations, the hydrologic connection of NC dataset polygons will not initially be clearly understood if site-specific groundwater monitoring data are not available. If sufficient data are not available in time for the 2020/2022 plan, **The Nature Conservancy strongly advises that questionable polygons from the NC dataset be included in the GSP until data gaps are reconciled in the monitoring network.** Erring on the side of caution will help minimize inadvertent impacts to GDEs as a result of groundwater use and management actions during SGMA implementation.

KEY DEFINITIONS

Groundwater basin is an aquifer or stacked series of aquifers with reasonably well-defined boundaries in a lateral direction, based on features that significantly impede groundwater flow, and a definable bottom. *23 CCR §341(g)(1)*

Groundwater dependent ecosystem (GDE) are ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. *23 CCR §351(m)*

Interconnected surface water (ISW) surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted. *23 CCR §351(o)*

Principal aquifers are aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems. *23 CCR §351(aa)*

ABOUT US

The Nature Conservancy is a science-based nonprofit organization whose mission is *to conserve the lands and waters on which all life depends*. To support successful SGMA implementation that meets the future needs of people, the economy, and the environment, TNC has developed tools and resources (www.groundwaterresourcehub.org) intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

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DAVID KAHN
LEGAL COUNSEL

JAMES S. ANDERSON
SECRETARY

February 15, 2022

Nature Conservancy et al.

RE: Public Comment letter to Pleasant Valley Subbasin Draft GSP

Signatories to December 20, 2021 letter:

To all,

Thank you for your letter regarding the draft Groundwater Sustainability Plan (GSP). As you can expect there has been a lot of time dedication and hard work to develop the draft document that is presently out for review. We certainly want to thank you and all those involved in crafting the document and the time and effort gone into the review of the document.

Again, thank you for your comments and the following is offered in response to your comments and specifically a response to your Attachment A specific comments:

In Table 2-5 clearly identify the City of Coalinga as a DAC within the basin
Response: Done

Provide a domestic well density map and include average well depth across the subbasin.
Response: Included as Figure 2-9. Description of domestic wells and locations can be found on page 2-11 and in Table 2-6. Average domestic well depth is approximately 515 feet. Average irrigation well depth is approximately 1,000 feet.

Discuss the screening depth of wells in the subbasin. Ensure that groundwater data used in the ISW analysis represent the upper unconfined aquifer.
Response: The discussion on well depths and screen intervals has been updated on page 3-32. Screened depth for domestic wells with logs are provided in Table 2-6.

In terms of the ISW analysis, water levels used to evaluate this should not be for deep supply wells, perforated opposite large depth intervals. This is because no known water supply wells tap only the shallowest groundwater. Instead, water levels from shallow monitor wells should be used. There are several shallow monitor wells in the subbasin such as near the pilot recharge site along

Zapato Chino Creek. None of these wells indicate groundwater levels shallow enough to be connected to a stream. As part of proposed studies for the GSP, a number of new shallow monitor wells have been proposed to help evaluate irrigation return flow. These wells are planned to be installed in 2022, and water levels for them will provide more indication on the shallowest groundwater in specific areas.

Provide a map of streams in the subbasin. Clearly label reaches as interconnected or disconnected. Consider any segments with data gaps as potential ISWs and clearly mark them as such on maps provided in the GSP.
Response: This map can be found as Figure 5-8 on page 5-12.
There is a gravel extraction project near Los Gatos Creek, west of the Fresno-Coalinga Road. Pits have been dug more than 100 feet deep in this area adjacent to the creek and have not encountered groundwater.

For the other steams (Warthan Creek, Jacalitos Creek and Zapato Chino Creek), there could be interconnection of streamflow and shallow groundwater upslope from the subbasin. There has been a gravel extraction project along Zapato Chino Creek upstream of Highway 33 which in in the subbasin. No groundwater is known to have been encountered in this area. For the areas of potential shallow groundwater, all are located several miles or more from the nearest large capacity water well. As such, the drawdown due to irrigation well pumping would be minimal at these distances. Therefore, there appears to be no potential for groundwater pumping to influence streamflow.

For the depth to groundwater contour maps use the best practices presented in Attachment D.
Response: This methodology has been employed in developing the mapping.

Use depth to groundwater data from multiple seasons and water year types to determine the range of depth to groundwater.
Response: The maps included in the document identify different years that represent different hydrologic year types.

If insufficient data are available to describe groundwater conditions near to the NC data set include those areas as "Potential GDEs".
Response: Figure 3-35 and figure 3-36 have performed this review and Figure 3-36 found on page 3-66 has identified the potential GDEs.

Include an inventory of the fauna and flora present within the subbasin included as Attachment C of this letter.
Response: The San Joaquin Valley Kit Fox has been identified to occur in this area.

Quantify and present all water use sector demands in the historical current and projected water budgets.
Response: There are so many variables that are not measured and difficult to determine. Environmental demands associated with native vegetation were assumed to be met by

precipitation and stream loss and thus the quantities in these categories were reduced to account for the demand from these sources.

State whether or not there are managed wetlands in the subbasin.
Response: No there are not. Included as Figure 3-17 on page 3-29 is a map that identifies potential freshwater ponds from the United States Fish and Wildlife National Wetland inventory. It should be noted that these are irrigation regulating ponds and are kept clean of vegetation so as to not spread weeds and other unwanted growth into the producing agriculture operations.

In the Communication and Engagement Plan, describe active and targeted outreach to engage DACs, drinking water users and environmental stakeholders throughout the GSP development and implementation phases.
Response: The engagement plan has caused significant outreach efforts to a wide variety of potential interests. There have been over 30 meetings and workshops where input has been requested regarding development of the plan. Moreover, the City of Coalinga is engaged in development of the GSP and is adopting the same Plan.

Engage with environmental stakeholders in the subbasin, which could include California Department of Fish and Wildlife and environmental non-profits.
Response: The California Department of Fish and Wildlife (CAL F&W) has been included on the Interested Parties List, which receives notification of all upcoming meetings and workshops, and a representative attended at least one public workshop. Additionally, there have been a number of meetings with Cal F&W regarding the proposed North pipeline project which envisions intentional recharge activities that, among other things, benefit wildlife communities.

Provide documentation on how stakeholder input was incorporated into the GSP development process.
Response: Through meetings, workshops, involvement with board members, the City of Coalinga and the County of Fresno.

Utilize DWR's tribal engagement guidance to completely identify, involve, and address all tribes and tribal interests that may be present in the subbasin.
Response: The GSAs have followed the guidance documents from the DWR.

Describe direct and indirect impacts on drinking water users and DACs when describing undesirable results and defining minimum thresholds for chronic lowering of groundwater levels.
Response: As shown on Figure ES-4 there are approximately 5 domestic wells and the Lost Hills community that have the potential to be impacted by lower water levels. From review of the RMS in T22S/R16 E wells in section 22 and 35, these hydrographs indicate measurable objectives that are higher than historical levels. Measurements will continue to be observed to identify groundwater depths and change in levels over time.

Consider and evaluate the impacts of selected minimum thresholds and measurable objectives on drinking water users and DACs within the subbasin.

Response: See previous response

Describe direct and indirect impacts on drinking water users and DACs when defining undesirable results for degraded water quality.
Response: See previous response

Evaluate the cumulative or indirect impacts of proposed minimum thresholds for degraded water quality on drinking water users and DACs.
Response: See previous response

Set minimum thresholds and measurable objectives for all water quality constituents within the subbasin that can be impacted and/or exacerbated as a result of groundwater use or groundwater management.
Response: Data will continue to be gathered to determine water quality and modified over time.

Set minimum thresholds that do not allow water quality to degrade to levels at or above the MCL trigger.
Response: Comment noted

When establishing SMC for the subbasin, consider that the SGMA statute specifically calls out that GSP's shall include "impacts on groundwater dependent ecosystems".
Response: Comment noted

When defining undesirable results for chronic lowering of groundwater levels, provide specifics on what biological responses would best characterize a significant and unreasonable impact to GDEs.
Response: Comment noted

When defining undesirable results for depletion of interconnected surface water, include a description of potential impacts in instream habitats within the ISWs when minimum thresholds in the subbasin are reached.
Response: Comment noted

Integrate climate change, including extreme climate scenarios, into all elements of the projected water budget to form the basis for development of sustainable management criteria and projects and management actions.
Response: See page 3-92 through 3-97.

Include surface water flow inputs, inclusive of imported water, in the projected water budget and incorporate climate change effects on these flows.
Response: See previous response

Calculate sustainable yield based on the projected water budget with climate change incorporated.
Response: See Table 3-11.

Incorporate climate change scenarios into projects and management actions
Response: See Chapter 6.

Provide maps that overlay current and proposed monitoring well locations with the locations of DACs, domestic well, and GDEs to clearly identify monitored areas.
Response: See Figure ES-4 and ES-5.

Increase the number of RMSs in the shallow aquifer across the subbasin as needed to map ISWs and adequately monitor all groundwater indicators across the subbasin and at appropriated depths for all beneficial users.
Response: Comment noted

Ensure groundwater elevation and water quality RMSs are monitoring groundwater conditions spatially and at correct depth for all beneficial users.
Response: Comment noted

Describe biological monitoring that can be used to assess the potential for significant and unreasonable impacts to GDEs or ISWs due to groundwater conditions in the subbasin.
Response: None proposed.

For DACs and domestic well owners, include a drinking water well impact mitigation program to proactively monitor and protect drinking water wells through GSP implementation.
Response: Comment noted

For DACs and domestic well owners, include a discussion of whether potential impacts to water quality from projects and management actions could occur and how the GSAs plan to mitigate such impacts.
Response: Comment noted.

Recharge ponds, reservoirs and facilities for managed aquifer recharge can be designed as multiple benefit projects to include elements that act functionally as wetlands and provide a benefit foe wildlife and aquatic species.
Response: Comment noted

Develop management actions that incorporate climate and water delivery uncertainties to address future water demand and prevent future undesirable results.
Response: Comment noted.

Sincerely,

Brad Gleason
Board President, Pleasant Valley GSA

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Westlands Water District
3130 N. Fresno Street, P.O. Box 6056, Fresno, California 93703-6056, (559) 224-1523, FAX (559) 241-6277

February 2, 2022

Via Electronic Mail and Online Submission

Brad Gleason, President
Pleasant Valley Groundwater Sustainability Agency
P.O. Box 468
Coalinga, CA 93210
Email: info@pleasantvalleywaterdistrict.com
Online Submission: info@sgma.pleasantvalleywaterdistrict.com

Re: Pleasant Valley Subbasin Groundwater Sustainability Plan

Dear Mr. Gleason:

As you are aware, Westlands Water District ("Westlands") serves as the groundwater sustainability agency ("GSA") for the Westside Subbasin of the San Joaquin Valley Groundwater Basin ("Westside Subbasin"). Westlands adopted the Groundwater Sustainability Plan ("GSP") for the Westside Subbasin on January 8, 2020. Westlands respectfully submits this letter to ensure that Westlands' implementation of the Westside Subbasin GSP and sustainable management of the Westside Subbasin are not adversely impacted by implementation of the GSP prepared for the Pleasant Valley Subbasin of the San Joaquin Valley Groundwater Basin (Department of Water Resources ("DWR") Groundwater Subbasin Number 5-22.10) ("Pleasant Valley Subbasin" and "Pleasant Valley Subbasin GSP").

Comment 1: Analysis of Impacts on the Adjacent Westside Subbasin.

Westlands was not able to find in the Pleasant Valley Subbasin GSP a summary or evaluation of the cross-boundary impacts on the Westside Subbasin as required by Water Code section 10733(c) and DWR's GSP Regulations section 355.4(b)(7).[1] Notwithstanding, Westlands supports that the Pleasant Valley Subbasin GSP includes Minimum Thresholds and Measurable Objectives that protect 2015 groundwater levels. Those Minimum Thresholds and Measurable Objectives are sufficiently protective of cross-boundary flows and is consistent with the directive of the Sustainable Groundwater Management Act ("SGMA") for a GSP to avoid impairment to the sustainability goals of an adjacent GSP. However, consistent with GSP Regulations section 354.28(b)(3), the Pleasant Valley GSA should cite explicitly and explain that it will maintain the Minimum Thresholds and Measurable Objectives at 2015 levels during plan implementation.

[1] See Appendix A for the complete text of the provisions of SGMA and the "GSP Regulations" (Code Regs., tit. 23, § 350, *et seq*.) cited herein.

Comment 2: Potential Adverse Impacts of Pleasant Valley GSP Projects.

Westlands has more significant concerns with four potential projects identified in the Pleasant Valley GSP:

#PV 01	North Pipeline Project,
#PV 03	Los Gatos Creek Gravel Pits Recharge Project,
#PV 04	Zapato Chino Creek Instream Recharge Project, and
#PV 05	Water Banking Project–Section 31

(collectively referred to as the "Projects"). The Projects would be designed to divert water from naturally flowing creeks in order to recharge the Pleasant Valley Subbasin. (Pleasant Valley Subbasin GSP, pp. 6-12–6-15, 6-18–6-21.) Under current conditions, streamflow in these creeks flows into and replenishes the Westside Subbasin, which contributes to the safe and sustainable yield of the Westside Subbasin. (Westside Subbasin GSP, §§ 2.2.2.4.1, 2.3, Tab. 2-11, Fig. 2-66.) Although recharge projects can be an important tool for sustainable groundwater management, such projects must avoid adversely affecting the ability of Westlands to implement its Westside Subbasin GSP. (Wat. Code § 10733(c); GSP Regulations, § 355.4(b)(7).) Diverting water the out of creeks to replenish the Pleasant Valley Subbasin, as may be proposed by the Projects, could reduce the amount of water that naturally flows into and recharges the Westside Subbasin. If that were the case, contrary to the mandates of SGMA and the GSP Regulations, the Projects would impair the sustainability of the Westside Subbasin.

In addition, the #PV01 North Pipeline Project proposes to discharge water into the natural occurring stream, known as Los Gatos Creek (Arroyo Pasajero), that flows into Westlands boundaries and the Westside Subbasin. Again, if not designed properly, that project could introduce poor water quality into Westlands and negatively impact Westlands, including its ability to manage water quality conditions consistent with SGMA and the GSP Regulations. (Wat. Code § 10733(c); GSP Regulations, § 355.4(b)(7).)

Westlands requests that the Pleasant Valley GSP discuss that the Pleasant Valley GSA will coordinate with Westlands to design and develop the Projects in a manner that does not impair sustainable management of the Westside Subbasin.

Westlands further believes its concerns about the Projects can best be addressed through the improved coordination afforded by an interbasin agreement. (GSP Regulations, § 357.2.) An interbasin agreement will allow Westlands and the Pleasant Valley GSA to "establish compatible sustainability goals" that would support Westlands and the Pleasant Valley GSA each making "a finding that implementation of the Plan will not adversely affect an adjacent basin's ability to implement its Plan or impede the ability to achieve its sustainability goal." (GSP Regulations, § 357.2.) For this reason, Westlands requests that the Pleasant Valley GSA staff meet and confer with Westlands staff at the earliest opportunity to determine whether the agencies can reach an interbasin agreement that ensures implementation of both GSPs can proceed without risk of adverse impacts occurring in the basins.

Thank you for your careful consideration of these comments.

Sincerely,



Russ Freeman, P.E.
Deputy General Manager- Resources

Copy to:
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PLEASANT VALLEY GROUNDWATER SUSTAINABILITY AGENCY

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February 15, 2022

Westlands Water District
Russ Feeman, Deputy General Manager – Resources
3130 N. Fresno Street
P.O. Box 6056
Fresno, CA 93703-6056

RE: Pleasant Valley Subbasin Groundwater Sustainability Plan

Dear Russ,
Thank you for your comments dated February 2, 2022. As you know there has been a lot of time dedication and hard work to develop the draft document that is presently out for review. In addition, we thank you for the staff time of your organization to meet, confer and exchange information. It was helpful in drafting the plan.

Again, thank you for your comments and the following is offered in response to your comments:

Comment 1: Analysis of impacts on the adjacent Westside Basin

… However, consistent with GSP regulations section 354.28(b)(3), the Pleasant Valley GSA should cite explicitly and explain that it will maintain the minimum thresholds and Measurable Objectives at 2015 levels during plan implementation.

Response: The Pleasant Valley Subbasin complies with section 354.28(b)(3) of DWR's GSP Regulations and includes a description of how The Minimum Thresholds will avoid causing undesirable results in the Westside Subbasin and avoid affecting the ability of the Westside Subbasin to achieve its sustainability goals. As noted in Section 4.2.3.3 ("Minimum Thresholds In Relation to Adjacent Basins"), the Minimum Thresholds in the Pleasant Valley GSP are higher than those set in the Westside Subbasin. The Minimum Thresholds and Measurable Objectives can be found in Section 4.2.3 and 4.2.4 of the plan. As is shown in Figures 4-3 through 4-8 the management objectives have been set to levels that are planned to be achievable. In some cases, these levels are higher than a historic low and in other cases they are lower than a record that has been documented.

Comment 2: Potential Adverse Impacts of Pleasant Valley GSP Projects

Paragraph 1

Westlands has more significant concerns with four potential projects identified in the Pleasant Valley GSP: …..

The projects would be designed to divert water from naturally flowing creeks in order to recharge the Pleasant Valley Subbasin. … Diverting water the out of creeks to replenish the Pleasant Valley Subbasin, as may be proposed by the Projects, could reduce the amount of water that naturally flows and recharges the Westside Subbasin. If that were the case, contrary to the mandates of SGMA and the GSP regulations, the Projects would impair the sustainability of the Westside Basi

Response: The Pleasant Valley GSA will implement its GSP in full compliance with SGMA. Most of the potential projects identified in your comment do not involve the diversion of water from the relevant creeks but instead natural infiltration of water from the creeks to the Pleasant Valley Subbasin. It is recognized that we share a watershed and the resources that are derived from this source. Part of the Pleasant Valley GSP is to evaluate the ability to generate additional surface flows from the watershed. With this understanding it doesn't necessarily correlate that Diversions of water within one basin, moreover, do not necessarily correlate with a loss of supply from the other. Additionally, if the Pleasant Valley Subbasin were able to recharge additional amounts, the result may be that there is increased groundwater outflow resulting in an increase into both basins. The Sustainable Groundwater Management Act, moreover, does not alter existing surface water or groundwater rights. Cal Water code Sec. 10720.5(b). Any diversion projects that need additional water rights will obtain them through appropriate legal procedures."

Paragraph 2

The North Pipeline Project proposes to discharge water into the natural occurring stream, known as Los Gatos Creek, that flows into Westlands boundaries and the Westside Subbasin. Again, if not designed properly, that project could introduce poor water quality into Westlands and negatively impact Westlands, including its ability to manage water quality conditions consistent with SGMA, and the GSP Regulations.

Response: Noted. The project is being properly designed to restore the function of the creek and reduce instability, thereby helping reduce sediment loading from erosion, which is one of the leading causes of poor water quality within the sub-basin. It should be noted the source of the surface water supply is from the Coalinga Canal which is under the control and operation of Westlands Water District.

Paragraph 3

Westlands further believes its concerns about Projects can best be addressed through the improved coordination afforded by an interbasin agreerment.

Response: The Pleasant Valley subbasin parties agree and accepts that the agencies should continue to foster good relationships and a closer working relationship to enhance water supplies in the respective subbasins. It is suggested that the Pleasant Valley Water District/PVGSA and staff continue to meet to finalize the negotiated Transportation Agreement as well as with the gathering and documenting of water level data in the vicinity of the Pasajero and Palvedero gaps so that better understanding of the connectivity of the subbasins is understood.

Sincerely,

Brad Gleason, Board President, Pleasant Valley GSA

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Memorandum

To:	Board of Directors, Pleasant Valley Subbasin Groundwater Sustainability GSA
From:	Brian Ehlers
Subject:	GSP Comments
Date:	February 15, 2022

In addition to the three comment letters received on the Draft Groundwater Sustainability Plan there were comments received from the County of Fresno via e-mail and one verbal comment at the public hearing.

These comments are summarized below with PVGSA responses:

From the County of Fresno:

- *On page 1, near the top of the page, there's a reference to the report being "in general conformance with section 354.12 of the water code." That's incorrect. It should be a reference to Title 23, California Code of Regulations, section 354.12, not "the water code."*

- *On page 25, in section 1.5, it says that the County and the District entered into an MOU on May 7, 2019. That is incorrect. There was no MOU on that date. (And this is evident in Appendix A, which includes a February 25, 2020 MOU with the County, but not a May 7, 2019 MOU.) Those two paragraphs should be revised.*

Response: The GSP has been revised

From Craig Finster (landowner):

What I want to talk about probably has more to do with all of these things, not just the GSP, but all of it, and my concerns have always been at the end, when we figure out what a sustainable use is, if it's going to be a half-acre foot a year, whatever we come up with, how is that going to be divvied up with the landowners? I know that when we first decided that we could come up with some kind of an assessment, that assessment was levied on every landowner in the District. We even talked about should the larger water users pay more of an assessment, which would be the pistachio farmers. We decided at the time that everybody would pay the same assessment, because, as I remember, everyone would have a piece of the allocation. So there's the pistachio farmers, the row crops, I for a long time irrigated wheat and planted cotton, for years

that hasn't worked economically, but we decided that everybody would pay the same.

Historically, as far as water rights, if you owned the surface and wanted to drill a well you drilled a well. The water underneath your property was, I take it, your water. I hope that we're not trying to change that, that someone gets a bigger piece of the water. Now, even those that dry farm, I think that there's a large chunk of land that isn't farmed at all, I think it's grazing land, but they're within the District, and I think they should have some right to that water, whether they use their allotment to put on their ground or pistachios or whatever else they want to do with it, or for those that aren't pumping the water, and are in no way the cause of the overdraft that happened in the Valley, they should be able in some way to sell that half-acre foot for the people that are trying to find water."

Response: The GSP has been prepared to identify the condition of the Subbasin and develop a plan for sustainability. The plan has not developed Management actions and they are not included in the plan. According to the implementation chapter these are planned to be initiated in 2022 and the plan encourages your continued participation in crafting these policies and Management Actions. Additionally, it should be noted that the GSA will not modify existing water rights.

Comments and Responses *(Reg. § 354.10)*

Regulation Requirements:

§ 354.10. Notice and Communication

Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.

(b) A list of public meetings at which the Plan was discussed or considered by the Agency.

(c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.

(d) A communication section of the Plan that includes the following:

(1) An explanation of the Agency's decision-making process.

(2) Identification of opportunities for public engagement and a discussion of how public input and response will be used.

(3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.

(4) The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.2, 10727.8, 10728.4, and 10733.2, Water Code

Appendix J – PVWD Contract for Water Supplies 2021

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State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

AGREEMENT AMONG THE DEPARTMENT OF WATER RESOURCES OF THE STATE OF CALIFORNIA, TULARE LAKE BASIN WATER STORAGE DISTRICT, WESTLANDS WATER DISTRICT, SAN LUIS WATER DISTRICT, AND PLEASANT VALLEY WATER DISTRICT FOR A CHANGE IN POINT OF DELIVERY OF TULARE LAKE BASIN WATER STORAGE DISTRICT'S 2021 STATE WATER PROJECT TABLE A WATER

SWPAO #21020

THIS AGREEMENT is made this 12th day of October, 2021, under the provisions of the California Water Resources Development Bond Act, and other applicable laws of the State of California among the Department of Water Resources of the State of California, herein referred to as "DWR," Tulare Lake Basin Water Storage District, herein referred to as "TLBWSD," Westlands Water District, herein referred to as "WWD," San Luis Water District, herein referred to as "SLWD", and Pleasant Valley Water District, herein referred to as "PVWD." DWR, TLBWSD, WWD, SLWD, and PVWD may be referred to individually as "Party" or collectively as "Parties."

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RECITALS

A. DWR and TLBWSD have entered into a water supply contract, dated December 20, 1963, and subsequently amended, providing that DWR shall supply certain quantities of water to TLBWSD, and providing that TLBWSD shall make certain payments to DWR, and setting forth the terms and conditions of such supply and payment (hereinafter "TLBWSD Water Supply Contract").

B. Growers with WWD, SLWD, and PVWD intend to purchase, and divide among themselves, up to 65,000 acre-feet of pre-1914 Kings River water from J.G. Boswell Company (Boswell), a landowner with TLBWSD. In order to facilitate the delivery of WWD's, SLWD's, and PVWD's acquired water from Boswell to their service areas, TLBWSD proposes to transfer a combined total of up to 65,000 acre-feet of TLBWSD's 2021 allocated State Water Project (SWP) Table A water (TLBWSD's Table A Water) to WWD, SLWD, and PVWD. In exchange, up to 65,000 acre-feet of Boswell's pre-1914 Kings River water will be delivered to TLBWSD for use in its service area.

C. TLBWSD hereby requests DWR's approval for a change in point of delivery of up to 65,000 acre-feet of TLBWSD's Table A Water to WWD, SLWD, and PVWD during the term of the Agreement.

D. In compliance with the California Environmental Quality Act (CEQA), TLBWSD, as the lead agency, filed a Notice of Exemption (NOE) with State Clearinghouse (SCH) on April 27, 2021. (SCH #2021040640).

E. The temporary change in point of delivery under this Agreement is statutorily exempt from CEQA under Section 1729 of the California Water Code. The State Water Resources Control Board (SWRCB), on July 16, 2021, approved a petition from DWR and the United States Bureau of Reclamation to temporarily consolidate the authorized place of use of SWP and Central Valley Project (CVP) water south of the Delta. SWRCB's approval is effective from July 16, 2021 to July 15, 2022.

F. DWR, as a responsible agency, has considered the SWRCB's determination prior to entering into this Agreement, and will file an NOE under CEQA upon execution of this Agreement.

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AGREEMENT

DWR approves a change in point of delivery of a combined total of up to 65,000 acre-feet of TLBWSD's Table A Water to WWD, SLWD, and PVWD during the term of the Agreement, subject to the following terms and conditions:

TERM

1. This Agreement shall become effective upon execution by all Parties, and shall terminate on July 15, 2022, or upon final payment to DWR by TLBWSD of all costs attributable to this Agreement, whichever occurs later. However, the liability, hold harmless and indemnification obligations in this Agreement shall remain in effect until the expiration of the applicable statute of limitations, or until any claim or litigation concerning this Agreement asserted to DWR, TLBWSD, WWD, SLWD, or PVWD within the applicable statute of limitations is finally resolved, whichever occurs later.

UNIQUENESS OF AGREEMENT

2. DWR's approval under this Agreement to convey up to 65,000 acre-feet of TLBWSD's Table A Water to WWD, SLWD, or PVWD is unique and shall not be considered a precedent for future agreements or DWR activities.

DELIVERY OF TLBWSD'S TABLE A WATER

3. Under Article 15(a) of TLBWSD's Water Supply Contract, DWR hereby consents to the delivery of up to 65,000 acre-feet of TLBWSD's Table A Water outside TLBWSD's service area under the terms and conditions of this Agreement and finds that such delivery will not materially impair TLBWSD's capacity to make payments to DWR.

NO SALE OF TLBWSD'S TABLE A WATER

4. TLBWSD attests that the delivery of up to 65,000 acre-feet of TLBWSD's Table A Water to WWD, SLWD, and PVWD under this Agreement does not constitute a sale of its Table A water. Rather, TLBWSD's Table A Water is used to facilitate the delivery of WWD's, SLWD's, and PVWD's acquired pre-1914 Kings River water from Boswell to WWD, SLWD, and PVWD.

USE OF CALIFORNIA AQUEDUCT CAPACITY

5. Delivery of water under this Agreement shall be in accordance with a schedule that has been reviewed and approved by DWR under applicable provisions of TLBWSD's Water Supply Contract. Article 12(f) of TLBWSD's Water Supply Contract shall govern the priority for delivery of such water.

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APPROVALS

6. The delivery of water under this Agreement shall be contingent upon, and subject to, the availability of Boswell's pre-1914 water, as well as the SWRCB's written approval, and any other necessary approvals and shall be governed by the terms and conditions of such approvals and any other applicable legal requirements. TLBWSD, WWD, SLWD, and PVWD shall be responsible for complying with all applicable laws and legal requirements and for securing any required consent, approvals, permits, or orders. TLBWSD shall furnish to DWR copies of all approvals and agreements required for the delivery of water under this Agreement.

WATER DELIVERY TO WWD, SLWD, and PVWD

7. DWR will deliver a total of up to 65,000 acre-feet of TLBWSD's Table A Water, normally scheduled for delivery to TLBWSD's service area, to WWD's turnout(s) in Reaches 4 through 7, to SLWD's turnout(s) in Reaches 3 and 4, and for PVWD at WWD's Coalinga Canal turnout in Reach 5 of the California Aqueduct by July 15, 2022. WWD, SLWD, and PVWD will decide the manner in which the 65,000 acre-feet will be divided among themselves. This decision is not the responsibility of DWR.

8. The delivery of TLBWSD's Table A Water to WWD, SLWD, and PVWD under this Agreement shall be in accordance with a schedule approved by DWR. DWR's approval is dependent upon the times and amounts of the delivery and the overall delivery capability of the SWP. DWR shall not be obligated to deliver the water at times when such delivery would adversely impact SWP operations or facilities, or other SWP contractors.

9. The sum of deliveries scheduled on behalf of TLBWSD to WWD, SLWD, and PVWD under this Agreement, plus scheduled TLBWSD SWP deliveries, plus deliveries to TLBWSD under any other agreements, shall not exceed the quantities on which the proportionate Use-of-Facilities factors are based under TLBWSD's Water Supply Contract, unless DWR determines that the deliveries will not adversely impact SWP operations or facilities, or other SWP contractors.

WATER DELIVERY SCHEDULES

10. All water delivery schedules and revisions under this Agreement shall be in accordance with Article 12 of TLBWSD's Water Supply Contract.

11. TLBWSD shall be responsible for coordinating and scheduling the water delivery with DWR as described in this Agreement. After all approvals have been obtained and before water is delivered under this Agreement, TLBWSD shall submit for DWR's approval a revised water delivery schedule showing the anticipated change to the monthly delivery pattern to accommodate the water delivery under this Agreement.

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12. In coordination with WWD, SLWD, and PVWD, TLBWSD shall submit monthly water delivery schedules, and revised delivery schedules, if any, for approval to the Project Water Management, Water Deliveries Section, indicating timing and point of delivery requested under this Agreement with reference to SWPAO #21020. Monthly schedules shall be sent by electronic mail to SWPDeliveries@water.ca.gov.

13. In coordination with WWD, SLWD, and PVWD, TLBWSD shall send weekly water schedules, indicating timing and point of delivery requests with reference to SWPAO #21020, by electronic mail by 10:00 am, Wednesday, for the following week, Monday through Sunday, to the following:

    a. State Water Project Operations Control Office
    Water Management Branch
    Water_deliv_sched@water.ca.gov
    Attention: Manager, Water Management Branch

    b. State Water Project Operations Control Office
    Power Management and Optimization Branch
    POCOptimization@water.ca.gov
    Attention: Manager, Power Management and Optimization Branch

    c. State Water Project Operations Control Office
    Pre-Scheduling Section
    Presched@water.ca.gov
    Attention: Manager, Pre-Scheduling Section

    d. State Water Project Operations Control Office
    Regulatory Compliance and Reporting Branch
    OCO_car_reprt@water.ca.gov
    PHONE (916) 574-2677
    Attention: Manager Reports Section

    e. San Luis Field Division
    Water Operations Section
    slwtrops@water.ca.gov

WATER DELIVERY RECORDS

14. DWR will maintain monthly records documenting the delivery of water under this Agreement.

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CHARGES

15. TLBWSD shall pay the following charges including all future adjustments, which shall be calculated in the same manner as charges are calculated for Table A deliveries and shall be in accordance with the provisions of TLBWSD's Water Supply Contract. Charges shall be determined for the year the water is delivered to WWD, SLWD, and PVWD.

    a. When a portion of TLBWSD's Table A Water is delivered by DWR to WWD, TLBWSD shall pay to DWR the charges associated with the delivery of the water from the Delta to WWD's turnout(s) in Reaches 4 to 7 of the California Aqueduct. TLBWD shall pay to DWR the Variable Operation, Maintenance, Power, and Replacement Component of the Transportation Charge and the Off-Aqueduct Power Facilities cost that is in effect for every acre-foot of water delivered from Delta to WWD's turnout(s).

    b. When a portion of TLBWSD's Table A Water is delivered by DWR to SLWD, TLBWSD shall pay to DWR the charges associated with the delivery of the water from the Delta to SLWD's turnout(s) in Reaches 3 and 4 of the California Aqueduct. TLBWD shall pay to DWR the Variable Operation, Maintenance, Power, and Replacement Component of the Transportation Charge and the Off-Aqueduct Power Facilities cost that is in effect for every acre-foot of water delivered from Delta to SLWD's turnout(s).

    c. When a portion of TLBWSD's Table A Water is delivered by DWR to PVWD, TLBWSD shall pay to DWR the charges associated with the delivery of the water from the Delta to WWD's Coalinga Canal turnout in Reach 5 of the California Aqueduct. TLBWD shall pay to DWR the Variable Operation, Maintenance, Power, and Replacement Component of the Transportation Charge and the Off-Aqueduct Power Facilities cost that is in effect for every acre-foot of water delivered from Delta to WWD's turnout(s).

16. In addition to the charges identified above, TLBWSD agrees to pay to DWR any additional identified demonstrable increase in costs that would otherwise be borne by DWR or by the SWP contractors not signatory to this Agreement as a result of DWR providing service under this Agreement.

17. Payment terms under this Agreement shall be in accordance with TLBWSD's Water Supply Contract.

NO IMPACT

18. This Agreement shall not be administered or interpreted in any way that would cause adverse impacts to SWP approved Table A water or to any other SWP approved water allocations, water deliveries, or SWP operations or facilities. TLBWSD, WWD,

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SLWD, and PVWD shall be responsible, jointly and severally, as determined by DWR, for any adverse impacts that may result from water deliveries under this Agreement.

LIABILITY

19. DWR is not responsible for the use, effects or disposal of water under this Agreement once the water is delivered to the designated turnout(s). Responsibility shifts from DWR to WWD, SLWD, or PVWD when DWR delivers the water to the designated turnout(s).

20. TLBWSD, WWD, SLWD, and PVWD agree to defend and hold DWR, its officers, employees, and agents harmless from any direct or indirect loss, liability, lawsuit, cause of action, judgment or claim, and shall indemnify DWR, its officers, employees, and agents from all lawsuits, costs, damages, judgments, attorneys' fees, and liabilities that DWR, its officers, employees, and agent incur as a result of DWR approving this Agreement or providing services under this Agreement, except to the extent resulting from the sole negligence or willful misconduct of DWR, its officers, employees and agents.

21. If uncontrollable forces preclude DWR from delivery of water under this Agreement, either partially or completely, then DWR is relieved from the obligation to deliver the water to the extent that DWR is reasonably unable to complete the obligation due to the uncontrollable forces. Uncontrollable forces shall include, but are not limited to earthquakes, fires, tornadoes, floods, and other natural or human caused disasters. TLBWSD, WWD, SLWD, and PVWD shall not be entitled to recover any administrative costs or costs associated with delivery of water under this Agreement if uncontrollable forces preclude DWR from delivering the water.

DISPUTE RESOLUTION

22. In the event of dispute regarding interpretation or implementation of this Agreement, the Director of DWR and general managers of TLBWSD, WWD, SLWD, and PVWD, or authorized representatives, shall endeavor to resolve the dispute by meeting within 30 days after the request of a Party. If the dispute remains unresolved, the Parties shall use the services of a mutually acceptable consultant in an effort to resolve the dispute. Parties involved in the dispute shall share the fees and expenses of the consultant equally. If a consultant cannot be agreed upon, or if the consultant's recommendations are not acceptable to the Parties, and unless the Parties otherwise agree, the matter may be resolved by litigation and any Party may, at its option, pursue any available legal remedy including, but not limited to, injunctive and other equitable relief.

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NO ASSIGNMENT OF AGREEMENT

23. Without the prior written consent of DWR, TLBWSD, WWD, SLWD, and PVWD, this Agreement is not assignable by TLBWSD, WWD, SLWD, or PVWD in whole or in part.

PARAGRAPH HEADINGS

24. The paragraph headings of this Agreement are for the convenience of the Parties and shall not be considered to limit, expand, or define the contents of the respective paragraphs.

OPINION AND DETERMINATION

25. Where the terms of this Agreement provide for actions to be based upon the opinion, judgment, approval, review, or determination of any party, such terms are to be construed as providing that such opinion, judgment, approval, review, or determination be reasonable.

MODIFICATION OF AGREEMENT

26. No modification of the terms and conditions of this Agreement shall be valid unless made in writing and signed by the Parties to this Agreement.

NO MODIFICATION OF WATER SUPPLY CONTRACT

27. This Agreement shall not be interpreted to modify the terms or conditions of TLBWSD's Water Supply Contract. Unless expressly provided herein, the terms and conditions of TLBWSD's Water Supply Contract and any future amendments apply to this Agreement.

SIGNATURE CLAUSE

28. The signatories represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign. A copy of any resolution or other documentation authorizing TLBWSD, WWD, SLWD, and PVWD to enter into this Agreement, if such resolution or authorization is required, shall be provided to DWR before the execution of this Agreement.

EXECUTION

29. The Parties agree that this Agreement will be executed using DocuSign by electronic signature, which shall be considered an original signature for all purposes and shall have the same force and effect as an original signature. The Agreement shall take effect as soon as all Parties have signed.

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30. All Parties will receive an executed copy of this Agreement via DocuSign after all Parties have signed.

If the terms and conditions in this Agreement are acceptable, please sign and date using DocuSign.

IN WITNESS WHEREOF, the Parties hereto have entered into this Agreement.

Approved as to Legal Form
and Sufficiency

Ann K. B. Carroll KD
Acting General Counsel
Department of Water Resources

Date 10/11/2021

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

Ted Craddock
Ted Craddock
Deputy Director

Date 10/12/2021

TULARE LAKE BASIN WATER STORAGE DISTRICT

Jacob Westra
Name

General Manager
Title

10/8/2021
Date

WESTLANDS WATER DISTRICT

Name

Chief Operating Officer
Title

10/7/2021
Date

SAN LUIS WATER DISTRICT

Lon Martin
Name

General Manager
Title

10/7/2021
Date

PLEASANT VALLEY WATER DISTRICT

Brad Gleason
Name

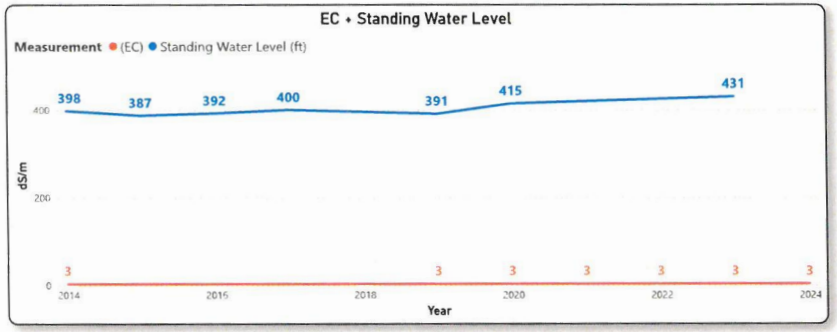
Board President
Title

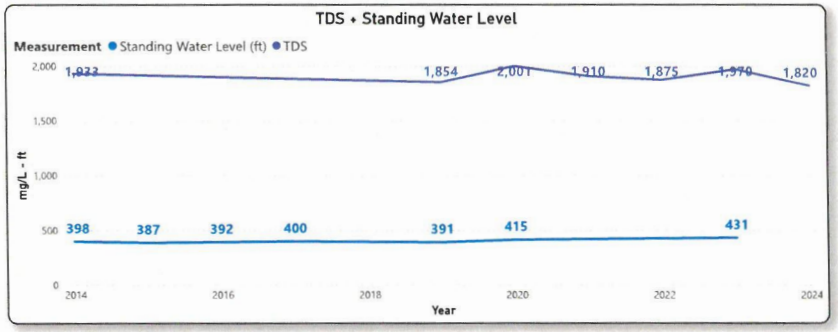
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Date

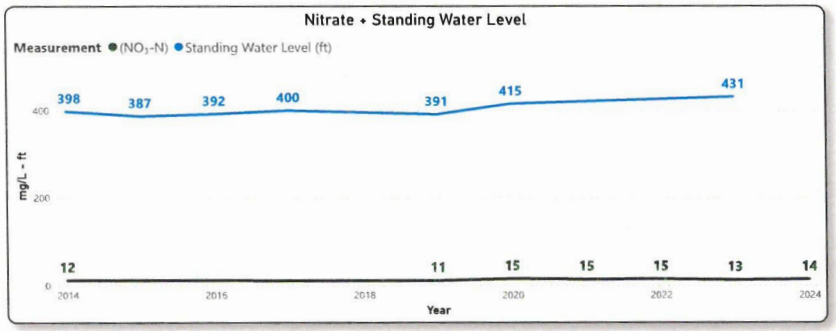
Appendix K – Water Quality Vs. Ground Elevation Change

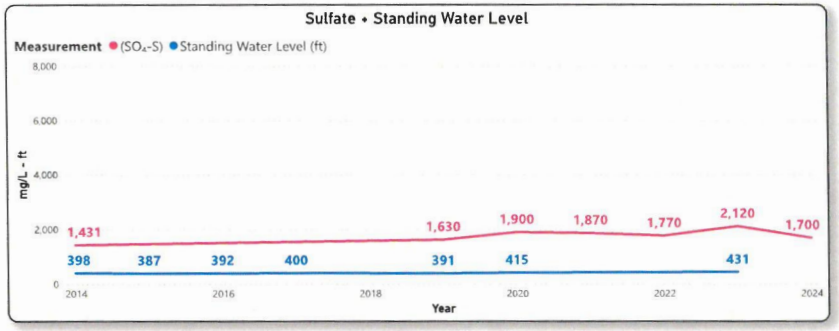
VNG WF1
Water Quality

Measurement	2/25/14	7/24/19	11/7/19	5/29/20	7/8/20	8/12/20	5/14/21	5/5/22	8/17/22	9/1/23	4/5/24
(pH)	7.8	7.9	7.7	7.3	7.4	7.6	7.7	7.5	7.4	7.6	7.8
(EC)	2.8	2.5	2.9	3.0	2.9	2.8	2.8	2.7	2.8	2.9	2.7
(B)	2.1	1.7	2.4	2.5	2.4	2.1	2.3	2.0	2.2	2.3	2.2
(Ca)	403.0	236.0	382.0	406.0	370.0	401.0	400.0	384.0	397.0	404.0	379.0
(Mg)	261.0	224.0	251.0	278.0	257.0	278.0	277.0	231.0	262.0	286.0	268.0
(Na)	908.0	832.0	902.0	922.0	898.0	937.0	944.0	826.0	888.0	981.0	770.0
(K)	18.3	13.6	14.1	16.4	16.1	14.9	13.5	14.4	16.2	17.1	22.2
(HCO_3)	557.0	452.0	359.0	518.0	504.0	338.0	557.0	473.0	479.0	418.0	445.0
(Cl)	601.0	508.0	469.0	472.0	471.0	458.0	485.0	467.0	472.0	472.0	488.0
(NO_3-N)	11.7	4.9	18.0	15.6	16.1	14.6	14.5	13.9	15.4	13.0	14.3
(SO_4-S)	1,431.0	1,423.0	1,837.0	1,952.0	1,806.0	1,941.0	1,870.0	1,690.0	1,850.0	2,120.0	1,700.0
(TDS)	1,933.0	1,737.0	1,970.0	2,043.0	2,011.0	1,949.0	1,910.0	1,840.0	1,910.0	1,970.0	1,820.0
(SAR)	5.2	5.6	5.3	5.2	5.3	5.3	5.4	5.0	5.2	5.5	4.5
(SEC)	1.9	2.2	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.7
(pHc)	7.0	7.3	7.3	7.1	7.2	7.2	7.0	7.2	7.2	7.1	7.2





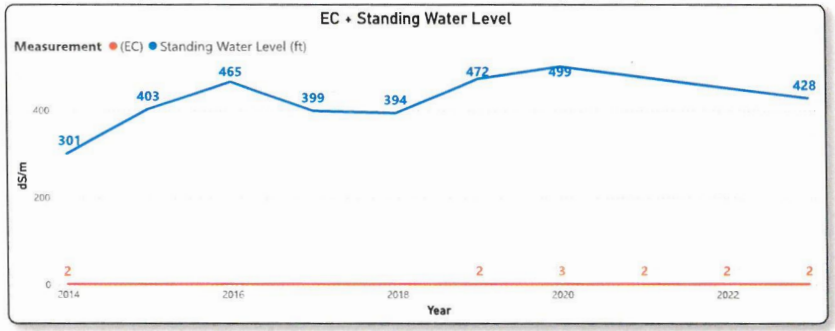


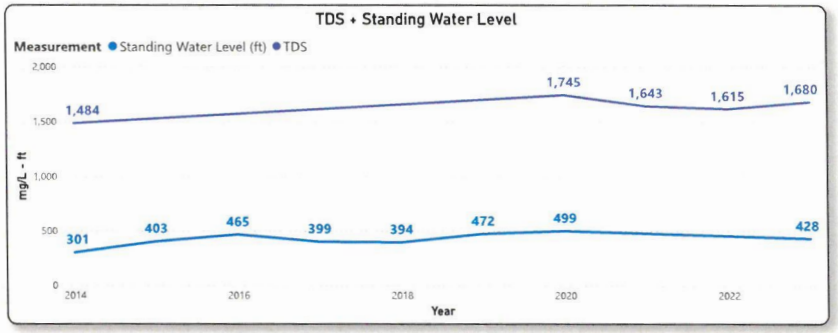


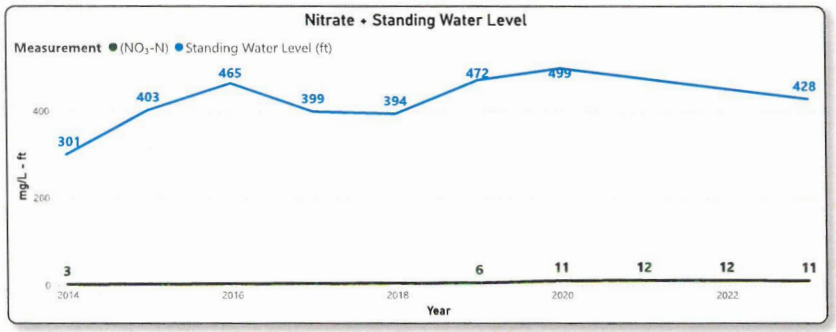
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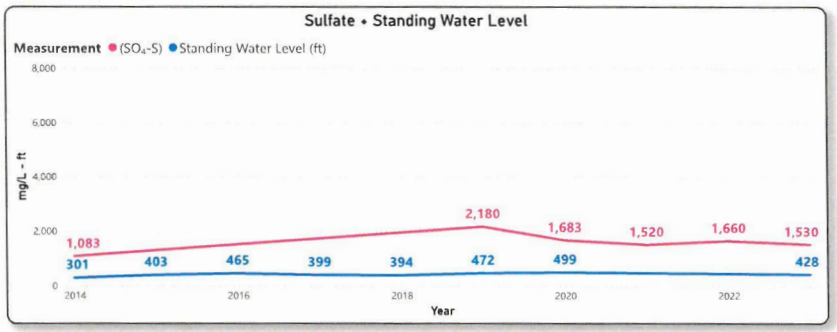
PVP WF1
Water Quality

Measurement	2/25/14	5/29/20	7/8/20	8/12/20	5/14/21	6/23/21	8/27/21	5/18/22	8/17/22	4/14/23
(pH)	7.6	7.5	7.8	7.8	7.7	7.5	7.6	7.6	7.8	7.5
(EC)	2.2	2.6	2.6	2.5	2.4	2.5	2.3	2.3	2.4	2.4
(B)	1.6	1.7	1.6	1.5	1.8	1.6	1.6	1.5	1.6	1.6
(Ca)	261.0	344.0	335.0	329.0	357.0	325.0	335.0	323.0	340.0	325.0
(Mg)	197.0	287.0	278.0	279.0	295.0	276.0	272.0	267.0	272.0	244.0
(Na)	689.0	748.0	728.0	719.0	776.0	727.0	733.0	708.0	745.0	683.0
(K)	13.3	13.6	13.2	12.3	13.3	13.1	15.5	13.3	12.4	13.2
(HCO_3)	626.0	486.0	462.0	463.0	575.0	499.0	489.0	460.0	484.0	474.0
(Cl)	267.0	410.0	359.0	358.0	361.0	359.0	349.0	349.0	375.0	365.0
(NO_3-N)	2.6	11.7	10.5	11.5	12.2	11.7	11.5	10.9	13.2	11.1
(SO_4-S)	1,083.0	1,699.0	1,664.0	1,685.0	1,770.0	1,300.0	1,490.0	1,640.0	1,680.0	1,530.0
(TDS)	1,484.0	1,774.0	1,753.0	1,708.0	1,620.0	1,730.0	1,580.0	1,590.0	1,640.0	1,680.0
(SAR)	4.7	4.4	4.3	4.3	4.5	4.3	4.4	4.3	4.4	4.2
(SEC)	2.2	1.7	1.7	1.7	1.9	1.7	1.9	1.9	1.9	1.7
(pHc)	7.1	7.2	7.2	7.2	7.1	7.2	7.2	7.2	7.2	7.2





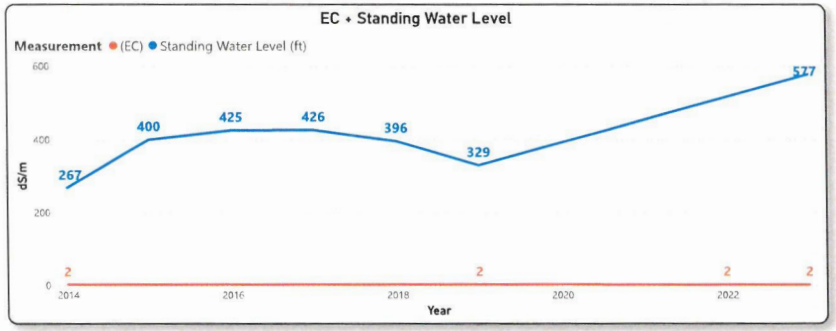


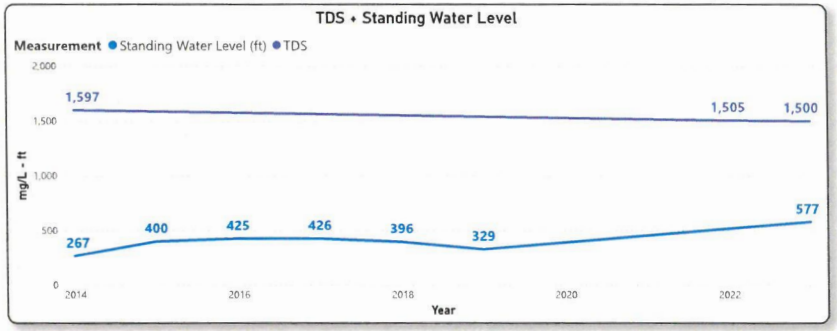


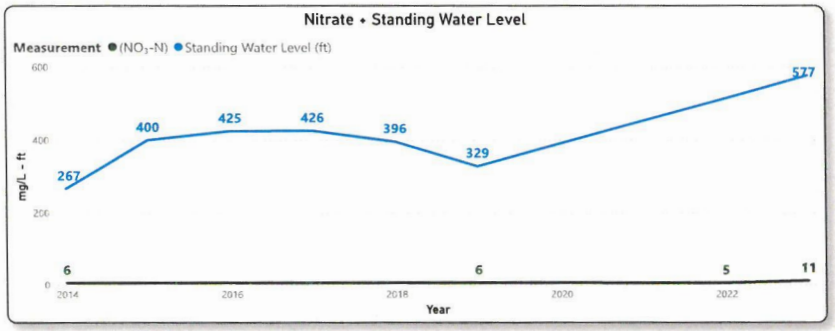
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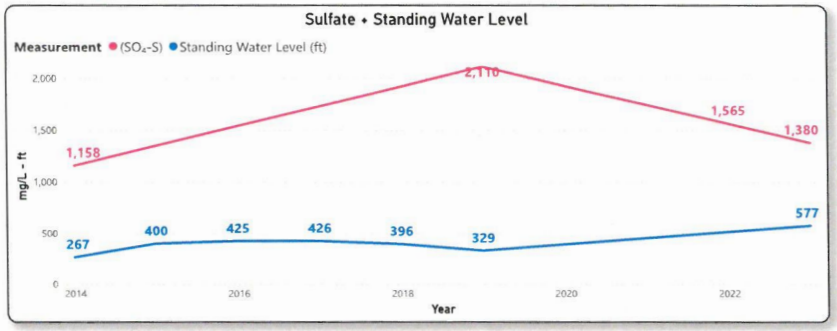
PVP W2
Water Quality

Measurement	2/25/14	5/9/19	5/18/22	8/17/22	4/14/23
(pH)	7.1	8.1	7.5	6.8	7.4
(EC)	2.3	2.4	2.3	2.1	2.2
(B)	1.6	2.2	1.9	1.6	1.8
(Ca)	324.0	348.0	330.0	332.0	295.0
(Mg)	227.0	231.0	234.0	209.0	211.0
(Na)	678.0	702.0	776.0	640.0	664.0
(K)	14.2	12.7	15.0	11.8	13.9
(HCO_3)	550.0	626.0	486.0	199.0	544.0
(Cl)	269.0	338.0	378.0	348.0	287.0
(NO_3-N)	5.8	5.5	8.7	0.7	10.5
(SO_4-S)	1,158.0	2,110.0	1,610.0	1,520.0	1,380.0
(TDS)	1,597.0		1,590.0	1,420.0	1,500.0
(SAR)	4.3	4.4	4.8	4.1	4.4
(SEC)	1.8		2.1	2.0	2.0
(pHc)	7.0		7.2	7.6	7.2





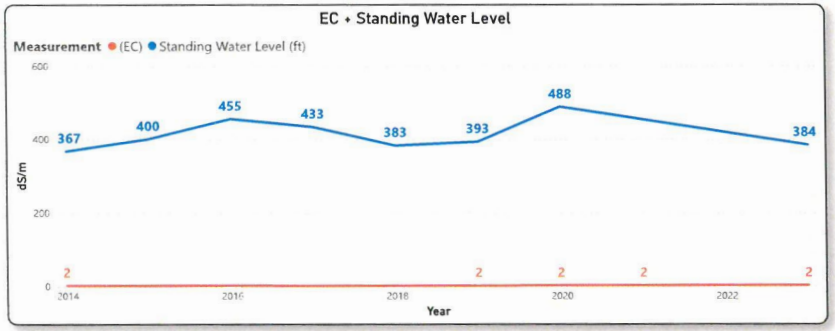


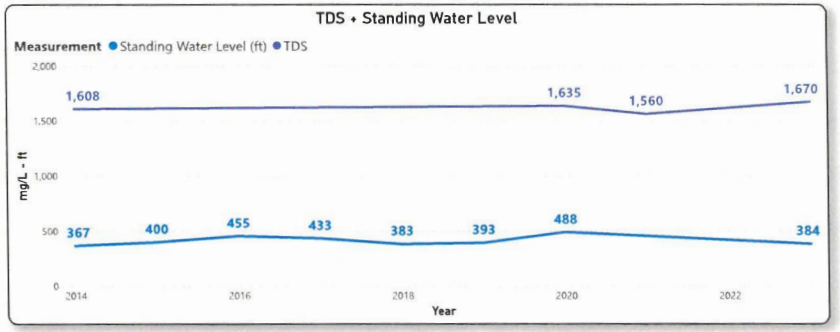


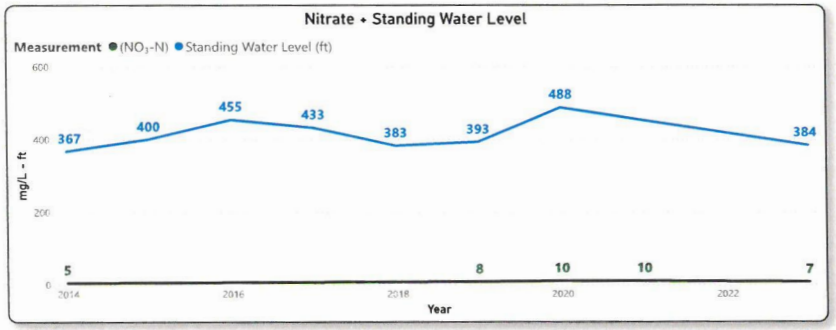
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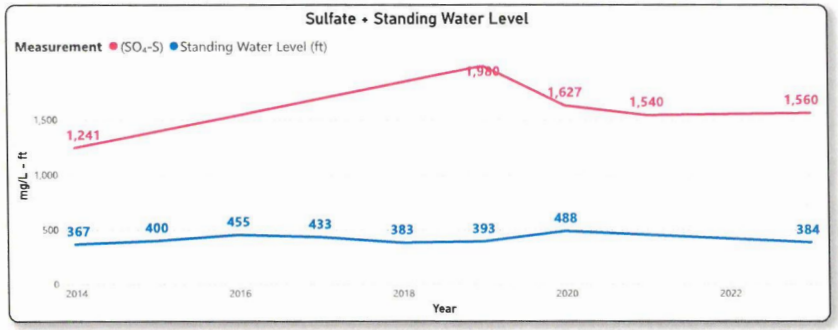
PVP WF3
Water Quality

Measurement	2/25/14	5/9/19	5/29/20	7/8/20	8/12/20	5/11/21	6/29/21	8/27/21	4/14/23
(pH)	7.7	7.9	7.5	7.6	7.7		7.5	7.5	7.5
(EC)	2.3	2.1	2.4	2.4	2.3	2.2	2.4	2.2	2.4
(B)	1.6	1.8	1.8	1.7	1.6	1.9	1.8	1.9	2.0
(Ca)	322.0	308.0	347.0	321.0	324.0	337.0	309.0	327.0	327.0
(Mg)	244.0	220.0	265.0	256.0	256.0	256.0	249.0	263.0	221.0
(Na)	684.0	637.0	746.0	716.0	727.0	739.0	696.0	733.0	751.0
(K)	15.6	12.0	14.1	13.8	12.8	12.5	11.9	14.8	14.4
(HCO_3)	550.0	642.0	524.0	487.0	498.0	567.0	496.0	471.0	511.0
(Cl)	268.0	278.0	343.0	288.0	287.0	301.0	297.0	285.0	370.0
(NO_3-N)	5.1	7.9	10.7	9.6	10.3	10.8	10.2	10.1	7.2
(SO_4-S)	1,241.0	1,980.0	1,684.0	1,604.0	1,592.0	1,650.0	1,320.0	1,650.0	1,560.0
(TDS)	1,608.0		1,666.0	1,643.0	1,595.0	1,530.0	1,640.0	1,510.0	1,670.0
(SAR)	4.2	4.1	4.4	4.4	4.4	4.5	4.3	4.4	4.8
(SEC)	1.8		1.8	1.8	1.9	2.0	1.8	2.0	2.0
(pHc)	7.0		7.2	7.2	7.2	7.1	7.2	7.2	7.2









Ag Reports AI

Appendix L – Policies Since First Submittal

PLEASANT VALLEY WATER DISTRICT

REIMBURSEMENT POLICY
EFFECTIVE JULY 28, 2020

A. Purpose of Policy

Pleasant Valley Water District, a California water district (hereinafter referred to as the "**District**") is committed to providing services and assistance to landowners within the District to enhance irrigation water availability, conditions and improve the sustainability of the groundwater resources within the District. The District, as a public agency, may from time to time be a sponsor or otherwise assist private landowners within the District with projects to enhance the water conditions, availability and groundwater sustainability within the District. The District shall endeavor to support and assist with such projects if the District determines that it provides a substantial benefit to the District as a whole, regardless of whether certain landowners may benefit greater than others. It shall be District policy to support projects that bring additional water into the District and/or enhance the availability and conditions of the water available to the District. Nothing in this Policy shall supersede or otherwise limit the Board of Directors obligations and restrictions of Government Code Section 1090.

B. Board Approval

In the event a landowner ("landowner" shall refer to a landowner within the District) or group of landowners (whether organized officially into a legal entity or in some other fashion) require or desire the assistance of the District to implement, construct, install, obtain approval, or otherwise undertake a project to import water, store water, transport water into or throughout the District (not to include transporting water out of the District) or enhance the water conditions, availability, quantity or quality in the District, such landowner or landowners shall provide a written description (including maps if appropriate) of the project to be undertaken. The Board of Directors of the District will consider such project on a case by case basis at a public meeting of the Board of Directors. The Board may require and request additional information and obtain such information from the subject landowner(s). At a time when the Board determines that it has enough information to make an informed decision as to whether to support or not support such project (which shall generally be based on whether the project provides benefit to the District), the Board shall decide whether the District can provide support, or under what conditions the Board could provide support.

C. Deposit

In the event the participation or assistance of the District requires the District to expend money for any purpose, the District may require a deposit ("**Deposit**") of money with the District to cover such costs. The amount of the Deposit will be determined by the Board of Directors, and may be increased or decreased from time to time by the Board, in its discretion. The Board may require a Deposit in an amount anticipated to

cover all or a portion of the costs of the project to be incurred by the District. The amount of the Deposit will be determined by review of a budget for the project developed by the landowner(s), but analyzed and verified by the District. The District shall be held harmless and the landowner(s) shall have no claim against the District related to any dispute about the amount of the Deposit to be required by the District.

D. Reimbursement

Notwithstanding any Deposit required by the District, the landowner(s) shall reimburse the District in full for all costs, fees and expenditures incurred related to the landowner(s) project, including but not limited to any engineering, studies, analysis, attorneys fees, permit and license fees, and any and all other fees and costs incurred by the District related to the project. Such reimbursement shall occur within 20 calendar days of the District invoicing the landowner(s) for the same. Notwithstanding Sections C and D of this Policy, the intention and goal of the District and the landowner(s) for any and all project undertaken pursuant to this policy is for the District to spend as little or no money out of pocket during the process of the project. At any time in which the landowner(s) can pay costs and fees that would otherwise be incurred by the District, the landowner(s) shall pay such costs and fees at the request of the District.

E. Cooperation

The District and landowner(s) shall cooperate to undertake the necessary studies, analysis, mapping, construction, repair, or any other activities related to the project. The landowner(s) shall provide all reasonably requested documentation and information related to the anticipated project to the District for determination as to whether the District will participate, cooperate or assist with the project in accordance with Section A above. Such cooperation may require the District to enter into contractual relationships with engineers, surveyors, vendors, contractors, or other third parties in furtherance of the project. In such event, the landowner(s) shall indemnify and hold the District harmless from any claims arising out of such contracts or relationships.

F. Reimbursement Agreement

The District and landowner(s) shall enter into a Reimbursement Agreement to provide the terms and requirements of the project, and the obligations of the landowner(s), including Deposits, reimbursement, indemnification obligations, and any and all other obligations of the landowner(s) and District.

Brad Gleason, President

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GROUNDWATER SUSTAINABILITY AGENCY ("GSA")
COMPLIANCE WITH EXECUTIVE ORDER N-7-22

The following must be completed, signed, and submitted for each well permit application for a new or altered well that is subject to the Governor's Executive Order N-7-22. New or altered well permits cannot be approved by the County of Fresno ("County") without this form. The County cannot enforce or negotiate any restrictions or requirements of a GSA.

WELL Number:	Date Submitted:	GSA Phone or Email
Groundwater Sustainability Agency (GSA) Name	GSA Representative Name/Title	
Site Location:	APN:	
Property Owner:	Driller Business Name:	

Groundwater Sustainability Agency Determinations (check all that apply):

☐ The above well permit application complies with any and all groundwater extraction limitations imposed by the GSA to be consistent with sustainability goals, pursuant to the GSA's Groundwater Sustainability Plan ("GSP.)

☐ **This GSA has <u>no objection</u> to the County issuing the permit for this well.**

The preceding statements are made based on information known at the time of this statement only.

Comments:

NAME AND TITLE OF GROUNDWATER SUSTAINABILITY AGENCY REPRESENTATIVE NAME COMPLETING AND SIGNING THIS FORM:

Printed Name: _____

Title/Position/Its: _____

Signature: _____ Date: _____

additional information. Upon receiving all requested and necessary information, the District Representative shall present the information to the Water Policy Committee as soon as reasonably practicable. The Water Policy Committee shall consider the Request, and so long as the Water Policy Committee determines that the importation of such water will not harm the District, the Water Policy Committee shall approve the importation of water. Approval by the Water Policy Committee shall, in no way, be a waiver of any rights, claims or causes of action the District may have related to such imported water, including but not limited to damages suffered by the District related to the place of use, use of District facilities, or conveyance of the water within the District.

3. **District Representative:** The "District Representative", who may or may not be a District Director or consultant of the District (e.g. District engineer) shall be appointed by the District and shall assist the District in any administrative tasks of importing water into PVWD, subject to oversight and approval by the Water Policy Committee. Such assistance shall include representing the District by engaging with WWD, United States Bureau of Reclamation (USBR) or other agencies to import water.

4. **Landowner:** A landowner, group of landowners, tenant, or other person or entity that wishes to import surface water into the PVWD is referred to herein as "Landowner". A Landowner may designate a representative in writing to the District, and such representative will be deemed to be authorized by the Landowner for purposes of importation of water into the District until such authorization or designation is withdrawn in writing.

5. **Fees and Costs:** Fees incurred by the District, including but not limited to those associated with Westlands Agreement, and any associated engineering fees, consultant fees, legal, and any costs and fees to any agency for the importation and conveyance of the water shall be the sole and absolute responsibility of the Landowner. PVWD will invoice the known, anticipated and estimated fees and costs to Landowner and such amounts shall be paid prior to the District approving the importation of water into the District.

AMENDED AND RESTATED POLICY TO IMPORT SURFACE WATER INTO PLEASANT VALLEY WATER DISTRICTFOR A PRIVATE PARTY UTLIZING THE DISTRICT AS APUBLIC AGENCY

THIS AMENDED AND RESTATED POLICY ("Policy") is adopted and effective April 30, 2024 ("Effective Date").

WHEREAS, the Pleasant Valley Water District ("District" or "PVWD") is a California water district that was duly formed within the service area of the Central Valley Project ("CVP") and thereby has certain abilities and authorities to import certain CVP water supplies into its jurisdiction within the CVP service area.

WHEREAS, the District entered into a Contract Between Westlands Water District and The Pleasant Valley Water District for the Transportation of Water dated April 21, 2022 ("Westlands Agreement"), subject to fees and costs, which grants the District the use of the Coalinga Canal subject to its available capacity and other limitations and obligations.

WHEREAS, the District desires to adopt a policy to provide guidelines, policies and procedures for the District and landowners or their tenant (each identified herein as a "Landowner") within the District related to the importation of surface water into the District.

NOW, THEREFORE, the District's policy to convey water to Landowners (or their tenants) is as follows.

1. **Requests to Import Water**: Landowner requests to import surface water (a "Request"), from any source, into PVWD shall be made in writing, directed to the Board President, the Water Policy Committee Chair, and the District Representative (defined in Section 3 below). All Requests to import surface water shall clearly describe the type and source of the water, diversion locations for diversion into PVWD, diversion locations within PVWD, and ultimate location of use of the imported water. The Request shall also identify the anticipated schedule of importation and diversion of water.

2. **Approval**: The District Representative (defined in Section 3 below) shall review the Request to ensure all required information is presented in the Request. If the Representative requests any additional information, in the District Representative's discretion, the District Representative shall notify the Landowner of the need for such

6. **Facilitation of Water Purchases:** As a recognized public agency within the CVP, the District Representative will help facilitate outside water purchases made by Landowners. Costs including water purchases, legal, environmental assessments, permitting, and outside agency costs and fees are the sole responsibility and to be paid by Landowner. PVWD shall invoice and collect the necessary funds from Landowner as a condition to the District facilitating proposed water purchases. If appropriate, the Landowner shall pay directly for the water costs and or other associated transaction amounts. PVWD is not responsible for payment for any water or other associated costs incurred for any reason.

7. **Additional Fees and Costs:** District shall immediately invoice Landowner for any additional fees and costs that may arise. Payment for invoices relating to additional fees or costs shall be paid by Landowner within 10 days of receipt.

8. **True-ups:** WWD annual fiscal water year-end occurs at the end of February. Following the year-end any conveyance fee adjustments charged or refunded by WWD to the District shall be invoiced and paid by or refunded to Landowner within 10 days of invoice if charged by WWD, or 10 days of receipt of funds by District if refunded.

9. **Late Payment Charges:** Landowner agrees to pay a monthly late payment charge, which will be the lesser of one- and one-half percent (1.5%) per month or a monthly charge not to exceed the maximum legal rate, which will be applied to any unpaid balance commencing thirty (30) days after the date of the billing. Private Party acknowledges that payments applied first to unpaid late payment charges and then to unpaid balances of invoices.

10. **Warren Act:** The Warren Act is a federal statute that allows local water agencies to contract with federal agencies to store and convey non-Central Valley Project water

under certain rules and conditions. All fees associated with preparing or assisting a Landowner in the preparation of a Warren Act contract shall be paid by the Landowner and deposited into an account maintained by PVWD.

11. **Delivery Locations:** All imported surface water shall be applied or stored in a location consistent with the designation for its water type, as required by any Federal, State or local law, contract, statute, ordinance or regulation. The Landowner shall provide a map to the District identifying the application locations. The Landowner shall indemnify and hold the District harmless from any claims, causes of actions, damages, fees, penalties or other liability related in any way to the conveyance and application of the imported water, including related to use of the water in an improper location or manner.

12. **Coalinga Canal Diversions:** The Landowner, will work cooperatively with the District Representative as necessary, and shall be responsible for coordinating the use of any diversion facility. The Landowner shall be responsible for all associated pumping costs related to the Coalinga Canal Diversion facility. These fees will be paid by the Landowner directly to the vendors charging such costs, unless it is necessary that the District pay such costs. In such case, District will immediately invoice the Landowner for such costs and Landowner shall deposit such funds with the District to satisfy the invoice within 10 days.

13. **Canal Diversions Administered by the City of Coalinga:** The Landowner may elect to use the City of Coalinga as the contracting agency with WWD (as opposed to PVWD). In such an event, the provisions of the District's Conveyance Agreement with WWD are not applicable. All fees, costs, and compliance with rules and regulations imposed by the City of Coalinga for use of the Coalinga Canal are the sole responsibility of Landowner. Landowner is not relieved of its financial obligations to the District for any associated engineering fees, consultant fees, and any costs and fees to any agency for the importation or purchase of water as outlined in Paragraph 5, and all indemnities provided herein this Policy shall apply to water imported and applied pursuant to this Section 13.

14. **Measurement and Reporting:** All water conveyed by WWD to PVWD shall be measured by the District using the canal master meter previously installed by WWD. Landowner shall meter their delivery points and reconcile delivery points with the WWD master meter monthly consistent with the WWD monthly conveyance billing period. Access shall be made available to the District's Representative at all reasonable times to review and inspect all measurement and metering devices.

    Reporting of this data shall be made available to other parties or agencies, as required, including but not limited to WWD. The Landowner shall submit a schedule of deliveries, including flowrates and the start and stop times as required by the Westlands Agreement. It is the sole responsibility of the Landowner to monitor the amount of water in the designated period. The District shall establish and maintain accounts and other books and records pertaining to administration of the terms and conditions of this policy, and directly related matters including the Westlands Agreement. These accounts will be subject to applicable laws and regulations, and in addition to the rights and responsibilities provided for in the California Public Records Act and will be public information.

Policy Update: The PVWD may amend this policy with Board Approval at any time. As deemed necessary by the Board of Directors of the District, or as may be required by any statute, regulation, or ordinance, the PVWD Board may supersede this policy from time to time.

IN WITNESS WHEREOF the Pleasant Valley Water District hereto have executed this policy as of the day and the year first hereinabove written.

PLEASANT VALLEY WATER DISTRICT

Board President

4-30-24
Date

APPENDIX A – Measurement Guidelines

Qualified Individual shall certify that the following was done:

- Oversee installation or inspection of installation prior to diversions. All installations must be by a qualified individual, as specified in Title 23-Waters.
- Certify the device can record acre-feet totals, and flow rate in cfs or gpm.
- Certify the device was calibrated once every five years and meets accuracy requirements. The flowrate accuracy is within ± 10%.
- Certify a daily monitoring frequency and reporting of the diversion.

Reporting

- Reporting shall include, daily diversion flow rate, the acre-feet reading on that day.
- A location map shall be submitted to where the water was diverted.
- If water was banked as is going to be recovered, the wells which will be used to recover the ground water shall be listed on the map. The daily readings shall be submitted as well, the flowrate on the well and the acre-feet reading for the day.
- A third party or the representative of the District shall accompany the Private Party during a full data gathering event. To verify the procedure for data gathering.
- Photographs shall be provided of the meter reading during the event.

POLICY NO. GW22-1

REQUIRING INSTALLATION AND USE

OF METERING EQUIPMENT FOR GROUNDWATER EXTRACTION FACILITIES

Adopted March 22, 2022

The Board of Directors of the Pleasant Valley Groundwater Sustainability Agency (PVGSA), City of Coalinga GSA (CCGSA), and the County of Fresno - Pleasant Valley GSA Area Groundwater Sustainability Agencies (herein Agencies), State of California, hereby adopts this policy and ordains as follows:

ARTICLE 1. General

Section 1. Title

This policy shall be known as the "Metering Policy" of the Pleasant Valley, City of Coalinga and the County of Fresno - Pleasant Valley GSA Area Groundwater Sustainability Agencies located within the Pleasant Valley Subbasin.

Section 2. Background, Purpose and Findings

Under California law, groundwater management is outlined in the California Water Code, Division 6 Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. A number of acts have modified the code over the years with the most recent being the Sustainable Groundwater Management act signed by the Governor in 2015.

The State has through enactment of legislation authorized and directed that local agencies adopt and implement effective monitoring and management plans to protect, preserve and maintain sustainable groundwater levels and water supply for long term reliability.

The purpose of this policy is to develop policy consistent with the Groundwater Sustainability Plan that will be used in management actions to allow for the use with other policies yet to be adopted to allow for management of the groundwater resource.

The Board of Directors of the agencies find that developing, implementing and maintaining an effective monitoring and management of the groundwater in the subbasin are matters of essential local concern. Further the agencies find that adopting and implementing this policy requiring the installation of flow meters on all operational agricultural wells is necessary to comply with the responsibility under State Law and is in the best interest of the agencies, its farms, businesses and residents.

Section 3. Definitions

As used in the policy, the following terms shall have the meanings stated below:

A. **"Agency"** means either individually or collectively the PVGSA, City of Coalinga or Fresno County Pleasant Valley GSA Area Groundwater Sustainability Agency.

B. **"Agency Coordinator"** means an individual approved by the agency to hear requests to deviate and/or approve alternative means to comply with this policy.

C. **"Calibration"** means the activity associated with measuring the flow by another means and comparing to the amount measured by the flow meter at the well site and as indicated in the indicator.

D. **"Extraction"** means the act of obtaining groundwater by pumping or other controlled means.

E. **"Extraction facility"** means any device or method (e.g. water well) for extraction of groundwater within a groundwater basin or aquifer.

F. **"Groundwater"** means water beneath the surface of the earth within a zone in which the soil is sufficiently saturated with water to allow collection and extraction. This definition does not include water derived from a strata in which water is recovered in combination with oil.

G. **"Inactive Well"** - An inactive well is a well that is used for less than twelve hours annually and conforms to the County of Fresno Policy Code requirements for an active well or a well having a Fresno County Certificate of Exemption. In either case, the well is being held in an idle status in case of future need. The purpose of defining an inactive well is to eliminate the requirement for a meter for wells that are not in use. However, any amount of water pumped by an inactive well shall be reported using an alternate means of metering as provided in Article 2, Section 2 below.

H. **"Metering Equipment"** or **"Meters"** means a manufactured instrument for accurately measuring and recording the flow of water (totalizing and instantaneous) through a pipeline.

I. **"Non-exempt well operators"** means all well operators except those operating extraction facilities supplying a single-family dwelling on five acre or less, with no income producing operations and those operators granted an exemption by the Agency Board of Directors.

J. **"Operator"** means a person who operates a groundwater extraction facility. In the event the Agency is unable to determine who operates a particular extraction facility, then "operator" shall mean the person to whom the extraction facility is

assessed by the County Assessor, or, if not separately assessed, the person who owns the land upon which the extraction facility is located.

K. **"Person"** includes any state or local governmental agency, private corporation, firm, partnership, individual, group of individuals, or, to the extent authorized by law.

ARTICLE 2. Installation and Use of Metering Equipment

Section 1. Installation Requirement

Operators of extraction facilities shall install metering equipment on each well that extracts groundwater. Meters shall be installed according to manufacture published requirements. Meters are not required on inactive wells as defined in this policy, nor are meters required for extraction facilities supplying a single-family dwelling on five acre or less, with no income producing operations.

Section 2. Back-up Metering Equipment

Water meters occasionally fail, losing periods of record before the disabled or inaccurate meter is either replaced or repaired. Well operators shall be prepared to provide another acceptable method of computing pumpage during these periods of meter failure to avoid the loss of record on wells that require metering under this policy. Additionally, landowners shall repair or replace inoperable or damaged meters as soon as reasonably possible.

Two acceptable back-up methods for metering consist of using an hour meter and records on pumping rates or the use of power company records provided a recent pump efficiency test exists. It is the operator's responsibility to maintain the meter.

If special circumstances exist where neither of these back-up procedures can be used or are impractical to use, the operator shall request Agency Coordinator's approval of another alternative back-up procedure.

Section 3. Meter Recording and Reporting

a. Access: The landowner shall grant the Agency, or its agents or employees, access to landowner's well and meter as provided an agreed in the attached Access Agreement (Exhibit).

b. Recording Schedule: The landowner shall record the totalizer meter reading at the end of each month during operation. Self-certified extraction logs or meter reading reports (exhibit) shall be provided to the Agency by the 15th of each month for the previous month; or alternatively landowner may input the meter reading data into the Agency's web portal per instructions provided by the Agency to the landowner upon request by landowner.

c. Calibration

i. Schedule: Certified third-party meter calibration and testing reports shall be submitted to the Agency when registering their well and annually thereafter. These tests will be provided to Agency by March 30th of each year. The accuracy of the meter should be within 5% by flow volume. Should the meter not reach these accuracies, the meter should be repaired and recertified as soon as reasonably possible.

d. Period of Non-Compliance

i. Failure to Comply and/ or to obtain measurements is considered a failure to comply with this policy and may result in the landowner being subject to being considered to have extracted the greater of 1) Agency calculated groundwater extraction value; or 2) for the greatest annual extraction volume from prior five (5) years, in the Agencies sole discretion.

ARTICLE 3. Implementation

Section 1. Metering information

The PVGSA will obtain current information from meter manufacturers, distributors, or installers on meter specifications, availability and cost and will make this information available to well owners and operators on request.

Section 2. Notification of Metering Equipment Requirement

Operators will be notified in writing of the metering equipment requirement within sixty (60) days of the adoption of this policy by the Agency's Board of Directors.

Section 3. Installation of Metering Equipment

Non-exempt well operators will be required to install metering equipment on said wells after the passage and adoption of the policy and by the end of the calendar year after adoption of the Groundwater Sustainability Plan.

Section 4. Inspection of Metering Equipment

The Agency may inspect metering equipment installations for compliance with this policy at any reasonable time.

ARTICLE 4. Altering Metering Equipment

Any person who alters, removes, resets, adjusts, manipulates, obstructs or in any manner interferes or tampers with or procures or causes or directs any person to alter, remove, reset, adjust, manipulate, obstruct or in any manner interfere or tamper with

any metering equipment affixed to any groundwater extraction facility required by this policy, so as to cause said metering equipment to improperly or inaccurately measure and record said groundwater extraction is guilty of an intentional violation of this policy as described in Article 6.

ARTICLE 5. Appeals

Any operator aggrieved by a decision or determination made by the Agency Coordinator may appeal to the Board within thirty (30) calendar days thereof by filing with the Agency Coordinator a written request that the Board review the decision of the Agency Coordinator. The Board shall act on the appeal within 120 days after the filing.

ARTICLE 6. Penalties

Any operator or person who intentionally violates any provision of this policy shall be guilty of an infraction and may be required to pay a fine to the Agency not to exceed five hundred dollars ($500).

Any operator or person who negligently or intentionally violates any provision of this policy may also be liable civilly to the Agency for a sum not to exceed one thousand dollars ($1,000) per day for each day of such violation, in addition to any other penalties that may be prescribed by law.

Upon the failure of any operator or person to comply with any provision of this policy, the Agency may petition the Superior Court for a temporary restraining order, preliminary or permanent injunction, or such other equitable relief as may be appropriate. The right to petition for injunctive relief is an additional right to those which may be provided elsewhere in this policy or otherwise allowed by law.

The Agency may petition the Superior Court of the County to recover any sums due the Agency.

ARTICLE 7. Effective Date

Section 1. Effective Date

This policy shall become effective on the thirty-first day after adoption until further notice.

ARTICLE 8. Amendment

This Policy may only be modified or amended by the majority vote of the Board of Directors of the PVGSA.

ADOPTED, SIGNED AND APPROVED this 22nd day of March, 2022 by the following vote:

AYES: 6

NOES: 0

ATTEST

James Anderson, Secretary
Pleasant Valley GSA

Brad Gleason, President
Pleasant Valley GSA

CERTIFICATE OF SECRETARY

I hereby certify that I am the Secretary of Pleasant Valley Water District and that the foregoing Resolution was duly adopted by the Board of Directors of said District at the Meeting duly held on 22 March, 2022, at which meeting a quorum of said Board of Directors was at all times present and acting.

James Anderson, Secretary
Pleasant Valley GSA

To be replaced with signed version
Approved at March 22, 2022 Meeting

CONTRACT BETWEEN WESTLANDS WATER DISTRICT AND THE PLEASANT VALLEY WATER DISTRICT FOR THE TRANSPORTATION OF WATER

THIS CONTRACT ("Contract"), dated April 21, 2022, is entered by and between the Pleasant Valley Water District ("PVWD"), a California water district in Fresno County, within the State of California, duly organized, existing and acting pursuant to the laws thereof; and Westlands Water District ("WWD"), a California water district in Fresno and Kings Counties, within the State of California, duly organized, existing and acting pursuant to the laws thereof. PVWD and WWD are sometime referred to herein as a "Party" and collectively as the "Parties".

WHEREAS, the United States and WWD previously entered into agreements that authorize and direct WWD to operate and maintain facilities that serve the Department of Fish and Wildlife, the City of Huron, and the City of Coalinga, which includes facilities that could be used to pump, convey, and deliver water to PVWD (collectively referred to herein as the "Coalinga Canal System"); and

WHEREAS, by entering into this Contract, PVWD and WWD (1) wish to establish the terms and conditions under which: (a) WWD will transport water to PVWD using existing facilities, and (b) PVWD will pay for a share of the costs incurred by WWD for the operation, maintenance and replacement of the Coalinga Canal System involving no expansion of existing capacity or other substantial change in use, and (2) is not intended to affect the ability of PVWD to utilize the Coalinga Canal System under Federal, State or local law, ordinance or regulation, if this Contract terminates.

NOW, THEREFORE, in consideration of the covenants herein contained:

1. WWD will transport for PVWD water made available by the United States to PVWD. "Transport" means to pump, convey, and/or deliver water. "Water made available by the United States" means any water acquired from any source by PVWD and conveyed, at least in part, by the United States through facilities of the Central Valley Project ("CVP") for PVWD. Nothing in this paragraph is intended to limit the source or type of water PVWD may acquire or that may be

transported in the Coalinga Canal, subject to the authorizations described in paragraph 3, below. The transportation of such water also shall be subject to: (1) the terms and conditions of any applicable contracts and agreements between WWD (or the distribution districts within WWD) and the United States that provide for service of CVP water and operation and maintenance of certain CVP facilities, and (2) the terms and conditions of this Contract. To the extent the terms and conditions of the contracts and agreements between WWD (or the distribution districts within WWD) and the United States and the terms and conditions of this Contract conflict, the terms and conditions of the contracts and agreements between WWD (or the distribution districts within WWD) and the United States shall control. The agreements and contracts referenced in this paragraph establish the terms and conditions for WWD's operation and maintenance of CVP facilities, including the Coalinga Canal System. Nothing contained in this Contract is intended to require or shall be construed as requiring WWD to furnish, install, or maintain equipment or facilities for the transportation of water to PVWD.

2. PVWD acknowledges that it will be responsible to pay the San Luis & Delta-Mendota Water Authority, and may be responsible to the United States Bureau of Reclamation and/or California Department of Water Resources for costs incurred to transport water to PVWD, including but not limited to costs for operating and maintaining facilities.

3. PVWD shall be responsible for obtaining any required approvals, consents, permits, reports, and orders (referred to herein as "authorizations") and for ensuring compliance with the California Environmental Quality Act ("CEQA") for such authorizations as a lead or responsible agency, as applicable, for all water it seeks to have WWD transport and would be made available by the United States, and shall provide WWD with copies or other written documentation evidencing the authorizations: (1) within three days of obtaining the authorizations, and (2) prior to the date or dates on which PVWD seeks to have WWD transport the water. In all circumstances, WWD shall have no obligation to PVWD to transport water pursuant to this Contract unless and until PVWD provides WWD with copies or other written documentation evidencing the necessary authorizations and CEQA compliance.

4. PVWD acknowledges that acquiring water entails risks and that the water made available to it may not be transported by WWD due to conflict with regulatory restrictions, operational constraints, or other constraints on facilities that prevent WWD from transporting the water. WWD

shall be solely responsible for determining whether conveyance capacity exists to transport water for PVWD.

5. The water made available by the United States to PVWD will be transported by WWD from the San Luis Canal through the Coalinga Canal System to the diversion facilities of PVWD or its designee at Mile 14.55 or Engineer's Station 771+60 on the right bank of the Coalinga Canal, or any other diversion facilities agreed upon in writing by the Parties, hereinafter referred to as the "delivery points," in accordance with the requests therefor made pursuant to paragraph 6; Provided, that, WWD shall transport for PVWD only such amounts of water as are made available by the United States to PVWD and for which WWD determines conveyance capacity exists.

6. Prior to March 1 of a given year or subsequent as may be needed, PVWD shall notify WWD of its intent to request WWD transport water for PVWD during the period March 1 of that year and prior to the end of February of the following year. PVWD shall notify WWD of PVWD's desire for WWD to commence or terminate the transportation of water or any change in the amount of water to be transported not later than 9 A.M. on the day preceding the commencement, termination or change in quantity, except that such notice with respect to service on Mondays shall be given not later than 10 A.M. on the preceding Saturday.

7. PVWD shall be responsible for the installation, operation, and maintenance of the diversion facilities necessary to take water at the delivery point(s); Provided, that, PVWD shall be responsible for obtaining authorization for any and all of the installation, operation, and maintenance activities, including but not limited to approvals, rights, consents, licenses, and permits; Provided, further that, the design of such diversion facilities shall be approved by WWD and the diversion facilities shall not be installed without WWD's prior written consent, not to be unreasonably withheld.

8. All water made available by the United States to PVWD and transported by WWD shall be measured by WWD with equipment installed, operated, and maintained by WWD. PVWD authorizes WWD to install on the PVWD diversion facilities measurement equipment the District deems necessary to satisfy its right and obligation under this Contract or the agreements and contracts referenced in paragraph 1, above. All WWD costs, including staff time, for the purchase and installation of the measurement equipment shall be paid by PVWD. All WWD measurements shall be final and conclusive, Provided, that, upon request of PVWD, WWD will investigate the accuracy of such measurements and will correct for any meter malfunctions or billing errors.

PVWD may install or construct any equipment on PVWD's diversion facilities, provided, however, that such equipment does not interfere with the District's or PVWD's rights and obligations under this Contract or the District's rights and obligations under the agreements and contracts referenced in paragraph 1, above, including but not limited to the District's ability to measure the water transported by WWD. Nothing contained in this Contract shall be construed as requiring WWD to furnish, install, operate, or maintain equipment or facilities for the transportation of water to PVWD.

9. In addition to PVWD paying for costs to purchase and install measurement equipment, PVWD shall pay WWD all rates, charges, fees, or any other expenses necessary for WWD to recover PVWD's share of costs WWD incurs for operation and maintenance of facilities used to make water available to PVWD ("Transportation Charges"). The Transportation Charges will be expressed as an amount per acre foot. Exhibit A hereto presents the Transportation Charges for the year this Contract become effective. The Transportation Charges are calculated annually, and WWD may amend, at its sole discretion, the costs reflected in the Transportation Charges and in Exhibit A if WWD determines that amendments are required for WWD to recover PVWD's share of costs WWD incurs for operation and maintenance of facilities used. If WWD amends the Transportation Charges, Exhibit A will be updated to reflect the amendment without this Contract being amended. WWD and PVWD acknowledge that PVWD will be responsible to other entities, including the United States, Department of Water Resources and/or the San Luis & Delta-Mendota Water Authority, for costs and/or additional charges when the United States makes water available to PVWD. WWD is not liable for any of those costs or charges and will not be responsible for collecting from PVWD or paying for PVWD any of those costs or charges.

10. PVWD acknowledges and agrees that WWD's ability to transport water to PVWD is subject to and will have a lower priority than water WWD transports for use within its service area, or for the City of Coalinga. In the event WWD reasonably determines, at its sole discretion, a request by PVWD for WWD to transport water would result in the inability of WWD to meet the demand for agricultural water service from WWD's users of such water and the City of Coalinga, WWD will either deny the request, delay delivery, or transport only that quantity of water that can be transported without impacting agricultural water service from WWD's users and the City of Coalinga.

11. WWD will submit written invoices to PVWD monthly for the Transportation Charges incurred in the preceding month. The invoices will be for the Transportation Charges and WWD shall calculate the amount due by multiplying each component of the Transportation Charge by the number of acre-feet of water transported by WWD to PVWD. PVWD shall pay each invoice within 15 days of the date of its receipt of the invoice. If PVWD fails or refuses to make such payment by the due date required, WWD shall not be obligated to transport any additional water requested by PVWD unless and until such payment is made. Further, if a payment is not received by the due date required, a penalty of ten percent (10%) of the delinquent amount as well as monitoring fees shall be added to the amounts then due. In addition, delinquent amounts, including penalties and monitoring fees, shall accrue interest at a monthly rate of one and one-half percent (1 1/2%). The delinquent amounts, penalties, fees, and interest accrued is referred to herein as the "Delinquent Amounts". If a partial payment on a Delinquent Amounts is received, the amount paid shall be applied, first to the principal on outstanding Transportation Charges, then to penalties, fees, and accrued interest. Upon receipt by WWD of the required payment from PVWD (extinguishing the Delinquent Amount), WWD shall restore water conveyance to PVWD no later than 5:00 p.m. the following day. In the event water conveyance to PVWD is terminated and later restored, PVWD will deposit to WWD twelve months of Advance Payment Monitoring fees for restoration of said service within thirty (15) days of billing by WWD said amount to be in addition to any other amounts required by this Contract. If there are Delinquent Amounts due for sixty (60) or more days, in addition to the Delinquent Amount, (1) PVWD shall pay any reasonable fees incurred by WWD for debt collection services WWD obtains to collect the Delinquent Amounts, and (2) WWD shall have the right to terminate this Contract pursuant to paragraph 17 below.

12. No liability shall accrue against WWD, its officials, employees, attorneys, officers, and agents and PVWD shall hold WWD, its officials, employees, attorneys, officers, and agents harmless from any damage or loss incurred to persons or property as a result of: (1) suspension, diminution, or other variation of service hereunder, or (2) WWD's operation and maintenance of CVP facilities, including the Coalinga Canal System, including as a result of the quality of water transported and/or made available to PVWD. This PVWD hold harmless obligation shall survive termination of this Contract.

13. No liability shall accrue against WWD, its officials, employees, attorneys, officers, and agents for any costs, including but not limited to attorneys' fees, consultants' costs, or litigation

expenses incurred in defending any lawsuit, arising in connection with obtaining the authorizations described above in paragraph 3 (referred to herein as "authorization costs"), or for the control, carriage, handling, use, disposal, or distribution of water beyond the points of delivery, and PVWD shall indemnify, reimburse, and hold WWD, its officials, employees, attorneys, officers, and agents harmless from any authorization costs and from any damage or loss incurred to persons or property beyond the points of delivery. This PVWD hold harmless obligation shall survive termination of this Contract.

14. WWD is under no obligation to construct or furnish water treatment or other facilities to maintain or to better the quality of water. WWD does not warrant the quality of water to be transported pursuant to this Contract, and WWD, its officials, employees, attorneys, officers, and agents shall not accrue any liability to PVWD because of the quality of the water WWD transports to PVWD. PVWD shall hold WWD, its officials, employees, attorneys, officers, and agents harmless from any damage or loss incurred to persons or property due to the quality of water WWD transports to PVWD. This PVWD hold harmless obligation shall survive termination of this Contract.

15. In addition to WWD's right to discontinue or reduce the quantity of water transported under other sections of this Contract, WWD may temporarily discontinue or reduce the quantity of water transported for the purpose of investigation, inspection, maintenance, repair, replacement, or other operation and maintenance activity, as WWD, at its sole discretion, deems reasonably necessary for the Coalinga Canal System or any other facilities involved in WWD transporting water for PVWD. WWD shall use its best efforts to coordinate such "shut off" with PVWD in order to minimize harm to PVWD if possible and will give PVWD notice at least fifteen (15) days in advance of any such discontinuance or reduction. WWD shall have no obligation to provide PVWD notice in the case of an emergency. WWD, at its sole reasonable discretion, shall determine if there is an emergency.

16. This Contract shall terminate: (1) upon the termination of those obligations established by the agreements and contracts referenced in paragraph 1 of this Contract, which are by and between the United States and WWD and that provide for WWD to operate and maintain the Coalinga Canal System, however, prior to terminating pursuant to this paragraph, the parties shall seek to negotiate, in good faith, amendments to this Contract that would maintain the purpose and intent of this Contract; (2) if a party determines that this Contract is inconsistent with the party's

practices, policies, rules, or regulations; provided, however, prior to terminating pursuant to this paragraph, the parties shall seek to negotiate, in good faith, amendments to this Contract that would avoid the Contract being inconsistent with the practices, policies, rules, or regulations; provided further, if those negotiations are not successful, the party seeking termination shall provide the other with at least six (6) months prior written notice of termination; or (3) upon PVWD's material breach of this Contract. Upon termination of this Contract, the PVWD shall remain obligated to pay all outstanding Transportation Charges and Delinquent Amounts and that obligation shall survive termination of this Contract.

17. Any written notice requirement to the Parties under this Contract shall be delivered to the following:

Pleasant Valley Water District
Attn: Board President
P.O. Box 468
Coalinga, CA 93210

Westlands Water District
Attn: General Manager
P.O. Box 6056
Fresno, CA 93703

The addresses provided in this paragraph may be updated without amendment of this Contract.

18. This Contract contains the entire agreement and understandings between the Parties to it with respect to the matters covered hereby and supersedes all prior agreements, negotiations, and discussions.

IN WITNESS WHEREOF the Parties hereto have executed this Contract as of the day and the year first hereinabove written.

WESTLANDS WATER DISTRICT

Chief Operating Officer — April 21, 2022 — Date

PLEASANT VALLEY WATER DISTRICT

Board President — 4-19-22 — Date

EXHIBIT A
TRANSPORTATION CHARGES

WESTLANDS WATER DISTRICT
PLEASANT VALLEY WATER DISTRICT
2022-2023 Fiscal Year

Sample Draft

	Direct Costs				
Pumping	Salaries P.V.P.P.	52100	217,300.00		
	System Maintenance - P.V.P.P.	52200	166,100.00		
	Other Expenses - P.V.P.P.	52900	115,800.00		
				499,200.00	[1]
	Dept 331 inventory withdrawals re	FY 18-19	3,721.05		
	supplies for general use by PVPP Dept	FY 19-20	3,936.07		
		FY 20-21	1,074.59		
			8,731.71		
				2,910.57	[2]
Trans & Distrib.	Power - Coalinga Canal	54420	5,000.00		
				5,000.00	[1]
	Direct workorder labor	FY 18-19	162,054.76		
		FY 19-20	201,225.81		
		FY 20-21	61,483.59		
			424,764.16		
				141,588.05	[2]
	Total Estimated Direct Costs			**648,698.62**	

Acre-feet delivered through Coalinga Canal

	District Total A/F Delivered	Total C.C.	% of Total		
FY 18-19	667,140	88,233	13.23%		
FY 19-20	949,107	114,746	12.09%		
FY 20-21	414,544	60,800	14.67%		
Estimated FY 22-23	180,491		13.33%	24,055	[3]

USBR Construction Cost	$	63.36
Direct Costs per acre-foot (Total Costs / af thru CC)	$	90.33
Indirect Cost per acre-foot (per modified transportation charge calculation)		$76.69
Total Estimated Cost per acre-foot	**$**	**167.02**
Estimated number of acre-feet to be delivered		3,000 [4]
Total Estimated Charges 2021-2022	**$**	**501,060.00**
1/2 of Estimated Charges Due Now Per Agreement	**$**	**250,530.00**

Sample Draft

[1] Estimate based upon budget.
[2] Estimate based upon previous three years average
[3] Estimate based upon three year Coalinga Canal average percentage of total Westlands deliveries.
[4] Estimate

Appendix M – Domestic Well Users – Well Completion Reports

Pacific Surveys

a full service geophysical well logging company

Water Quality Analysis

Company:		**Date:**	13-Oct-14
Well:	MOUREN SEC 1	**Run:**	ONE
Field:	AVENAL	**Job Ticket:**	18654
State:	CA	**Total Depth:**	1372 ft

Rmf @ Temp: 4.95 **Temp:** 75.5
Corrected Rmf @ 75 degree F: 4.98
Rm @ Temp: 4.95

Depth	S.P. mV	Rwe ohm-m	Rw *NaCl* ohm-m	Rw *NaHCO3* ohm-m	EC umhos *NaCl*	EC umhos *NaHCO3*	T.D.S *ppm* NaCl	T.D.S *ppm* $NaHCO_3$	Remarks
330 ft to 342 ft	-3.00	4.5	5.2	6.2	1905.8	1619.9	1010.1	1619.9	CLASS II
380 ft to 480 ft	-4.00	4.4	5.0	5.9	1983.5	1686.0	1051.3	1686.0	CLASS II
500 ft to 540 ft	-5.00	4.2	4.8	5.7	2064.4	1754.7	1094.1	1754.7	CLASS II
600 ft to 660 ft	-4.00	4.4	5.0	5.9	1983.5	1686.0	1051.3	1686.0	CLASS II
695 ft to 805 ft	-3.00	4.5	5.2	6.2	1905.8	1619.9	1010.1	1619.9	CLASS II
880 ft to 895 ft	-3.00	4.52	5.25	6.17	1905.82	1619.95	1010.09	1619.95	CLASS II
1030 ft to 1110 ft	-5.00	4.23	4.84	5.70	2064.39	1754.73	1094.13	1754.73	CLASS II
1145 ft to 1175 ft	-6.00	4.10	4.65	5.48	2148.56	1826.27	1138.74	1826.27	CLASS II

Class I : Less than *700* ppm (mg/l) Excellent to Good Quality
Class II : *700* to *2000* ppm (mg/l) Good to Injurious Quality
Class III: More than *2000* ppm (mg/l) Injurious to Unsatisfactory

This interpretation represents our best judgement based on given values. Since all interpretations are opinions based solely on interference from electrical and other measurements, we can not and do not guarantee the accurancy or correctness of this interpretation and shall not be liable for any cost, damages or expenses that may be incurred from this or any other interpretation.

800.919.7555
909.625.6262

4456 Via St. Ambrose.
claremont ca 91711

fax: 909.399.3180

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e066551

DWR USE ONLY — DO NOT FILL IN
22S/16E-10J2
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. MOUREN SEC. 2
Date Work Began 10/4/06, Ended 10/25/06
Local Permit Agency FRESNO COUNTY
Permit No. WP-0627032 Permit Date 9/25/06

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL — HORIZONTAL — ANGLE — (SPECIFY)
DRILLING METHOD ROTARY FLUID Bentonite

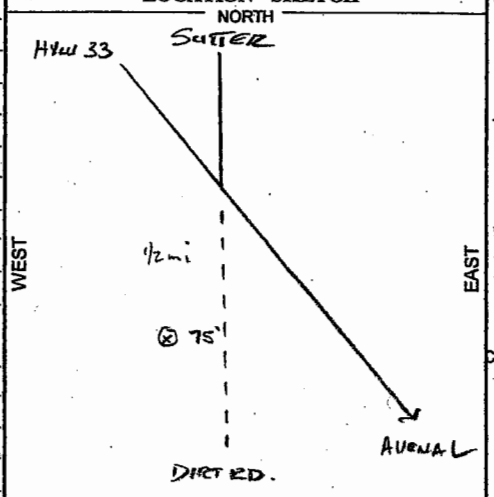
DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	7	BROWN SANDY TOP SOIL
7	90	MEDIUM BROWN SAND
90	100	BROWN CLAY & SAND
100	110	MEDIUM BROWN SAND
110	120	BROWN CLAY & SAND
120	150	MEDIUN BROWN SAND
150	160	BROWN CLAY
160	250	MEDIUM BROWN SAND& CLAY
250	310	GRITTY BROWN CLAY
310	360	MEDIUM BROWN SAND & CLAY
360	530	GRITTY BROWN CLAY
530	540	SAND & CLAY
540	1220	GRITTY BROWN CLAY

TOTAL DEPTH OF BORING 1220 (Feet)
TOTAL DEPTH OF COMPLETED WELL 880 (Feet)

WELL LOCATION

Address SUTTER & HYW 33
City AVENAL CA 93210
County FRESNO
APN Book 090 Page 030 Parcel 04
Township 22 S Range 16 E Section 2
Latitude 36 DEG. 2 MIN. 37 N SEC. 120 DEG. 11 MIN. 57 W SEC.

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)
✓ NEW WELL
MODIFICATION/REPAIR
— Deepen
— Other (Specify)
— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)
WATER SUPPLY
— Domestic — Public
✓ Irrigation — Industrial
MONITORING —
TEST WELL —
CATHODIC PROTECTION —
HEAT EXCHANGE —
DIRECT PUSH —
INJECTION —
VAPOR EXTRACTION —
SPARGING —
REMEDIATION —
OTHER (SPECIFY) —

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER ? (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL — (Ft.) & DATE MEASURED —
ESTIMATED YIELD * — (GPM) & TEST TYPE —
TEST LENGTH — (Hrs.) TOTAL DRAWDOWN — (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	40	42			✓		STEEL	30	.312	
0	296	28	✓				STEEL	16	.312	
296	880	28		✓			STEEL	16	.312	.070 X 32

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	48	✓			
48	910				

ATTACHMENTS (✓)
✓ Geologic Log
— Well Construction Diagram
— Geophysical Log(s)
— Soil/Water Chemical Analysis
— Other
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
NAME Farm Pump and Irrigation
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
P.O. Box 1477 Shafter CA 93263
ADDRESS CITY STATE ZIP
Signed [signature] 10/31/06
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED
602148 C-57
C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

Page 1 of 1

Owner's Well Number B4905

Date Work Began 01/09/2017 Date Work Ended 1/18/2017

Local Permit Agency Kings County

Permit Number N/A Permit Date 8/10/16

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0335557

DWR Use Only – Do Not Fill In

State Well Number/Site Number: 22S17E05

Latitude N Longitude W

APN/TRS/Other

Geologic Log

Orientation ⦿ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand
15	40	Sand/Rock
40	75	Sand/Clay
75	95	Sand
95	120	Clay
120	170	Clay/Sand
170	190	Sand
190	260	Sand/Clay
260	370	Clay(Hard)
370	400	Sand/Clay
400	460	Clay/Shale
460	500	Sand/Clay

Total Depth of Boring 500 Feet

Total Depth of Completed Well 483 Feet

Well Location

Address L800, MP 0.00 Station 89

City Avenal County Kings

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

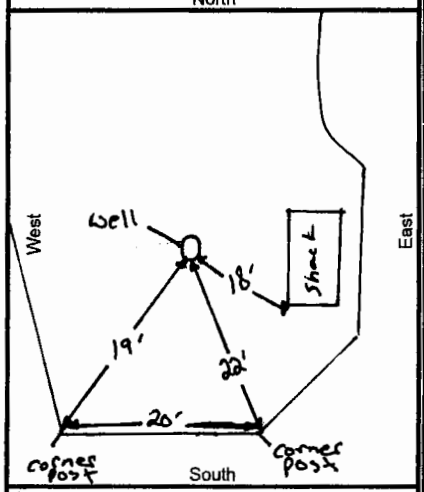
Datum Dec. Lat. Dec. Long.

APN Book 038 Page 050 Parcel 002

Township 22 Range 17 Section 5S

Location Sketch

(Sketch must be drawn by hand after form is printed.)



Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. **Please be accurate and complete.**

Activity

⦿ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply
☐ Domestic ☐ Public
☐ Irrigation ☐ Industrial
⦿ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
○ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

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

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
		10	Blank	PVC Sch. 40		2		0.000

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
4	170	Cement	10 Sk Sand Slurry
170	500	Fill	Coke Breeze

Attachments

☐ Geologic Log
☐ Well Construction Diagram
☐ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☐ Other

Attach additional information, if it exists.

Certification Statement

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

Name Farwest Corrosion Control Company
Person, Firm or Corporation

1120 Carrier Parkway Bakersfield CA 93308
Address City State Zip

Signed
C-57 Licensed Water Well Contractor

2-14-17 Date Signed

248232 C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0335560

Page 1 of 1

Owner's Well Number B4905

Date Work Began 02/09/2017 Date Work Ended 2/9/2017

Local Permit Agency Kings County

Permit Number N/A Permit Date 8/10/16

DWR Use Only – Do Not Fill In

State Well Number/Site Number: 22S17E05

Latitude N Longitude W

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Drilling Fluid

Depth from Surface Feet	to Feet	Description (Describe material, grain size, color, etc)
		The existing well head was cut down 5' below
		grade level. Portland cement #47 was top poured
		down into the 1" vent pipe to a depth of 53' the
		crew continued to pour the cement until it over-
		flowed at the top to form a mushroom seal.

Total Depth of Boring Feet

Total Depth of Completed Well Feet

Well Location

Address L800 MP 0.00 Station 89

City Avenal County Kings

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

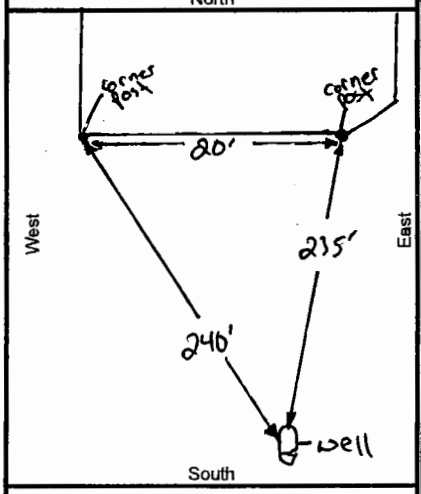
Datum Dec. Lat. Dec. Long.

APN Book 038 Page 050 Parcel 002

Township 22 Range 17 Section 5S

Location Sketch

(Sketch must be drawn by hand after form is printed.)



Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

Activity

- ○ New Well
- ○ Modification/Repair
  - ○ Deepen
  - ○ Other
- ◉ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

- ○ Water Supply
  - ☐ Domestic ☐ Public
  - ☐ Irrigation ☐ Industrial
- ◉ Cathodic Protection
- ○ Dewatering
- ○ Heat Exchange
- ○ Injection
- ○ Monitoring
- ○ Remediation
- ○ Sparging
- ○ Test Well
- ○ Vapor Extraction
- ○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

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

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
5	53	Cement	Portland Cement

Attachments

- ☐ Geologic Log
- ☐ Well Construction Diagram
- ☐ Geophysical Log(s)
- ☐ Soil/Water Chemical Analyses
- ☐ Other

Attach additional information, if it exists.

Certification Statement

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

Name Farwest Corrosion Control Company
Person, Firm or Corporation

1120 Carrier Parkway Address Bakersfield City CA State 93308 Zip

Signed C-57 Licensed Water Well Contractor 2-14-207 Date Signed 248232 C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

State of California

Well Completion Report

Form DWR 188 Complete 9/23/2021

WCR2021-011183

Owner's Well Number | Date Work Began: 08/11/2021 | Date Work Ended: 08/30/2021

Local Permit Agency: Fresno County Environmental Health Department

Secondary Permit Agency | Permit Number: WELL00041405 | Permit Date: 08/11/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: XXXXXXXXXXXXXXXXXXX

Mailing Address: XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City: XXXXXXXXXXXXXXXXXXX | State: XX | Zip: XXXXX

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Domestic

Well Location

Address:

City: | Zip: | County: Fresno

Latitude: 36 Deg. 2 Min. 23.677 Sec. N | Longitude: -120 Deg. 10 Min. 0.6337 Sec. W

Dec. Lat.: 36.0399103 | Dec. Long.: -120.1668427

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 090-160-13

Township: 22 S

Range: 17 E

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 620 Feet

Total Depth of Completed Well: 600 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 340 (Feet) | Date Measured: 09/02/2021

Estimated Yield*: 10 (GPM) | Test Type: Air Lift

Test Length: 3 (Hours) | Total Drawdown: (feet)

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

Geologic Log - Lite

Depth from Surface Feet to Feet		Material Type	Material Color	Material Texture	Material Description
0	20	Sand			
20	65	Clayey Sand			
65	120	Clayey Sand			
120	200	Clay			
200	280	Clay			
280	320	Clay			
320	370	Clay			
370	400	Clay		Coarse	
400	483	Sand			
483	503	Sand			
503	526	Sand			
526	555	Clay			
555	575	Clayey Gravel			
575	593	Clayey Gravel			
593	620	Rock			5 HOURS

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	500	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			
1	500	620	Screen	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563	Milled Slots	0.002	

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Other Bentonite		BENTONITE CHIPS
20	620	Other Fill	See description.		GRAVEL

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	620	12

Certification Statement

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

Name: C R WELL DRILLING INC (Person, Firm or Corporation)

1654 S MADERA AVE (Address) | KERMAN (City) | CA (State) | 93630 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 09/02/2021 (Date Signed) | 1054971 (C-57 License Number)

Attachments

090-160-013 T GONZALES LOST HILL APP PERMIT.jpg - Permit

090-160-13 T GONZALES LOST HILL RD 33 MAP.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Complete 10/26/2021

WCR2021-011826

Owner's Well Number | Date Work Began: 09/01/2021 | Date Work Ended: 09/10/2021

Local Permit Agency: Fresno County Environmental Health Department

Secondary Permit Agency | Permit Number: WELL10062046 | Permit Date: 08/26/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: XXXXXXXXXXXXXXXXXXX

Mailing Address: XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City: XXXXXXXXXXXXXXXXXXX State: XX Zip: XXXXX

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Domestic

Well Location

Address:

City: Zip: County: Fresno

Latitude: 36 Deg. 2 Min. 15.018 Sec. N | Longitude: -120 Deg. 10 Min. 27.6859 Sec. W

Dec. Lat.: 36.037505 Dec. Long.: -120.1743572

Vertical Datum: Horizontal Datum: WGS84

Location Accuracy: Location Determination Method:

APN: 090-220-09

Township: 22 S

Range: 17 E

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical Specify:

Drilling Method: Direct Rotary Drilling Fluid: Bentonite

Total Depth of Boring: 620 Feet

Total Depth of Completed Well: 600 Feet

Water Level and Yield of Completed Well

Depth to first water: 347 (Feet below surface)

Depth to Static Water Level: (Feet) Date Measured: 09/10/2021

Estimated Yield*: 15 (GPM) Test Type: Air Lift

Test Length: 3 (Hours) Total Drawdown: (feet)

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

Geologic Log - Lite

Depth from Surface Feet to Feet		Material Type	Material Color	Material Texture	Material Description
0	10	Clay			
10	60	Clay			
60	120	Clayey Sand			
120	200	Sand			
200	260	Clay			
260	320	Sand			
320	380	Sandstone			
380	440	Sandstone			
440	480	Clay			
480	520	Clay			
520	560	Clayey Sand			
560	570	Sand			
570	620	Clay			

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	500	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			
1	500	620	Screen	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563	Milled Slots	0.002	

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Other Bentonite		HYDRO PLUG
20	620	Other Fill	See description.		GRAVEL

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	620	12

Certification Statement

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

Name: C R WELL DRILLING INC
Person, Firm or Corporation

1654 S MADERA AVE (Address) | KERMAN (City) | CA (State) | 93630 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 09/16/2021 (Date Signed) | 1054971 (C-57 License Number)

Attachments

090-220-09 A RODRIGUES APP PERMIT.jpg - Permit

REVISED 090-220-09 A BANUELOS MAP.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Complete 8/29/2023

WCR2023-008621

Owner's Well Number 1 | Date Work Began 07/27/2023 | Date Work Ended 07/31/2023

Local Permit Agency Fresno County Environmental Health Department

Secondary Permit Agency | Permit Number WELL10084853 | Permit Date 07/25/2023

Well Owner (must remain confidential pursuant to Water Code 13752)

Name XXXXXXXXXXXXXXXXXXX

Mailing Address XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City XXXXXXXXXXXXXXXXXXX | State XX | Zip XXXXX

Planned Use and Activity

Activity New Well

Planned Use Water Supply Domestic

Well Location

Address 47956 LOST HILLS

City HURON | Zip 93210 | County Fresno

Latitude 36 Deg. 2 Min. 21.9224 Sec. N | Longitude -120 Deg. 10 Min. 25.2407 Sec. W

Dec. Lat. 36.0394229 | Dec. Long. -120.173678

Vertical Datum | Horizontal Datum WGS84

Location Accuracy | Location Determination Method

APN 09018014S

Township 22 S

Range 17 E

Section 06

Baseline Meridian Mount Diablo

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation Vertical | Specify

Drilling Method Direct Rotary | Drilling Fluid Bentonite

Total Depth of Boring 636 Feet

Total Depth of Completed Well 636 Feet

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) | Date Measured

Estimated Yield* (GPM) | Test Type

Test Length (Hours) | Total Drawdown (feet)

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

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	25	Top Soil
25	40	Clay
40	60	Sand
60	70	Sand And Clay
70	75	Sand
75	455	Clay
455	460	Sand
460	470	Clay
470	480	Sand
480	495	Clay
495	500	Sand
500	515	Clay
515	520	Sand
520	530	Clay

530	540	Sand
540	560	Clay
560	565	Sand
565	575	Clay
575	580	Sand
580	585	Clay
585	595	Sand
595	620	Clay
620	636	Sand

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	336	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			
1	336	636	Screen	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563	Bridge Slot	0.032	

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Cement	Other Cement		20' Seal
20	636	Other Fill	See description.		Gravel Fill

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	636	14

Certification Statement

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

Name: 99 DRILLING LLC (Person, Firm or Corporation)

7375 E FLORAL AVE (Address) | SELMA (City) | CA (State) | 93662 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/06/2023 (Date Signed) | 1009544 (C-57 License Number)

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Complete 8/29/2023

WCR2023-008623

Owner's Well Number: 1 | Date Work Began: 08/01/2023 | Date Work Ended: 08/03/2023

Local Permit Agency: Fresno County Environmental Health Department

Secondary Permit Agency: | Permit Number: WELL10084854 | Permit Date: 07/24/2023

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: XXXXXXXXXXXXXXXXXXX

Mailing Address: XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City: XXXXXXXXXXXXXXXXXXX | State: XX | Zip: XXXXX

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Domestic

Well Location

Address:

City: | Zip: | County: Fresno

Latitude: 36 Deg. 2 Min. 18.6075 Sec. N | Longitude: -120 Deg. 10 Min. 12.0684 Sec. W

Dec. Lat.: 36.0385021 | Dec. Long.: -120.170019

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 09019020

Township: 22 S

Range: 17 E

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 670 Feet

Total Depth of Completed Well: 660 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

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

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	90	Sand
90	110	Clay
110	160	Sand
160	210	Clay
210	220	Sand
220	255	Clay
255	300	Sand
300	305	Clay
305	325	Sand
325	400	Clay
400	500	Sand
500	580	Sand And Clay
580	600	Sand And Gravel
600	620	Sand

620	635	Sand
635	670	Sand And Clay

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	360	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			
1	360	660	Screen	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563	Bridge Slot	0.032	
1	660	670	No Casing Installed	Other	N/A					No Casing Installed

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Cement	Other Cement		20' Seal
20	670	Other Fill	See description.		Gravel Fill

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	670	14

Certification Statement

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

Name: 99 DRILLING LLC
Person, Firm or Corporation

7375 E FLORAL AVE (Address) | SELMA (City) | CA (State) | 93662 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/06/2023 (Date Signed) | 1009544 (C-57 License Number)

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e049364

DWR USE ONLY — DO NOT FILL IN
22S/17E-07
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. MOUREN SEC 7N
Date Work Began 2/24/07, Ended 3/14/07
Local Permit Agency FRESNO COUNTY
Permit No. WP-0027321 Permit Date 2/15/07

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL — HORIZONTAL — ANGLE — (SPECIFY)
DRILLING METHOD REVERSE FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	6	BROWN TOP SOIL
6	56	BROWN SAND & CLAY
56	137	COARSE BROWN SAND
137	197	BROWN CLAY TRACE SAND
197	256	MEDIUM BROWN SAND & CLAY
256	580	GRITTY BROWN CLAY SAND STRINGERS
580	610	COARSE BROWN SAND & GRAVEL
610	805	GRITTY BROWN CLAY & SAND
805	897	BROWN CLAY & GRAVEL
897	1020	GRITTY BROWN CLAY

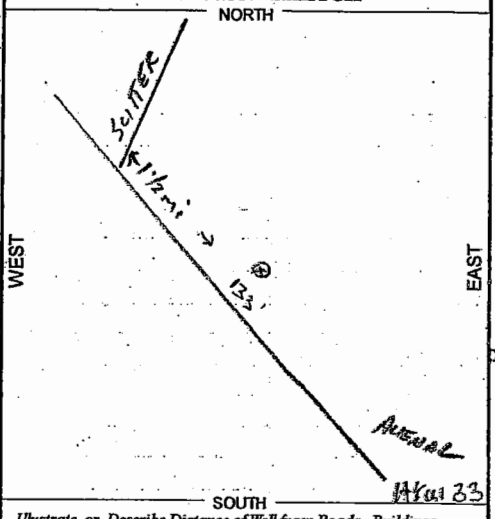
TOTAL DEPTH OF BORING 1020 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1000 (Feet)

WELL OWNER

WELL LOCATION

Address HYE33 1.5MI. S. OF SUTTER
City AVENAL CA
County FRESNO
APN Book 090 Page 040 Parcel 12
Township 22 S Range 17 E Section 7
Latitude 36 DEG. 2 MIN. 54 SEC. N
120 DEG. 10 MIN. 47 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)
✓ NEW WELL
MODIFICATION/REPAIR
— Deepen
— Other (Specify)
— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)
WATER SUPPLY
— Domestic — Public
✓ Irrigation — Industrial
MONITORING —
TEST WELL —
CATHODIC PROTECTION —
HEAT EXCHANGE —
DIRECT PUSH —
INJECTION —
VAPOR EXTRACTION —
SPARGING —
REMEDIATION —
OTHER (SPECIFY) —

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER ? (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL (Ft.) & DATE MEASURED
ESTIMATED YIELD * (GPM) & TEST TYPE
TEST LENGTH (Hrs.) TOTAL DRAWDOWN (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	40	42			✓		STEEL	30	.250	
0	315	28	✓				STEEL	16	.312	
315	1000	28		✓			STEEL	16	.312	.070 X 32

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	40	✓			
40	1020				BLENDED

ATTACHMENTS (✓)
✓ Geologic Log
— Well Construction Diagram
— Geophysical Log(s)
— Soil/Water Chemical Analysis
— Other
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
NAME Farm Pump and Irrigation
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
P.O. Box 1477 Shafter CA 93263
ADDRESS CITY STATE ZIP
Signed [signature] 03/14/07
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED
602148 C-57
C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR 22/17-6

Page 1 of 1

Owner's Well No. _____

Date Work Began 8/14/92, Ended 8/30/92

Local Permit Agency Fresno County

Permit No. 14656 Permit Date _____

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 410152

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

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

DEPTH TO FIRST WATER ___ (FT.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	20	surface clay
20	40	sand stone'
40	60	brown clay
60	80	brown clay
80	100	large sand
100	120	brown clay'
120	140	sand
140	160	large sand
160	180	brown clay
180	200	sand
200	220	Large sand
220	240	hard brown clay
240	260	brown clay
260	280	large white sand
280	300	good white sand
300	320	clay
320	340	brown sand
340	360	looses sand
360	380	brown clay
380	400	hard clay
400	420	loose white sand
420	440	large sand
440	460	brown clay
460	480	white sand
480	485	hard clay

OUTSIDE CORE
CLAY RING

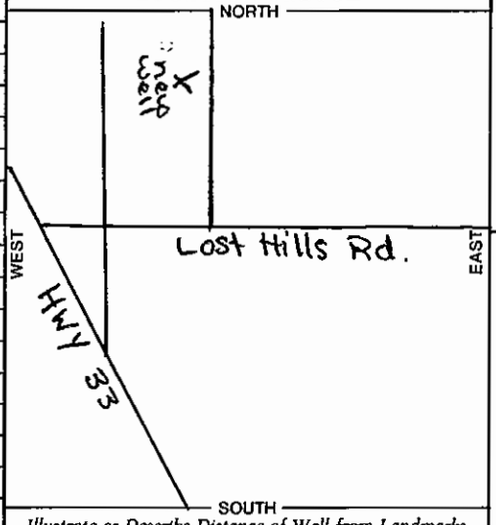
TOTAL DEPTH OF BORING 485' (Feet)
TOTAL DEPTH OF COMPLETED WELL 480' (Feet)

WELL OWNER

WELL LOCATION

Address same as above
City _____
County _____
APN Book _____ Page 26 Parcel 2
or
Township 22 s Range 17 e Section 6
or
Latitude _____ DEG. MIN. SEC. NORTH Longitude _____ DEG. MIN. SEC. WEST

LOCATION SKETCH



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

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD rotery FLUID mud

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 325 (Ft.) & DATE MEASURED 8/30/92
ESTIMATED YIELD* 30 (GPM) & TEST TYPE blow
TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN n/a (Ft.)
** May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	BLL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	400	13"	x					6"	sdr 21	
400	480	13"		x				6"	sdr 21	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	x			

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other _____

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

NAME B and B Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

509 E. Stanislaus ADDRESS Avenal, Ca. CITY 93204 STATE ZIP

Signed John Bass (WELL DRILLER/AUTHORIZED REPRESENTATIVE) 11-4-92 DATE SIGNED 648874 C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR 22/17-6

Page 1 of 1

Owner's Well No. _____

Date Work Began 9/1/92 , Ended 9/15/92

Local Permit Agency Fresno county

Permit No. 14751 Permit Date _____

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 410153

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

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

DEPTH TO FIRST WATER _____ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	20	suface clay
20	40	sand stone
40	60	brown clay
60	80	brown clay'
80	100	large sand
100	120	brown clay
120	140	sand
140	160	large sand
160	180	brown clay
180	200	sand
200	220	large sand
220	240	hard brown clay
240	260	brown clay
260	280	large white sand
280	300	good white sand
300	320	clay
320	340	brown sand
340	360	loose sand
360	380	brown clay
380	400	hard clay
400	420	loose white sand
420	440	large sand
440	460	brown clay
460	480	white sand
480	485	hard clay

OUTSIDE CORC. CLAY AREA

TOTAL DEPTH OF BORING 485 (Feet)

TOTAL DEPTH OF COMPLETED WELL 480 (Feet)

WELL OWNER

WELL LOCATION

Address Hwy 33 and Lost Hills rd.

City Coalinga CA 93210

County Fresno County

APN Book _____ Page 26 Parcel 16

or Township 22s Range 17e Section 6

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

LOCATION SKETCH



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

ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR

___ Deepen

___ Other (Specify)

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

PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY

X Domestic

___ Public

___ Irrigation

___ Industrial

___ "TEST WELL"

___ CATHODIC PROTECTION

___ OTHER (Specify)

DRILLING METHOD rotery FLUID mud

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 325 (Ft.) & DATE MEASURED 9/15/92

ESTIMATED YIELD* 30 (GPM) & TEST TYPE blow

TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN n/a (Ft.)

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

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL/ GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	400	13	x							
400	480	13		x						

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	x			

ATTACHMENTS (✓)

___ Geologic Log

___ Well Construction Diagram

___ Geophysical Log(s)

___ Soil/Water Chemical Analyses

___ Other _____

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

NAME B and B Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

509 E. Stanislaus Avenal , Ca. 93204
ADDRESS CITY STATE ZIP

Signed _____ WELL DRILLER/AUTHORIZED REPRESENTATIVE

11-4-92 DATE SIGNED

648874 C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

22/17-6

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 410154

Owner's Well No. N/A
Date Work Began 11/1/92, Ended 11/27/92
Local Permit Agency Fresno
Permit No. 15067 Permit Date 11/1/92

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ___ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 325 (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	20	Suface Clay
20	40	Sand Stone
40	60	Brown Clay
60	80	Brown Clay
80	100	large Sand
100	120	Brown Clay
120	140	Sand
140	160	large Sand
160	180	hard Brown Clay
180	200	brown Clay
200	220	Sand
220	240	Large Sand
240	260	hard Brown Clay
260	280	White Sand
280	300	White Sand
300	320	Clay
320	340	Brown Sand
340	360	Loose Sand
360	380	Brown Clay
380	400	hard Clay
400	420	loose sand
420	440	large Sand
440	460	Brown Clay
460	480	White Sand
480	500	hard Clay

OUTSIDE CITY LIMITS

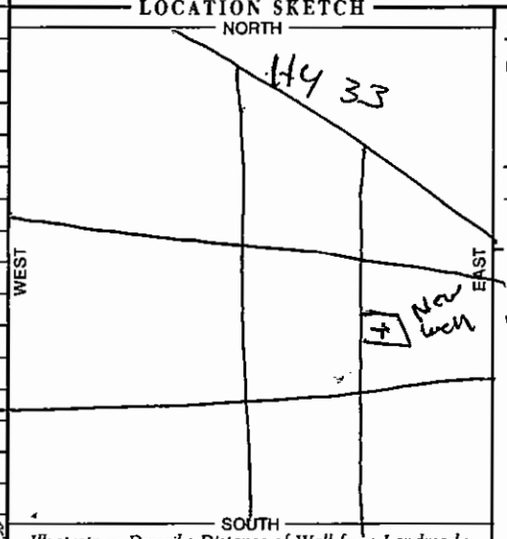
TOTAL DEPTH OF BORING 500 (Feet)
TOTAL DEPTH OF COMPLETED WELL 487 (Feet)

WELL OWNER

WELL LOCATION

Address Lost Hill Rd - 47648
City AVENAL
County Fresno
APN Book ___ Page ___ Parcel ___
or Township 22S Range 17E Section 6
or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



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

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Rotary FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 325 (Ft.) & DATE MEASURED 11/27/92
ESTIMATED YIELD* 60 (GPM) & TEST TYPE Blow
TEST LENGTH 24 (Hrs.) TOTAL DRAWDOWN 400 (Ft.)
* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	450	12¼	X				~~Hoop~~ mchtL	6	106A	—
450	500	12½		X			mchtL	6	106A	3/32

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			
~~20~~	~~500~~				

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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

NAME Bar B Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
1068 S 7th ADDRESS Avenal CITY CA STATE 93204 ZIP

Signed John Bass WELL DRILLER/AUTHORIZED REPRESENTATIVE
11/27/92 DATE SIGNED
648874 C-57 LICENSE NUMBER

DWR 188 REV 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

State of California

Well Completion Report

Form DWR 188 Complete 5/10/2018

WCR2018-002926

Owner's Well Number | Date Work Began 03/26/2018 | Date Work Ended 04/05/2018

Local Permit Agency Fresno County Environmental Health Department

Secondary Permit Agency | Permit Number 0038986 | Permit Date 04/03/2018

Well Owner (must remain confidential pursuant to Water Code 13752)

Name XXXXXXXXXXXXXXXXXXX

Mailing Address XXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

City XXXXXXXXXXXXXXXXXXX State XX Zip XXXXX

Planned Use and Activity

Activity New Well

Planned Use Water Supply Domestic

Well Location

Address 0 S LOST HILLS RD

City AVENAL Zip 93204 County Fresno

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

Dec. Lat. 36.037308 Dec. Long. -120.180426

Vertical Datum Horizontal Datum WGS84

Location Accuracy Location Determination Method

APN 090-210-18

Township 22

Range 17

Section 06

Baseline Meridian

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation Vertical Specify

Drilling Method Direct Rotary Drilling Fluid Water

Total Depth of Boring 580 Feet

Total Depth of Completed Well 550 Feet

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level 350 (Feet) Date Measured 04/05/2018

Estimated Yield* 20 (GPM) Test Type Air Lift

Test Length 2.5 (Hours) Total Drawdown (feet)

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

Geologic Log - Lite

Depth from Surface Feet to Feet		Material Type	Material Color	Material Texture	Material Description
0	2	Clay	Brown	Hard	
2	7	Sand	Brown	Sandy	
7	100	Sandstone	Brown	Hard	
100	110	Clayey Gravel	Brown	Dry	
110	170	Clayey Sand	Brown	Clayey	
170	185	Sand	Brown	Sandy	
185	220	Clayey Sand	Brown	Clayey	
220	240	Claystone	Cream	Clayey	
240	280	Clayey Sand	Brown	Coarse	
280	321	Sandstone	Brown	Hard	
321	380	Clayey Sand	Brown	Hard	
380	415	Sand	Brown	Sandy	
415	440	Sand	Brown	Hard	
440	500	Clay	Brown	Clayey	
500	523	Claystone	Brown	Hard	

523	537	Clayey Sand	Brown	Clayey	
537	545	Clay	Brown	Clayey	
545	552	Sand	Brown	Sandy	
552	580	Clay	Brown	Clayey	

This is incorrect-Calvin Monreal, most likely screen is from 380 to 580. Being the water level was at 350 in 2018.

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	160	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots		
1	160	580	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots	1.5	

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Other Bentonite		3/8 PLUG
20	580	Other Fill	See description.		GRAVEL

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	580	12

Certification Statement

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

Name: C R WELL DRILLING (Person, Firm or Corporation)

1654 S MADERA (Address) | KERMAN (City) | CA (State) | 93630 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 04/06/2018 (Date Signed) | 995978 (C-57 License Number)

Attachments

LOST HILL PERMIT.pdf - Permit

LOST HILL MAP.pdf - Other

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

Appendix N – Data Gap Memo

PLEASANT VALLEY GSP
SUMMARY OF MW-1 FINDINGS

1. MW-1 is located about a mile south of W. Jayne Avenue and half a mile east of Highway 33. It is located about a mile southwest of Warthen Creek. Deposits above a depth of 380 feet were unsaturated. Groundwater was encountered below ~~above~~ a depth of 380 feet.

2. The deposits were primarily clay, silty clay, or sandy clay, interbedded with fine sand. Fine-grained deposits were present in the following depth intervals:

   Clay: 90 to 210 feet, 230 to 293 feet, 294 to 337 feet, 370 to 377 feet, and 389 to 515 feet.

   Silty clay: 10 to 400 feet and 68 to 84 feet.

   Sandy clay: 339 to 360 feet.

   A geologic log is attached.

3. The saturation percentages (specific retentions) ranged from 27 to 33%, and averaged 30%. These were generally for fine sand.

4. The electrical conductivities (ECs) of saturated pastes for the alluvium between 60 and 90 feet in depth ranged from 2.29 to 2.74 dS/m, and averaged 2.52 dS/m. No valid samples of unsaturated alluvium could be obtained below 90 feet until a depth of 360 feet. The electrical conductivity at 360 feet in depth was 1.50 dS/m. The EC's for the

alluvium between 60 and 90 feet in depth reflect irrigation return flow from trees. The EC at a depth of 390 feet reflects the influence of earlier crop irrigation.

5. The nitrate-nitrogen concentrations of saturated pastes for the alluvium between 60 and 90 feet in depth were non-detectable. The nitrate-nitrogen concentration at a depth of 360 feet was 3 mg/kg.

6. MW-1 was completed to a depth of 480 feet, where the casing was landed in a clay. The casing was perforated from 420 to 480 feet in depth. About 10 to 20 gpm of water was obtained. The static water level was 380 feet deep.

7. A water sample was collected of the first encountered groundwater at a depth of 432 feet, and for the completed monitor well in early June 2024. Table 1 shows the comparison of these two analyses and streamflow in Los Gatos Creek. The electrical conductivity of water from the completed well was 3,090 micromhos per centimeter at 25°C, compared to 1,790 micromhos for Los Gatos Creek streamflow. The sulfate concentration was 1,350 mg/l in the comoleted well, compared to 463 mg/l for streamflow in the creek. The calcium concentration was 166 mg/l in water from the completed well, compared to 27 mg/l in the streamflow. The sodium concentration was 281 mg/l in water from the completed monitor well, compared to 197 mg/l

TABLE 1-COMPARISON OF STREAMFLOW TO GROUNDWATER QUALITY AT MW-1

Constituent (mg/l)	Los Gatos Creek	MW-1 (Depth 432')	MW-1 (Perf. 420'-440')
Calcium	27	193	166
Magnesium	114	134	116
Sodium	197	340	281
Potasium	3	9	6
Carbonate	30	<10	<10
Bicarbonate	490	110	120
Sulfate	463	1,440	1,350
Chloride	70	280	210
Nitrate	<0.4	12	8
Boron	1.3	1.7	1.7
Electrical Conductivity (micromhos/cm @ 25°C)	1,790	3,390	3,090
Total Dissolved Solids (Calc.)	1,150	2,463	2,197
pH	8.62	7.96	7.9
Fe	<0.03	<0.03	<0.03
Manganese	<0.01	2.8	0.58
Date	6/3/24	6/4/24	

Calculated TDS does not include SiO_2. Chemical analyses by FGL Environmental of Santa Paula.

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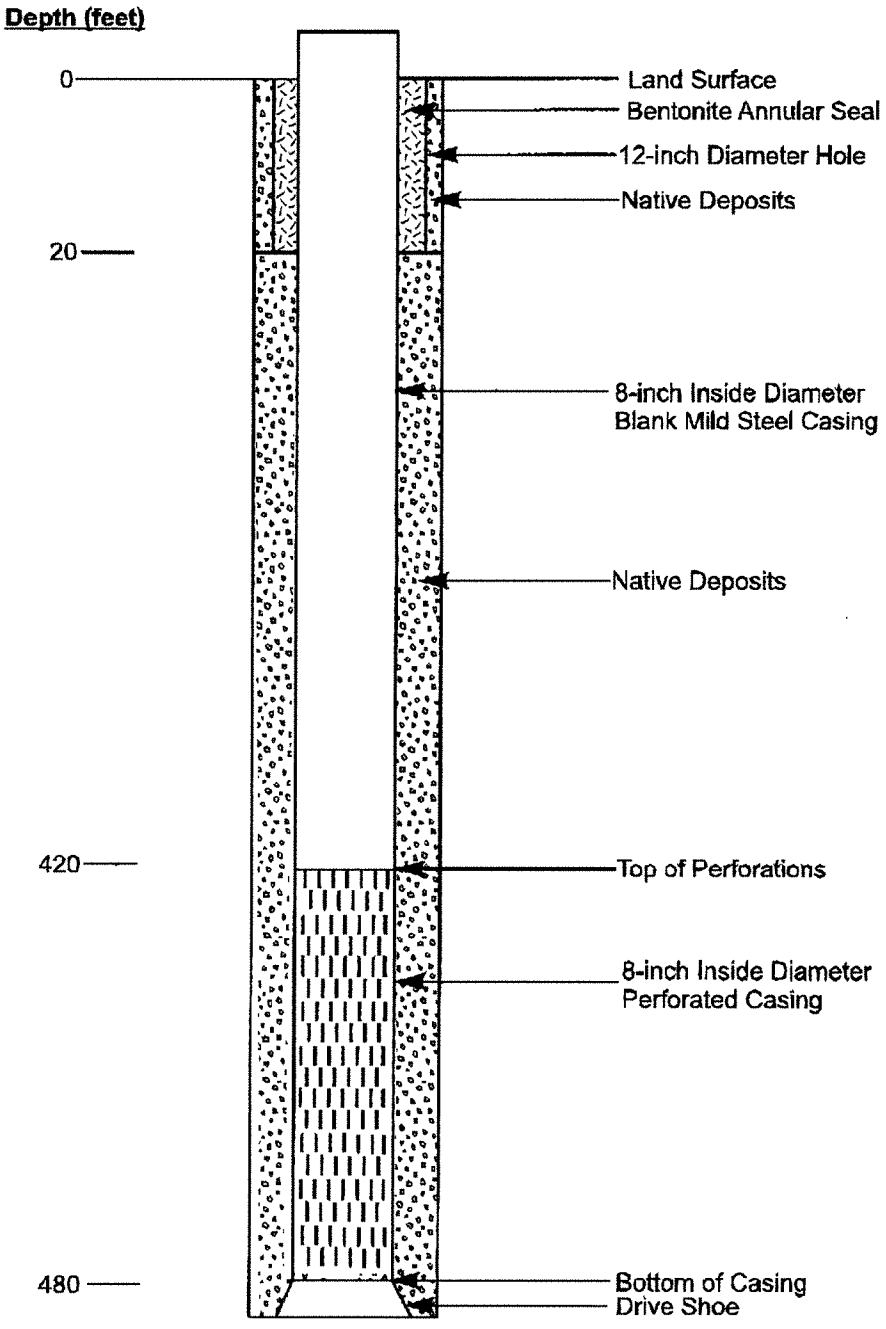
for the streamflow. The bicarbonate concentration in water from the completed well was 120 mg/l, compared to 490 mg/l in the streamflow. The boron concentration was 1.7 mg/l in water from the completed monitor well, compared to 1.3 mg/l in the streamflow. The nitrate concentration was 8 mg/l in water from the completed well, compared to non-detectable in the streamflow. The manganese concentration in water from the completed well was 0.58 mg/l, compared to less than 0.01 mg/l in the streamflow.

8. The sulfate concentration in water from MW-1 was 2.9 times greater than in the streamflow. The chloride concentration in water from MW-1 also was 2.9 times greater than for the streamflow.

9. The chemical quality of the shallow groundwater at MW-1 reflects irrigation return flow from older crops (prior to times). This is consistent with the results of testing the unsaturated alluvium above the groundwater.

GEOLOGIC LOG PLEASANT VALLEY WD MW-1

Depth (feet)	Description
0 - 5	Brown clay
5 - 10	Brown silty fine sand
10 - 40	Brown silty clay
40 - 50	Brown silty fine sand
50 - 64	Brown clay and lenses of silty fine sand
64 - 68	Brown silty fine sand
68 - 84	Brown silty clay
84 - 90	Brown silty fine sand
90 - 210	Brown clay
210 - 230	Brown clay with lenses of silty fine sand
230 - 293	Brown clay
293 - 294	Brown silty fine sand
294 - 337	Brown clay
337 - 339	Brown silty fine sand
339 - 350	Brown sandy clay and gravel
350 - 360	Brown sandy clay
360 - 370	Brown silty fine sand
370 - 377	Brown clay
377 - 389	Brown silty fine sand and gravel
389 - 515	Brown clay with lenses of silty fine sand



SCHEMATIC DIAGRAM OF PLEASANT VALLEY MW-1

PLEASANT VALLEY GSP
SUMMARY OF MW-2 FINDINGS

1. **MW-2 is located about half a mile south of Los Gatos Creek and west of Calaveras Avenue. It is located between Los Gatos Creek and Warthen Creek. Deposits above 490 feet were unsaturated. Groundwater was encountered below a depth of 490 feet.**
2. **The deposits were primarily interlayered sand with some gravel and clay. No cobbles were encountered. Fine grained deposits were present in the following depth intervals:**

   Clay: 100 to 147 feet, 180 to 193 feet, 215 to 224 feet, 225 to 258 feet, 290 to 310 feet, 462 to 490 feet, and at 502 feet

   Sandy clay: 89 to 100 feet, 160 to 170 feet, 258 to 277 feet, and 310 to 428 feet

   A geologic log is attached.
3. **Saturation percentage (specific returns) ranged from 19 to 25 and averaged 22%. There were all for coarse gravel deposits.**
4. **The electrical conductivity (EC) of saturated pastes between 80 and 180 feet in depth ranged from 1.85 to 2.41 dS/m and averaged 2.17 dS/m. Electrical conductivities between 180 to 280 feet in depth ranged from 1.17 to 1.19**

dS/m and averaged 1.18 dS/m.

5. The nitrate-nitrogen concentrations in samples between 40 and 180 feet in depth ranged from 1 to 5 mg/kg, and average 2.7 mg/kg. Nitrate concentrations below 220 and 280 feet ranged from 1/17 to 1.19 mg/kg, and averaged 1.18 mg/kg.

6. MW-2 was completed to a depth of 502 feet, where the casing was landed in a clay. The casing was perforated from 470 to 500 feet in depth. Over 50 gpm was obtained, and the static level was 414 feet deep,

7. A water sample was collected of the first encountered groundwater at a depth of 461 feet, and from 16 completed monitor well in late May 2024. Table 1 shows the comparison of these two analyses. The electrical conductivity of water from MW-2 after perforations was 1,940 micromhos per centimeter at 25°C, compared to 1,770 micromhos for Los Gatos Creek streamflow. The sulfate concentration in water from MW-2 was 704 mg/l, compared to 463 mg/l from the streamflow. The bicarbonate concentration in water from MW-2 was 230 mg/l, compared to 490 mg/l in the stream flow.

TABLE 1-COMPARISON OF STREAMFLOW TO GROUNDWATER QUALITY AT MW-2

Constituent (mg/l)	Los Banos Creek	MW-2 (Depth 490')	MW-3 (Perf. 470'-500')
Calcium	27	89	83
Magnesium	114	72	65
Sodium	197	255	222
Potasium	3	6	4
Carbonate	30	<10	<10
Bicarbonate	490	170	230
Sulfate	463	759	704
Chloride	70	100	92
Nitrate	<0.4	16	12
Boron	1.3	1.3	1.6
Electrical Conductivity (micromhos/cm @ 25°C)	1,790	2,050	1,940
Total Dissolved Solids (Calc.)	1,150	1,382	1,297
pH	8.62	8.62	8.09
Fe	<0.03	<0.03	<0.03
Manganese	<0.01	<0.01	0.12
Date	5/20/24	5/21/24	

Calculated TDS does not include SiO_2. Chemical analyses by FGL Environmental of Santa Paula.

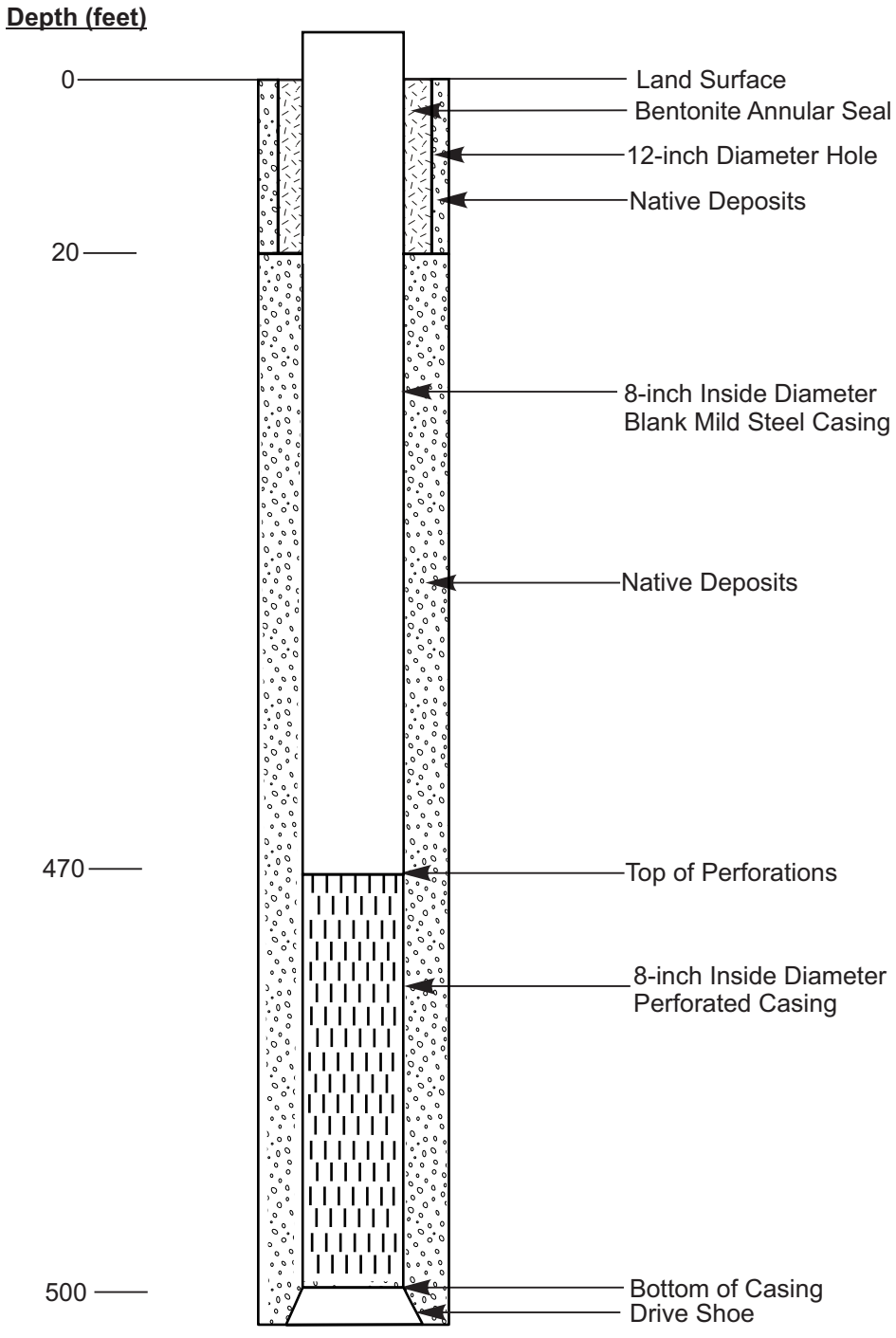
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Interpretation

The EC's from 80 to 180 feet in depth appear to reflect irrigation return flow from orchards which were planted in about _____. The EC's from 220 to 280 feet in depth appear to reflect irrigation of other crops grown before _____. Based on these results and the chemical analyses of water from MW-2, irrigation return doesn't appear to have reached the groundwater level. This is partly due to the clay layer from 462 to 498 feet and clay and sandy clay below 230 and 428 feet in depth. Thus the results were similar to the one from MW-3.

GEOLOGIC LOG PLEASANT VALLEY WD MW-2

Depth (feet)	Description
0 - 10	Brown sandy clay
10 - 16	Gray fine to coarse sand
16 - 25	Brown sandy clay
25 - 89	Gray-brown fine to coarse sand and gravel
89 - 100	Brown sandy clay
100 - 147	Brown clay
147 - 160	Brown fine to coarse sand and gravel
160 - 170	Brown sandy clay
170 - 180	Gray fine to coarse sand
180 - 193	Light brown clay
193 - 197	Brown clay and gravel
197 - 215	Brown fine to coarse sand and gravel
215 - 224	Light brown clay
224 - 225	Brown fine to coarse sand and gravel
225 - 258	Light brown clay
258 - 277	Brown sandy clay with lenses of fine to coarse sand
277 - 290	Brown partially indurated fine to coarse sand
290 - 310	Light brown clay
310 - 428	Brown sandy clay and gravel
428 - 438	Gray fine to coarse sand and gravel
438 - 461	Brown fine to coarse sand and gravel with lenses of clay
461 - 462	Gray fine to coarse sand and gravel
462 - 490	Brown clay with lenses of sand and gravel
490 - 502	Gray fine to coarse sand and gravel
502	Brown clay



SCHEMATIC DIAGRAM OF PLEASANT VALLEY MW-2

PLEASANT VALLEY GSP
SUMMARY OF MW-3 FINDINGS

1. **MW-3 is located about half a mile north of Phelps Avenue and half a mile west of Bear Trap. Deposits above 480 feet in depth were unsaturated. Groundwater was encountered below 480 feet in depth.**
2. **Deposits above 386 feet in depth were primarily very coarse sand, gravel, and cobbles. Fine grained deposits were present in the following depth intervals:**

   Clay: 37 to 40 feet, 140 to 145 feet, 175 to 178 feet, 290 to 317 feet, 395 to 481 feet, and 523 to 525 feet.

   Silt: 61 to 69 feet, 78 to 81 feet, and 36 to 88 feet.

   Sandy clay: 3 to 20 feet, 126 to 131 feet, and 385 to 395 feet.

   A geologic log is attached.
3. **Dellavalle Laboratory, Inc. performed analyses of deposits above the water level. The saturation percentages (specific retentions) were as follows:**

   Coarse-grained deposits: ranged from 18 to 28%, and averaged 23%.

   Clay: ranged from 28 to 57%, and averaged 37%
4. **The electrical conductivity (EC) of saturated pastes decreased with increasing depth:**

   From 25 feet to 90 feet in depth: Average 2.6 dS/m

From 120 feet to 295 feet in depth: Average 1.1 dS/m

From 340 feet to 440 feet in depth: Average 0.8 dS/m

5. The nitrate-nitrogen concentrations in saturated pastes were as follows:

From 25 feet to 90 feet in depth: Average 2.0 mg/kg

From 120 feet to 295 feet in depth: Average 3.2 mg/kg

From 340 feet to 440 feet in depth: Average N.D.

6. MW-3 was completed to a depth of 525 feet, where the casing was landed in a clay. A down-the-hole perforator was used to perforate the casing from 490 to 520 feet in depth. Over 50 gpm was obtained, and the static level was 413 feet deep, indicating confined conditions below the clay extending from 395 to 481 feet in depth.

7. Water samples were collected from the first encountered groundwater, the completed MW-3, and streamflow in Los Gatos Creek in late April and early May 2024. FGL Environmental of Santa Paula analyzed the samples. Table 1 shows the results of analyses.

Water in the creek had an electrical conductivity of 1,790 micromhos per centimeter at 25°C. This water was of the magnesium-sodium sulfate-bicarbonate type. The nitrate concentration was less than 0.4 mg/l. The sodium concentration was 197 mg/l and the sulfate concentration was 463 mg/l. The boron concentration was 1.3 mg/l.

TABLE 1-COMPARISON OF STREAMFLOW TO GROUNDWATER QUALITYAT MW-3

Constituent (mg/l)	Los Gatos Creek	MW-3 (Depth 481')	MW-3 (Perf. 490'-520')
Calcium	27	65	72
Magnesium	114	107	113
Sodium	197	159	165
Potasium	3	5	5
Carbonate	30	<10	<10
Bicarbonate	490	160	170
Sulfate	463	628	693
Chloride	70	130	110
Nitrate	<0.4	33	16
Boron	1.3	0.8	0.9
Electrical Conductivity (micromhos/cm @ 25°C)	1,790	1,800	1,900
Total Dissolved Solids (Calc.)	1,150	1,208	1,260
pH	8.62	8.41	8.09
Fe	<0.03	<0.03	<0.03
Manganese	<0.01	0.12	0.27
Date	4/29/24	4/30/24	5/8/24

Chemical analyses by FGL Environmental of Santa Paula.
Calculated TDS values do not include silica.

Water in the completed monitor well has an electrical conductivity of 1,900 mg/l. This water was of the magnesium-sodium sulfate type. The nitrate concentration was 16 mg/l. The sodium concentration was 165 mg/l and the sulfate concentration was 693 mg/l. The boron concentration was 0.9 mg/l. The manganese concentration was 0.27 mg/l. In general, the water from MW-3 had greater concentrations of calcium, sulfate, chloride, and manganese than for the streamflow. Water from MW-3 had slightly low sodium concentration, much lower bicarbonate concentrations, and lower boron concentrations than for the streamflow.

Interpretation

The EC's for the alluvium from 25 to 90 feet in depth are due to irrigation return flow from irrigation of trees, since 1995.

The EC's for the alluvium from 120 to 195 feet in depth are due to irrigation return flow from irrigation of previous crops (cotton and vineyard) from the 1940's through about 1995.

The highest nitrate-nitrogen concentrations (3.2 mg/kg) for the alluvium were present from 120 to 295 feet in depth. The next highest nitrate-nitrogen concentrations (2 mg/kg) were present from 25 to 90 feet in depth. The lowest nitrate-nitrogen concentrations (non-detectable) were present from 340 to 440 feet in depth.

The lowest EC's and non-detectable nitrate-nitrogen concentrations in the alluvium reflect no influence of irrigation return flow below a depth of 340 feet. This is consistent with a chemical analyses of water from MW-3 and streamflow in Los Gatos Creek. The chemical quality of groundwater at MW-3 indicated essentially no concentration of constituents compared to the streamflow, as would be expected of these was an influence of deep percolation.

There are three primary reasons why irrigation return flow has not extended below a depth of about 340 feet at the MW-3 site.

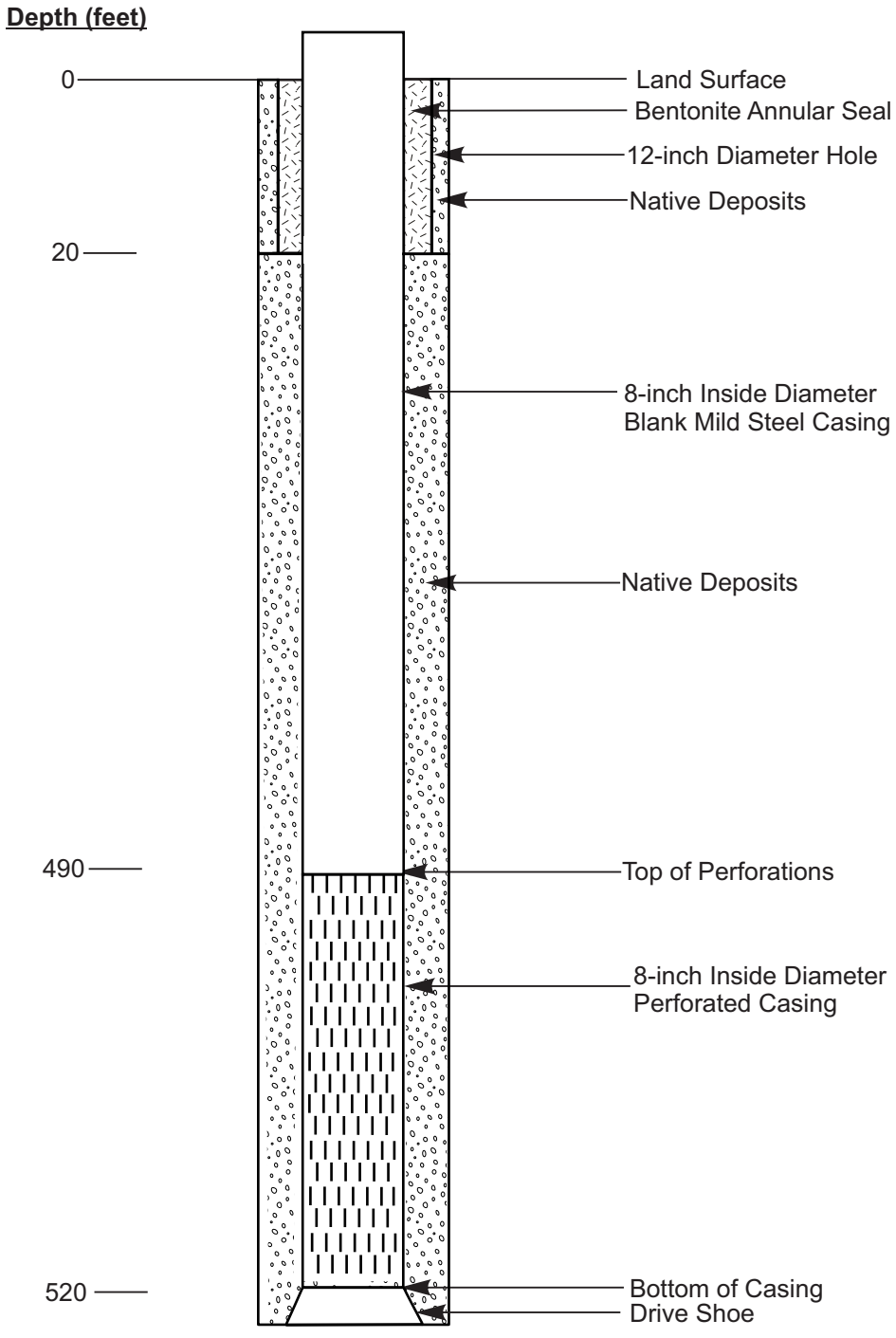
1. The clay layer from 395 to 489 feet in depth.
2. The deposits above the water level were moisture deficient prior to irrigation. This moisture deficiency had to be met before deeper movement of irrigation return flow could occur.
3. Historical water levels were declining at a significant rate.

The information on the rate of travel of irrigation return flow is important in doing water budgets. It is expected that the results of MW-1 (one mile south of Jayne Avenue and half a mile east of Highway 33) and MW-2 (one quarter of a mile north of Jayne Avenue and west of Calaveras Avenue) along with MW-3

results will provide a good characterization of irrigation return flow within about a mile and a half of Jayne Avenue. This was the area of earliest irrigation in the valley.

GEOLOGIC LOG PLEASANT VALLEY WD MW-3

Depth (feet)	Description
0 - 3	Brown silty topsoil
3 - 20	Brown silty and sandy clay
20 - 37	Brown fine to very coarse sand, gravel, and cobbles
37 - 40	Light brown clay
40 - 61	Brown fine to very coarse sand, gravel, and cobbles
61 - 63	Brown silt
63 - 78	Brown fine to very coarse sand, gravel, and cobbles
78 - 81	Brown silt
81 - 86	Brown fine to very coarse sand, gravel, and cobbles
86 - 88	Brown silt
88 - 126	Brown fine to very coarse sand, gravel, and cobbles
126 - 131	Brown sandy clay and cobbles
131 - 140	Brown fine to very coarse sand, gravel, and cobbles
140 - 145	Light brown clay
145 - 175	Brown fine to very coarse sand, gravel, and cobbles
175 - 178	Light brown clay
178 - 196	Brown fine to very coarse sand, gravel, and cobbles
196 - 205	Brown sandy clay
205 - 230	Brown fine to very coarse sand, gravel, and cobbles
230 - 236	Brown sandy clay
236 - 260	Brown fine to very coarse sand, gravel, and cobbles
260 - 280	Brown clayey fine to coarse sand and gravel
280 - 290	Brown fine to very coarse sand, gravel, and cobbles
290 - 317	Light brown clay
317 - 368	Brown fine to very coarse sand, gravel, and cobbles
368 - 378	Brown clayey fine to coarse sand and gravel
378 - 386	Brown fine to very coarse sand, gravel, and cobbles
386 - 395	Light brown sandy clay
395 - 481	Light brown clay
481 - 523	Brown fine to medium sand and gravel
523 - 525	Light brown clay



SCHEMATIC DIAGRAM OF PLEASANT VALLEY MW-3

Appendix O– Outreach-Domestic Groundwater Well Owner

Pleasant Valley Groundwater Sustainability Agency

Survey

Please take a moment to answer the few questions below to help the Pleasant Valley GSA assess the current state of private wells in the Lost Hills Community area. Answer the questions to the best of your ability and **leave any question you are unsure about blank**. Once you have answered the questions, use the pre-paid envelope that was included to return your response. Please respond by August 5, 2024.

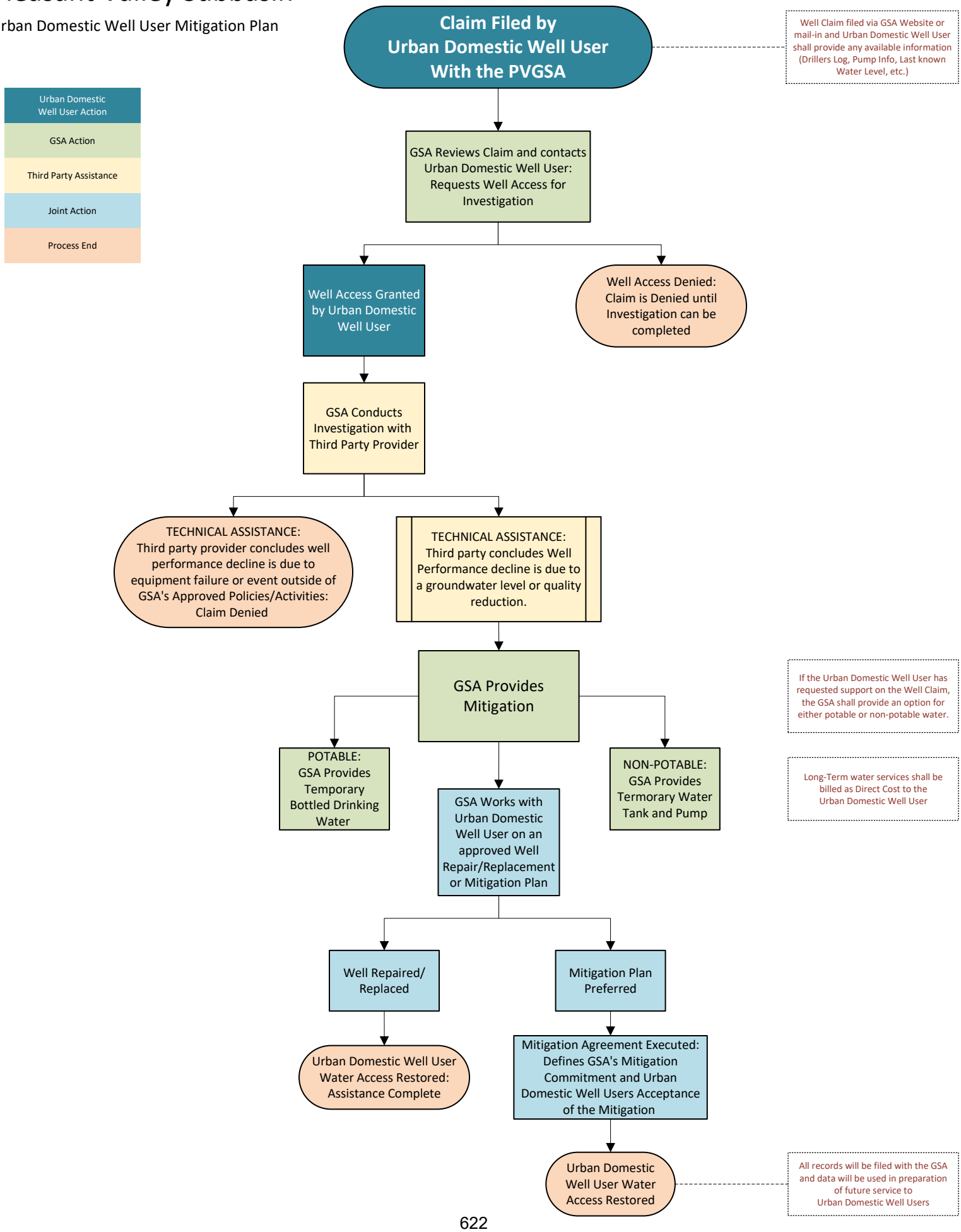
1. **Is there a well on your property?**
   a. Yes
   b. No
2. **Do you own or rent your home in the Lost Hills Community?**
   a. No NO ONLY PROPERTY
   b. Yes
      a. Rent
      b. Own
1. **Do you filter the water from your well for drinking water?**
   a. Yes
   b. No
2. **Do you know the quality of the water in your well?**
   a. Yes
   b. No
3. **What year was your well installed?** ABOUT 30 YRS AGO, 1995
4. **Please provide your contact information:**
   a. Name: MANUEL PEREZ
   b. Phone number: PRIVATE
   c. Email: NONE

CONVERSATION HELD BETWEEN CALVIN MONREAL, (PVGSA) AND MANUEL PEREZ.
- WELL DEPTH = 700ft deep
- PRODUCTION = 45-60 gpm
- 1.5 Hp MOTOR
- MAINTENANCE & PURGE EVERY 5 YRS DUE TO STEEL CASING.
- NEVER GONE DRY.
- WOULD BE INTERESTED IN SUPPORTING THE GSA WITH MONITORING, BUT WANTS ~~A~~ A LIABILITY AGREEMENT. OPEN TO FURTHER DISCUSSION.

BOUGHT PROPERTY ABOUT 13 YRS AGO. WELL WAS ALREADY ON IT.

Pleasant Valley Subbasin

Urban Domestic Well User Mitigation Plan



Framework for a Drinking Water Well Impact Mitigation Program



Written by Self-Help Enterprises, Leadership Counsel for Justice and Accountability, and the Community Water Center

Dear Reader,

This tool was developed to aid Groundwater Sustainability Agencies (GSAs) in the development and implementation of their Groundwater Sustainability Plans (GSPs). The Sustainable Groundwater Management Act (SGMA) tasks GSAs with the important responsibility of protecting our precious shared groundwater resources. As GSAs navigate these previously uncharted waters, one thing is clear: as GSAs decide how to bring their local areas into compliance with SGMA, they must do so in a way that protects drinking water resources. SGMA requires GSAs to consider all beneficial uses and users of groundwater as they create and implement GSPs, and California law lists domestic use of water as the highest priority of use. At the same time, domestic water use is at the highest risk contamination and loss of water supply. The future of families on shallow private domestic and small community water systems wells hangs in the balance as GSAs decide whether and how to protect their wells. Many families who depend on shallow domestic wells or small water systems cannot afford to deepen wells or treat their water, because they lack the economies of scale that large public water systems have for addressing impacts to water supply.

This framework provides a clear roadmap for how a GSA can best structure its data gathering, monitoring network and management actions to proactively monitor and protect drinking water wells, and mitigate impacts should they occur. We hope GSAs can use this framework as a reference when developing and implementing their GSPs.

Sincerely,



Sonia Sanchez
Self-Help Enterprises



Nataly Escobedo Garcia
Leadership Counsel for Justice and Accountability



Justine Massey
Community Water Center

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Management Action Name: Drinking Water Well Impact Mitigation Program

Potential Implementing Organization(s): Groundwater Sustainability Agencies (GSAs) in partnership with project participants.

Purpose Statement: The purpose of this document is to be utilized by GSAs to mitigate, prevent, and address any adverse effects on drinking water wells caused by groundwater pumping volume or location, conjunctive management, or any other forms of active management as part of Groundwater Sustainability Plan (GSP) implementation. By doing so, GSAs can better achieve the goals of the Sustainable Groundwater Management Act (SGMA), avoid jeopardizing access to safe water in vulnerable communities, and also avoid violating California laws that establish a statewide Human Right to Water and that protect access to safe water. Adverse effects can include both issues with access to safe drinking water due to increased contamination, as well as issues with sustained access to water due to changes in groundwater levels.

This document provides a framework of elements to consider when GSAs are developing a drinking water well impact mitigation plan. Every community and every GSA will have to evaluate their own needs and particular considerations in order to develop a mitigation program that works best for all users. This document is broken down into the following sections:

1. Importance of Drinking Water Well Impact Mitigation Programs;
2. Framework for developing a program and key elements to consider;
3. Cost considerations for short- and long-term solutions and potential funding sources; and
4. Examples of existing Drinking Water Well Impact Mitigation Programs.



House receiving water from a temporary emergency tank due to dry groundwater well.

Section 1

Importance of a Drinking Water Well Impact Mitigation Program

How can GSP implementation impact domestic wells and small community wells?

Across the state, critically overdrafted basins have developed GSPs to manage groundwater resources sustainably under SGMA. Many GSPs have developed sustainable management criteria, including minimum thresholds (MTs) and measurable objectives (MOs), that if reached, would cause significant impacts to access to safe and affordable drinking water for vulnerable communities. GSP implementation, including management actions and projects, can either serve to protect or harm drinking water resources. For example, GSA actions that could harm drinking water include setting minimum thresholds too low, resulting in completely or partially dewatered wells. Besides the cost of deepening a well, partial or complete dewatering of a well results in the need to lower the well pump, clean the well screen more frequently, all of which leads to higher energy costs from pumping, and emotional impacts from not having access to safe water. The GSA could also develop groundwater pumping allocations, and pumping regimes or sustainable management criteria which allow for an increased movement of contaminant plumes, an increase in the concentration or release of contaminants, or an increase in salinity due to sea water intrusion in coastal wells.

The following significant impacts could occur as a result of GSA policies (such as setting minimum thresholds and measurable objectives that are not protective enough of drinking water) or GSA activities (such as projects or management actions that damage water quality or allow groundwater levels to decline too far). This list is not exhaustive, merely just the most likely negative outcomes:

- Partially dry wells
- Fully dry wells
- Contaminated drinking water
- Unaffordable water rates due to the above

If GSP sustainable management criteria are developed in a way that could potentially cause significant impacts on drinking water users, the GSP must also include a robust drinking water well impact program to prevent and mitigate the drinking water impacts that occur. In some GSAs, up to 85% of domestic wells are at risk of being dewatered or partially dewatered. In these same GSAs, rural domestic and small water system demand does not contribute substantially to the overdraft conditions, yet the risks imposed on these drinking water users are overlooked and neglected, creating a disproportionate impact on already vulnerable communities.

What are the drinking water challenges facing disadvantaged communities?

Without an adequate GSP that is protective of groundwater sources near or within communities, more drinking water wells will run dry or be unable to provide safe, potable water to residents. This will further jeopardize the livelihood of California's most vulnerable communities. Vulnerable communities, including severely disadvantaged communities (SDACs), disadvantaged communities (DACs), small water systems, and domestic well owners, have limited technical, managerial, and financial capacity to respond to drinking water challenges.

Climate change further exacerbates drinking water challenges with more frequent, longer, and more severe droughts and flood periods expected. Small water systems and rural communities reliant on domestic wells are, and will continue to be, the most adversely impacted and most at risk of experiencing water shortages and/or having to rely on contaminated drinking water supplies. In order to increase water system resiliency, we must protect current water sources. Other ways to increase resilience are to secure more than one water source, assist communities with maintenance and operation costs, and ensure water affordability.

A Drinking Water Well Impact Mitigation Program is key to increasing water resilience through minimizing risks of both short-term and long-term impacts. Having adequate plans and policies to support drinking water resilience in the face of climate change is essential to reducing the amount of emergency funding needed to respond to a water shortage emergency and to prevent human health crises. A carefully designed and implemented well impact mitigation program can support efforts to ensure all communities have long-term and sustainable access to clean, safe, and affordable drinking water.

How does California law prioritize drinking water?

A GSP which lacks a mitigation program to curtail the effects of projects and management actions on the safety, quality, affordability, or availability of domestic water, goes against the intent and spirit of both SGMA and the Human Right to Water law. SGMA mandates that GSAs "shall consider the interests of all beneficial uses and users of groundwater" and specifically names domestic well owners and disadvantaged communities[1]. Access to drinking water is a non-negotiable interest of residents within each basin.

The Human Right to Water (AB 685) (HR2W) was signed in 2012 and added § 106.3 to the California Water Code, declaring, "the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes."[2] The HR2W applies to all state agencies, requiring that they "consider this state policy when revising, adopting, or establishing policies, regulations, and grant criteria when those policies, regulations, and criteria are pertinent to the uses of water."[3] With this passage of AB 685, relevant state agencies, including the State Water Resources Control Board (SWRCB) and the Department of Water Resources (DWR), are now required to consider this state policy when revising, adopting, or establishing policies, regulations, and grant criteria that may impact the uses of water for domestic purposes. To ensure compliance with the legislature's long established position, the HR2W requires that DWR consider the effects on domestic water users when

[1] *WAT § 10723.2.*
[2] *WAT § 106.3 (a).*
[3] *WAT § 106.3(b).*
[4] *See generally, WAT § 106.3 (b).*



Residents standing next to their new groundwater well in Monson, CA.

reviewing and approving GSPs.[4] DWR should continue to collaborate with the SWRCB on matters of drinking water and water quality as part of GSP review, and the SWRCB should continue to offer its expertise on these matters as part of GSP review.

Further, the California legislature has recognized that water used for domestic purposes has priority over all other types of uses since 1913.[5] Reserving top priority for domestic water use was later codified in 1943, in Water Code § 106, which declares it the, "established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation."[6] Further, the passage of the Safe and Affordable Drinking Water Act by Governor Newsom indicates a clear state-level commitment to providing safe and affordable drinking water to California's most vulnerable residents.[7] Poor implementation of SGMA would threaten the success of the Safe and Affordable Drinking Water Fund and would run counter to Governor Newsom's vision of providing safe water to all.

A carefully designed and implemented Drinking Water Well Impact Mitigation Program can support a statewide goal of ensuring DACs' access to clean, safe, reliable, and affordable drinking water. Including this type of program in a GSP also helps to create a groundwater management plan that understands DACs' unique social and economic vulnerabilities, is sensitive to their drinking water needs, and avoids causing a further disparate impact on low-income communities.

[5] *California Water Commission Act of 1913 § 20.*
[6] *WAT § 106; This policy is also noted in the Legislative Counsel's Digest for AB 685.*
[7] *SB 200, Monning (2019).*

Section 2

Key Elements and a Framework for Developing a Drinking Water Well Impact Mitigation Program

1) Drinking water well monitoring network:

Many drinking water users depend on shallow domestic wells and community supply wells, which are the most vulnerable to impacts from groundwater management activities. Thus monitoring networks must be able to capture impacts to deeper public water system wells as well as shallow domestic wells.

The following approach will allow GSAs to comply with the GSP regulations and take a proactive approach to protect DACs' and domestic well owners' access to safe and affordable drinking water:

1. **Map and assess drinking water well vulnerabilities to better understand:**
   - Locations and depth of drinking water wells (both domestic and public supply well
   - Whether changes in groundwater levels and quality may be exacerbated in specific areas by pumping volume or location, conjunctive management (i.e. groundwater recharge projects), or other forms of active management as part of GSP implementation;
   - The proximity of potentially impacted wells to nearby existing public water systems; and
   - If there are areas with a high density of likely impacted wells.

The assessment should acknowledge that not all existing and utilized wells may be documented in available resources from DWR or Counties and the GSA must include a plan for filling any data gaps that may exist.

2. **Designate key monitoring wells to assess impacts to drinking water wells:**

Based on the drinking water well vulnerability assessment, identify which wells from the GSP proposed monitoring network are critical to assess impacts to drinking water wells caused by changes to groundwater levels and quality. Expand and improve the monitoring network to assess potential impacts in particular for groundwater conditions near DACs, areas with high density of private domestic wells, and water systems serving schools. The monitoring network needs to be representative of conditions in all aquifers in general, including the shallow aquifer upon which domestic wells rely. The water quality monitoring network needs to routinely monitor for all contaminants that could impact public health (not only nitrate, but also chromium-6, arsenic, 123-TCP, uranium, and DBCP). This will allow the GSA to accurately monitor for impacts on the most vulnerable beneficial users, and take a proactive approach to protect DACs' and domestic well owners' access to safe and affordable drinking water.

2) Develop an adaptive management trigger system:

Developing a protective warning system, also referred to as an adaptive management approach, can alert groundwater managers when groundwater levels and groundwater quality are dropping to a level that could potentially negatively affect drinking water users. These "triggers" are essential for groundwater management and can be adjusted to fit the needs of different management actions as well as the basin as a whole.

The trigger system should be developed in collaboration with stakeholders, in particular groups that are more susceptible to groundwater changes, and then tied back to quantifiable measures such as the GSP measurable objectives, MCLs, and numbers of partially or fully dry drinking water wells.

The table on the below provides an example of what a warning system might look like, using green, yellow, and red light indicators or triggers, and some potential corrective actions groundwater managers can take to remedy the problem. Ultimately, this approach allows for the evaluation of current conditions in order to

Triggers	Groundwater Conditions and Impacts	Examples of Quantifiable Measures	Potential Corrective Actions
Green light	Groundwater levels and quality are stable.	Firmly in compliance with Measurable Objectives and MCLs.	No action required.
Yellow light	Groundwater levels and quality are approaching concerning levels and impacts may occur or are occurring. Some corrective actions are needed.	Groundwater levels[8]: 3% of drinking water wells have gone partially or fully dry, or 5% of drinking water wells in the GSP area are projected to go dry if current trends continue. Groundwater quality: Water quality reaches 70% of the MCL in any given monitoring well.	- Undertake an analysis to pinpoint the cause; - Undertake water quality testing for selected domestic and public supply wells; - Provide immediate support to groundwater users experiencing impacts; - Reassess pumping allocation and pumping patterns; - Consider restricting or limiting groundwater extraction near the impacted area.
Red light	Time to stop groundwater pumping and any projects or management actions which are causing dry wells. The GSA needs to mitigate as significant impacts are imminent or are occurring.	Groundwater levels: More than 7% of drinking water wells have gone dry, or 10% of drinking water wells in the GSP area are projected to go dry if current trends continue. Groundwater quality: Water quality reaches 85% of the MCL in any given monitoring well.	- Reassess pumping allocation and pumping patterns; - Consider further restricting or limiting groundwater extraction near the triggered area or reevaluating minimum thresholds or measurable objectives; - Provide interim emergency solution(s) while working with impacted groundwater users to pursue a permanent, long-term solution.

3) Drinking water well impact model:

Develop a model tied to the monitoring network and the adaptive management framework (trigger system) to evaluate groundwater levels and predict potential groundwater impacts to drinking water wells. Update the model regularly with current data, so that the model accurately predicts potential groundwater impacts to drinking water wells. The model should be used to do the following:

- Monitor and forecast changes in groundwater levels and quality;
- Monitor and forecast any localized areas for special attention and/or monitoring;
- Attempt to identify domestic wells or small public supply wells at risk of impacts;

[8] *For groundwater levels, triggers should be developed based on an estimate of potential drinking water wells being impacted across the GSA, or drinking water wells at risk of going dry if current trends continue.*

- Determine if triggers have been met based on the adaptive management framework;
- Incorporate the results above into an annual GSP progress report given to domestic well owners and community water systems.

4) Public outreach and education:

In developing a Drinking Water Well Impact Mitigation Program, GSAs should ensure that residents are aware of the benefits of such a program and how to access the program. This outreach should inform residents about the potential well impacts that could occur based on groundwater management actions, describe potential options available for well mitigation, and include information regarding whom to contact in the event that residents' wells experience negative impacts.

This outreach should take place in whatever form will be the most accessible for all stakeholder groups in the GSP area, particularly disadvantaged community residents. Outreach can be done in the form of pamphlets, mailers, additions to the public website, or radio announcements. GSAs should also conduct regular, door-to-door outreach (in partnership with other outreach experts as needed) to ensure that communities — particularly communities in areas the trigger system identifies within the yellow and red light ranges. The GSA should work with local agencies, organizations, and associations to spread materials about the program. This information should also be mentioned at regular GSA meetings for those in attendance. To ensure that this program can benefit S/DAC residents, information about the program must be disseminated widely, and such materials must be translated into all threshold languages.

5) Mitigation measures:

As soon as a GSP area experiences a yellow light trigger, the GSA should implement the steps below:

1. Third Party Determination of Causality: Work with an objective third party to establish whether the GSA's policies and actions caused the drinking water impact.

2. Change Groundwater Management Activities: Any groundwater management activities or policies that are causing drinking water impacts should be changed to avoid reaching the red light indicator.

3. Define the level of mitigation that is necessary based on a field inspection to determine static depth to groundwater levels within the impacted well. Verify well construction information and pump setting information, if possible.

4. Provide short-term drinking water supply while a permanent solution is pursued. Short-term interim solutions serve to address the immediate impacts and ensure access to water suitable for consumptive and other domestic needs, such as sanitation. Short-term emergency supplies shall be provided as soon as reasonably possible and can include bottled water, bottled water paired with tanked water, or another combination. For groundwater quality issues, bottled water may be an acceptable interim solution. However, if the issue is lack of access to water, providing bottled water is not an adequate interim solution and would require a combination of solutions as well as a long-term sustainable plan
    a. Since short-term solutions are expensive over a prolonged period of time, it is important to quickly identify potential long-term solutions. As an example, GEI's feasibility study for East Porterville at the height of the drought in 2016 estimated tank and bottled water programs cost $633,500 per month just for East Porterville, which has an estimated population of 7,331 residents.

5. Implement a long-term water supply solution:
    a. Whenever possible, the GSA(s) should facilitate connection of impacted well users to a nearby municipal water system by providing financial and technical support.
    b. Other long-term water supply solutions can include (where appropriate):
        i. In areas that are not located near a public water system that can take on additional connections, the establishment of a new small public water system may be feasible;
        ii. Providing funding to lower a well pump and/or deepen the well;
        iii. Providing an equivalent water supply from an alternate source;
        iv. Providing funding to replace the affected

well with a deeper well;

v. Providing funding to treat contaminated water;
vi. Reducing or adjusting pumping near the impacted drinking water well as necessary to avoid the impact; and/or
vii. Providing other acceptable mitigation through a collaboration with the affected drinking water well users.
viii. Note that lowering the pump and/or deepening the well will increase operational costs of the well and may require additional monitoring to ensure the well is not dewatered again. Further, these solutions may not address water quality concerns, depending upon aquifer conditions and screen depths.

A note on the prioritization of connecting impacted wells with existing nearby municipal water systems: Public water systems have an obligation to test water quality for water served, and although some public water systems have limited resources, they do have a greater ability to install treatment systems to address water quality impacts, recoup funds for litigated contamination such as 1,2,3-TCP, and apply for and receive grant funding for beneficial projects. Because of this, public water systems, including small community water systems, often provide a more reliable drinking water source than privately-owned domestic wells. It should be noted that once a resident is connected to a public water system, they are then subject to water bills that will likely be higher than the operation costs of the well.

As these long-term solutions are being developed, the community should be engaged in the process to learn about the benefits of a public water supply in terms of water reliability and water quality, and should also be informed of why water bills may be more costly. It is possible that residents may request assistance in paying monthly water bills associated with their new water connection. Water systems should work to provide affordable rate options to their ratepayers, such as through budget-based rate structures. The State Water Resources Control Board has also submitted a framework for a statewide low-income rate assistance program to the Legislature in January 2020, as required by AB 401 (Dodd, 2015), although the report has not yet been acted upon by the Legislature as of the publishing of the report.

6) Eligibility and access:

1. Eligible beneficiaries should include communities that qualify as DAC or SDAC, and households who qualify as low-income.

2. In developing a Drinking Water Well Impact Mitigation Program, a GSA should ask the following questions, and ensure that the program is easily accessible to all intended beneficiaries:
    a. What is the process for determining eligibility?
    b. Who determines if the well is eligible?
    c. What documentation does the well user need to demonstrate eligibility? Is there an unreasonable onus on the user to demonstrate past use that would constitute a barrier to access?
    d. When a well is found to have been constructed in a way that is not consistent with current regulations, is it still eligible?
    e. If a well is poorly constructed, does the program address replacing or repairing the well rather than just deepening it?

3. S/DAC residents should not be required to undertake burdensome actions or overcome other barriers to entry in order to benefit from the program. For example, residents should not be required to register before impacts occur in order to benefit from the program, and residents should not be required to prove that the GSA's activities or lack of action caused impacts. Instead, the GSA should proactively identify all well locations and information. When the GSA is notified of an impacted well, it should use the well information collected to rapidly evaluate the cause of the impact and provide adequate mitigation measures.

4. The GSA should work with local agencies and organizations to ensure that residents with impacted wells are referred quickly to the GSA for assistance.

Section 3

Costs and Potential Funding Sources

Costs are dependent on many factors including but not limited to the following:

- How protective the GSA defines its sustainability goal and related sustainability criteria;
- The number of vulnerable wells;
- The condition of the vulnerable wells;
- Proximity of vulnerable wells to existing public water systems;
- Depth of the aquifer;
- Local contractor costs; and
- Fluctuations in material costs.

For an example of the cost of several types of water supply solutions for a dry well, the San Antonio, TX, well mitigation project materials include the following average costs per well:

- Perform well diagnostics ($2,700);
- Lower pump ($4,000);
- Drill/outfit/connect replacement well ($58,000);
- Water purveyor connection ($5,000), and close existing well ($4,500).

The table below provides examples of interim and long-term solution costs based on Self-Help Enterprises' experience in providing solutions to disadvantaged communities in the San Joaquin Valley during drought periods. Costs are provided for illustrative purposes only and should be considered as rough estimates. Estimates reflect costs for interim and long-term solutions as of June 2022.

Solution	Problem	Options	General Overview of Pros and Cons	Estimate of Costs[9]
Interim Solution	Water Quality	Point-of-Use	Treats water for one tap within the household. While this option does provide safe drinking water in the home, if everything is perfect, maintenance can be inadequately carried out and assistance must be provided until a long-term solution is implemented.	- $2,500 - $5,000 per unit per home, for one year. - Costs include: initial capital costs (installation, treatment system, monitoring system) and also ongoing operation, maintenance, routine monitoring, and waste disposal costs. - Costs vary depending on the contaminant and filtration.
		Bottled water	Bottled water provides an effective and reliable source of safe drinking water and may be the only option available depending upon contaminant concentrations. However, bottled water can be expensive over a long period of time and can come with distribution challenges.	$75 per month, per house, includes delivery. Costs vary on household size.

[9] Costs are estimates based on Self-Help Enterprises' experience in providing interim and permanent solutions to disadvantaged communities in the San Joaquin Valley during drought periods. Costs are provided for illustrative purposes only and should be considered as rough estimates. Estimates reflect costs for interim and long-term solutions as of June 2022.

Interim Solution	Access to Water	Water tank program with bottled water	Tank water can meet basic sanitation needs but should not be used to meet drinking water needs, as tank water is susceptible to bacteriological or other issues making it unsafe for consumptive purposes. Instead, the program must be paired with delivery of bottled water to meet drinking water needs.	One-time fees: - 2,600 gallon water tank and materials: approximately $6,000 including labor - Electrical permit: $80, depending on the county. On-going fees: - For bottled water: $60 per month per house, including delivery. - Not estimated: Delivery charge by water hauler, per load or per hour. Other fees associated with ongoing maintenance of the tank, including routine cleaning. - All costs above are for one house per parcel. Costs can vary depending on conditions.	
Permanent Solution	Water Quality	Water treatment system	Technical, managerial, and financial capacity of the community should be considered when assessing water treatment options.	Costs vary depending on the technology, water contaminant(s), and number of households.	
		Alternate supply source	Options include surface water, construction of a new well, and consolidation with a nearby water system.	Costs vary depending on the desired solution, technology, and number of households.	
	Access to Water	Lowering of well pump	Least expensive long-term solution, if conditions allow. The following factors should be taken into account: lowering of a pump in the well is limited by the depth of the well, pumps near the base of the well increases energy consumption, may require more frequent screen cleaning, and water quality may be degraded due to sediments that are drawn in.	One time cost: Between $15,000 and $25,000.	
		Drill a new deeper well	A well test is necessary to assess yield capacity and water quality on deeper levels.	Private wells	$70,000 (usually 500 - 600 ft)
				Water systems	Up to $1.5M.
		Alternative water supply source	Options include surface water or consolidation with a nearby water system. Recommend considering consolidation when households understand and agree with the advantages and disadvantages of connecting to a local water system.	Costs vary depending on the desired solution, technology, and number of households	



Resident with bottled water delivery due to dry well.

A secure and reliable funding source and mechanism for the implementation of this type of mitigation program needs to be identified in the GSP. While grant or emergency funding could potentially be available to support a mitigation program, the availability of these funds is not certain. Therefore, the GSA should plan to establish a more secure, on-going funding mechanism that accrues funds that would be available as water levels decline in the future. Funding for these types of programs should be considered as an operational cost of the GSA and funded with other ongoing costs such as administration and monitoring and therefore included in the annual budget for the GSA. The following are potential other sources of funding to consider:

- Service or land-based fee assessments using Proposition 26 or Proposition 218;
- State Water Resource Control Board programs such as Proposition 1 Groundwater Grant Program and Prop 68 Groundwater Treatment and Remediation Grant Program;
- Department of Water Resources funding programs for groundwater projects and technical assistance programs to aid SGMA implementation;
- Central Valley Basin Plan Amendment (BPA) project funding: The BPA for the regulation of salts and nitrates has been approved by the SWRCB and implementation may result in additional funding sources for nitrate contaminated aquifers. If appropriate, GSAs should consider coordinating with nitrate dischargers forming Management Zones formed to comply with the BPA in order to streamline administrative costs and leverage resources;
- United States Department of Agriculture (USDA) Rural Development Utilities funding (if available).

Note that any well mitigation projects should be coordinated with the SWRCB's Safe and Affordable Drinking Water Fund Program (which will be seeking to implement short- and long-term drinking water solutions within vulnerable communities) via the SWRCB's Division of Drinking Water. Funding from the SWRCB's Safe and Affordable Drinking Water Fund Program should not be utilized to ameliorate negative impacts to safe drinking water access in vulnerable communities that are a result of implementation of the GSPs.

Mitigation measures should not put a financial burden on S/DAC residents and communities. Where feasible, GSAs should coordinate with relevant agencies to procure funding for cost-effective and affordable solutions. GSAs should also solicit stipends and grants from agencies where there will be an added cost on residents.

Wherever consolidation is possible, the GSA should assist in pursuit of feasibility studies and assist in negotiations with public water systems. GSAs should also assist in pursuit of grants/funds to ensure that this water is affordable. This work must be initiated with community involvement, oversight, and leadership during the yellow light phase. GSAs play a unique role in regional groundwater management and the ability to convene multiple agencies to leverage multiple funding sources can support both long-term access to safe and affordable drinking water while also supporting sustainable groundwater management.

Section 4

Case Studies of Existing Mitigation Programs

It is important to note that we need not re-create the wheel when designing Drinking Water Well Impact Mitigation Programs. In fact, quite a few concepts discussed above come from existing Drinking Water Well Impact Mitigation Programs that are already part of efforts to manage groundwater resources in other areas of the state and the country. We encourage GSAs to learn from those programs and contact those agencies to find out more about how their programs are implemented.

Please visit the link below for four examples of existing Drinking Water Well Impact Mitigation Programs:

https://bit.ly/MitigationPlanCaseStudies

For questions or for more information, please contact:

Self-Help Enterprises: Sonia Sanchez, SoniaS@selfhelpenterprises.org
Community Water Center: Justine Massey, justine.massey@communitywatercenter.org
Leadership Counsel for Justice and Accountability: Nataly Escobedo Garcia, ngarcia@leadershipcounsel.org



Appendix P – Subsidence Memo

MEMO

To: Calvin Monreal, P&P

From: Ken Schmidt

Topic: Susceptibility to Subsidence
in Pleasant Valley

Date: June 28, 2024

U.S. Geological Survey Professional Papers 497-C and 497-D discuss compaction of sediments underlying areas of land subsidence in central California. Five petrologic characteristics are indicated to be the most important in understanding the compaction behavior of these sediments.

1. General fineness of the particle size
2. Diverse juxtaposition of coarse and fine deposits
3. Large proportion of montmorillonite (clay mineral)
4. Downward increase in proportion of adsorbed sodium relative to adsorbed calcium
5. Percent of diatoms.

Fine deposits are more compressible. Interbedding of coarse layers with fine layers provides permeable avenues of escape for

water squeezed from the finer deposits. Clays rich in montmorillonite are more compressible than other clays. Montmorillonite which has more adsorbed sodium as its exchangeable cation is more capable of compaction. Diatoms, such as in the Corcoran Clay, allow increased compaction.

Some areas have low subsidence rates, even though water-level declines have been large. One such area is near the Big Blue Hills, not far from Pleasant Valley. In this area, the Etchegoin Formation is widespread. This is also true for Pleasant Valley.

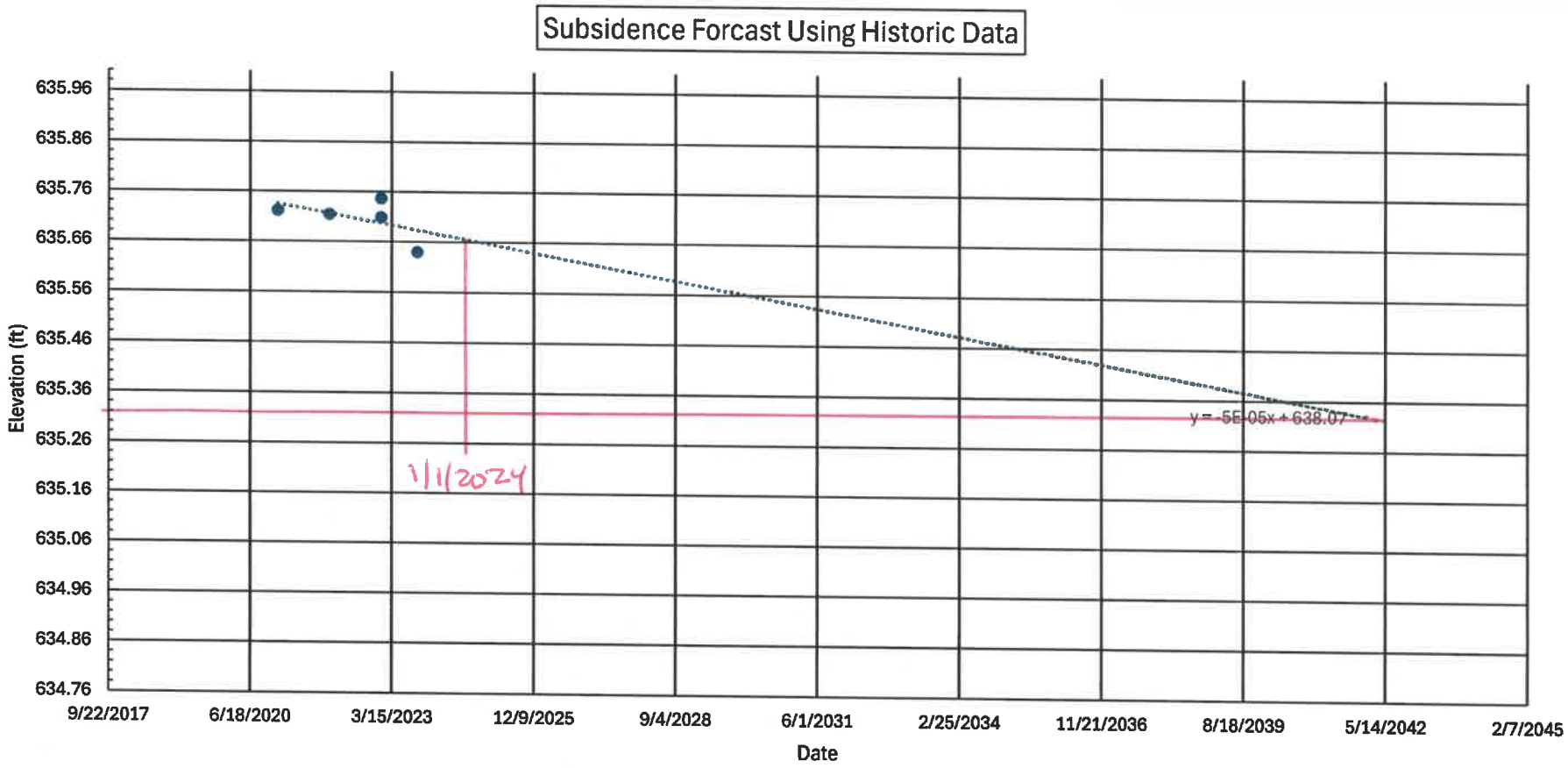
Historical land subsidence in the Pleasant Valley has been relatively small, given the historical water-level declines. The Corcoran Clay is not present in Pleasant Valley. This clay is montmorillonite-rich and has an abundance of diatoms. The relatively small subsidence in Pleasant Valley is similar to that near the Big Blue Hills. The Etchegoin Formation is present in both areas.

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Meade, R. H., 1967, "Petrology of Sediments Underlying Areas of Land Subsidence in Central California", U.S. Geological Survey Professional Paper 497-C, 83p.

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2024 EL = 635.66',
2042 EL = 635.32'

0.34' → FORCASTED ELEVATION CHANGE AT

PREPARED BY
CALVIN MONREAL, PE.
7/2/2024

Appendix Q – Model Examples

		Irrigable Acreage =	28,000	AC						
		Subbasin Acreage =	48,000	AC						
		Recharge								
		Wet	21,000	AF						
		Normal	13,000	AF						
		Dry	7,500	AF						
		Average Specific Yield	10.0%							
	Year	Crop Acreage (AC)	Average Total ET (AF)	Pumping Allocation (AF)	Recharge Wet (w), Normal (n) or Dry (d) Year (AF)	Surface Importation (AF)	Net Pumpage From Aquifer (AF)	Estimated Groundwater Change (FT)	Depth to Groundwater (FT)	
	2024	12,600	34,020	40,040	13,000	7,500	19,540	4.07	428.00	
	2025	12,600	34,020	40,040	13,000	10,000	17,040	3.55	431.55	
	2026	12,600	34,020	35,840	13,000	14,000	8,840	1.84	433.39	
	2027	12,600	34,020	35,840	13,000	14,000	8,840	1.84	435.23	
	2028	10,000	27,000	35,840	7,500	-	28,340	5.90	441.14	
	2029	10,000	27,000	35,840	7,500	-	28,340	5.90	447.04	
	2030	10,000	27,000	35,840	7,500	-	28,340	5.90	452.95	
	2031	10,000	27,000	31,640	7,500	-	24,140	5.03	457.98	
	2032	10,000	27,000	31,640	7,500	-	24,140	5.03	463.00	
	2033	12,600	34,020	31,640	21,000	14,000	(3,360)	(0.70)	462.30	
	2034	12,600	34,020	31,640	21,000	14,000	(3,360)	(0.70)	461.60	
	2035	12,600	34,020	31,640	13,000	10,000	8,640	1.80	463.40	
	2036	12,600	34,020	27,440	13,000	10,000	4,440	0.93	464.33	
	2037	10,000	27,000	27,440	7,500	-	19,940	4.15	468.48	
	2038	10,000	27,000	27,440	7,500	-	19,940	4.15	472.64	
	2039	12,600	34,020	27,440	13,000	10,000	4,440	0.93	473.56	
	2040	12,600	34,020	27,440	13,000	10,000	4,440	0.93	474.49	
	2041	12,600	34,020	23,240	5,000	-	18,240	3.80	478.29	
	2042	12,600	34,020	23,240	21,000	14,000	(11,760)	(2.45)	475.84	
	2043	12,600	34,020	23,240	13,000	10,000	240	0.05	475.89	
			Totals =	624,400	237,500	137,500	249,400	52		
	Note: 1. This Analysis is for a single point in the subbasin based on the ground water change due to a five year drought, where there is no surface water available.									
	2. Recharege is based on historic rain event patterns in the Coalinga CA area.									
	3. MO is set at 477 ft below ground surface, so mangement frame work is sufficient to maintian the subbasin within sustainability.									

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LIFT PUMP POWER SUMMARY

PROJECT: PVGSA **COMP. BY:** CM **DATE:** 6/25/2024
JOB NO: **PHASE:** **CHKD. BY:** **DATE:**
DESCRIPTION: Mo-MT comparison

Weight of water = 62.4 cu.ft./lb
Pumping Plant Efficiency = 0.7
Energy Cost = $0.13 kW-hr

Pump Station	Flow Rate (cfs)	Req'd Pump TDH (ft)	Power (hp)	Power (kW-hr)	Energy Cost/hr	Pumping Cost ($/AF)		Additional Pumping Cost
MO	2.5	600	243	181	$23.57	$114.07	0.8571429	14%
MT	2.5	700	284	212	$27.50	$133.08		
MO	2.5	500	203	151	$19.64	$95.06	0.7692308	23%
MT	2.5	650	263	196	$25.53	$123.57		
MO	2.5	410	166	124	$16.10	$77.95	0.8039216	20%
MT	2.5	510	207	154	$20.03	$96.96		

Note:
1. 100 feet was used between the MO and MT due to average drawdown in the summer months.
2. The lowest MO and MT was used for West Area, Mid Area and the East Area of the subbasin.