

MOUND BASIN GROUNDWATER SUSTAINABILITY AGENCY

NOTICE OF SPECIAL MEETING*

NOTICE IS HEREBY GIVEN that the Mound Basin Groundwater Sustainability Agency (“Agency”) Board of Directors (“Board”) will hold a **Board Meeting** at **1:00 P.M. on Thursday, November 2, 2017** at Ventura City Hall Room 223 (Santa Cruz), 501 Poli Street, Ventura, California 93001

MOUND BASIN GROUNDWATER SUSTAINABILITY AGENCY BOARD OF DIRECTORS

AGENDA

Thursday, November 2, 2017

- 1. CALL TO ORDER**
- 2. PLEDGE OF ALLEGIANCE**
- 3. DIRECTOR ANNOUNCEMENTS**
- 4. PUBLIC COMMENTS ON ITEMS NOT APPEARING ON THE AGENDA**

The Board will receive public comments on items not appearing on the agenda and within the subject matter jurisdiction of the Agency. The Board will not enter into a detailed discussion or take any action on any items presented during public comments. Such items may only be referred to the Executive Director or other staff for administrative action or scheduled on a subsequent agenda for discussion. Persons wishing to speak on specific agenda items should do so at the time specified for those items. The presiding Chair shall limit public comments to three minutes.

5. ACTION ITEMS

a. Sustainable Groundwater Planning Grant Program

The Board will discuss the draft grant application (attached) developed in response to the California Department of Water Resources’ (DWR) Groundwater Sustainability Plans and Project Proposal Solicitation Package. Consultant Bryan Bondy will lead a discussion on status of the application and solicit input from the Directors. The Board will consider approval of Resolution 2017- 2 to apply for the Proposition 1 Grant.

6. ADJOURNMENT

Administrative Reports relating to this agenda are available in the City of Ventura City Clerk’s Office, 501 Poli St., Room 204, Ventura, during normal business hours as well as on the City of Ventura’s Web Site (<https://www.cityofventura.ca.gov/1075/Water-Sources>). Materials related to an agenda item submitted to the Agency after distribution of the agenda packet are available for public review at the City Clerk’s Office.

This agenda was posted before 11/01/17 at 1:00 p.m. on the City of Ventura City Hall Public Notices Board and on the Internet.

In compliance with the Americans with Disabilities Act, if you need assistance to participate in this meeting, please contact the Ventura Water Office at (805) 652-4587 or the California Relay Service at (866) 735-2929. Notification by 11/01/17, at 4:00 p.m. will enable the Agency to make reasonable arrangements for accessibility to this meeting.

** In compliance with the Americans with Disabilities Act, all possible accommodations will be made for individuals so they may attend and participate in meetings.*

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

BOARD OF DIRECTORS

MOUND BASIN GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION NO. 2017-2

**A RESOLUTION OF THE MOUND BASIN GROUNDWATER SUSTAINABILITY
AGENCY (AGENCY) AUTHORIZING APPLICATION TO THE CALIFORNIA
DEPARTMENT OF WATER RESOURCES (DWR) SUSTAINABLE GROUNDWATER
PLANNING GRANT PROGRAM**

WHEREAS, DWR released the final proposal solicitation package for groundwater sustainability plans and projects on September 8, 2017;

WHEREAS, the Mound Groundwater Basin qualifies for funding;

NOW, THEREFORE, the Board of Directors of the Mound Basin Groundwater Sustainability Agency does hereby resolve that application be made to the California Department of Water Resources to obtain a grant under the 2017 Sustainable Groundwater Planning Grant Program pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1) (Water Code Section 79700 et seq.), and to enter into an agreement to receive a grant for the Mound Basin Groundwater Sustainability Agency and Groundwater Sustainability Plan. The Board Chair of the Mound Basin Groundwater Sustainability Agency is hereby authorized and directed to prepare the necessary data, conduct investigations, file such application, and execute a grant agreement with California Department of Water Resources.

PASSED, APPROVED, AND ADOPTED this 2nd day of November, 2017.

Mike Mobley, Board Chair

ATTEST:

Jennifer Tribo
Interim Executive Director

Prop 1, Sustainable Groundwater Planning Grant Program

Grant Proposal

Mound Basin GSA and GSP

Review Draft, October 2017

Prepared for Mound Basin Groundwater Sustainability Agency by:



TABLE OF CONTENTS

Note: This Table of Contents is for the purpose of Mound Basin Groundwater Sustainability Agency review only. It does not get submitted with the grant application.

Grant Proposal Online Form	4
ATTACHMENT 1. AUTHORIZING DOCUMENTATION	8
Attachment 2. Eligibility Documentation	9
Applicant Organization	9
CASGEM Basin Prioritization and Compliance	9
Urban Water Management Compliance.....	9
Agricultural Water Management Compliance	9
Surface Water Diversion Compliance	9
Attachment 3. Project Justification	10
Proposal Summary	10
Figure 1: Project Map	11
Technical Need	12
Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies	12
Project Support.....	13
Communication with Neighboring GSAs	13
Communication with Beneficial Users.....	13
Figure 2: Stakeholder Outreach Meeting Announcement - June 2015	14
Figure 3: Stakeholder Outreach Meeting Announcement - June 2016	15
Attachment 4. Work Plan	16
Task 1. Create the GSA (85% Complete).....	16
Stakeholder Engagement	16
Form Joint Powers Authority and Groundwater Sustainability Agency	16
Task 2. Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies	17
Subtask 2.1 Develop Numerical Groundwater Flow Model (80% Complete).....	17
Subtask 2.2 Geophysical Study (90% Complete)	18
Subtask 2.3 Mound Basin Study (85% Complete).....	18
Subtask 2.4 Water Quality and Isotope Study (0% Complete)	18
Subtask 2.5 Construct One Multi-Level Monitoring Well (0% Complete)	19
Figure 7: Task 2.4 and 2.5 Locations.....	20
Figure 8: Geophysical Study Location (Task 2.3)	21
Figure 9: Mound Basin Water Quality Trends in Three Parameters.....	21
Figure 10: Mound Basin Cross-Section Illustrating Basin Structural Complexity.....	22
Figure 11: Hydrograph Depicting Groundwater Elevations & the Influence of Faults	22
Task 3. GSP Preliminary Activities.....	23
Subtask 3.1 SGWP Grant Application (100% Complete).....	23
Subtask 3.2 Basin Boundary Modification (5% Complete)	23
Subtask 3.3 Organizational Activities (10% Complete).....	24
Task 4. GSP Chapter 2: Plan Area and Basin Setting (0% Complete)	24
Description of Plan Area	24
Summary of Jurisdictional Areas and Other Features (354.8b)	24
Water Resources Monitoring and Management Programs (354.8 c, d, e).....	24
Land Use Elements or Topical Categories of Applicable General Plans (354.8 f).....	25
Additional GSP Components (354.8 g).....	25
Basin Setting	25

Hydrogeologic Conceptual Model (354.14)	25
Current and Historical Groundwater Conditions (354.16)	25
Water Budget (354.18)	25
Management Areas (354.20)	26
Stakeholder Involvement and Draft Reviews	26
Data Management System (352.6).....	26
Task 5. GSP Chapter 3: Sustainable Management Criteria (0% Complete).....	26
Sustainability Goal (354.24).....	26
Undesirable Results (354.26).....	26
Minimum Thresholds (354.28)	26
Measurable Objectives (354.30).....	26
Monitoring Network (354.34, 354.36, and 354.38).....	27
Stakeholder Involvement and Draft Reviews	27
Task 6. GSP Chapter 4: Projects and Management Actions (0% Complete)	27
Projects and Management Actions	27
Stakeholder Involvement and Draft Reviews	27
Task 7. GSP Chapter 5: Plan Implementation (0% Complete).....	28
Implementation Schedule, Costs, Reporting & Evaluations	28
Adaptive Management	28
Stakeholder Involvement	28
Stakeholder Involvement and Draft Reviews	28
Task 8. GSP Introduction, Executive Summary References and Appendices (0% Complete)	28
Task 9. GSP Reviews and Approvals and Final Document Preparation (0% Complete)	29
Task 10. Project Administration (0% Complete)	29
Attachment 5. Budget.....	30
Budget Narrative.....	31
Attachment 6. Schedule.....	33
Proposal Schedule	33
Project Schedule	33

GRANT PROPOSAL ONLINE FORM

Note: The following is a compilation of the information that will get entered directly into the online Grants.gov form.

APPLICANT INFORMATION		
x	Organization Name	Mound Basin Groundwater Sustainability Agency
x	Tax ID	82-3156443
	Point of Contact	
	Point of Contact Position Title	
x	Proposal Name	Mound Basin GSA and GSP
x	Proposal Objective (2000 character limit.)	<p>The Mound Basin GSA and GSP project will:</p> <ol style="list-style-type: none"> 1) Form the GSA for the Mound Basin and establish new agency systems and procedures that support effective and cost-efficient development of the GSP. 2) Address the basin’s significant data gaps and complete foundational studies to support GSP development, including: <ol style="list-style-type: none"> a. Build on existing work to develop and calibrate a numerical groundwater flow model for use in evaluating sustainability criteria, projects, and management actions. b. Undertake a geophysical study of the basin to better understand its complex structure and identify suspected unmapped faults that may be affecting groundwater flow. c. Develop a hydrogeologic characterization of the Mound Basin, a basin that has been studied far less than other basins in the region. d. Perform a water quality and isotope study to evaluate sources of poor quality water and thereby help protect the primary pumping zones from impairment. e. Install a new groundwater monitoring well near the Santa Clara River and its estuary in order to assess interaction between surface water bodies and the basin’s principal aquifers. 3) Produce a GSP: <ol style="list-style-type: none"> a. Expand and maintain engagement with the basin’s stakeholders throughout the plan development process. b. Craft groundwater management strategies that address the basin’s challenges in a way that reliably supports the basin’s beneficial users (including urban and agricultural) now and in the future. c. Produce a GSP that meets Department of Water Resources guidelines.
BUDGET		
x	Other Contribution	Zero
x	Local Contribution (Cost Share)	\$757,470

x	Federal Contribution	Zero
x	In-kind Contribution	(see Local Contribution)
x	Amount Requested	\$743,100
x	Total Project Cost	\$1,500,570
GEOGRAPHIC INFORMATION		
x	Latitude	DD 34 MM 16 SS 5.9154
x	Longitude	DD -119 MM 12 SS 35.6976
x	Longitude/Latitude Clarification	
x	Location	Ventura County Government Center
x	County	Ventura County
x	Groundwater Basin	Santa Clara River Valley Basin, Mound Subbasin 4-4.03
x	Hydrologic Region	South Coast
x	Watershed	Santa Clara River Watershed and Buenaventura Watershed
LEGISLATIVE INFORMATION		
x	State Assembly District	37
x	State Senate District	19
x	U.S. Congressional District	26
PROJECT INFORMATION		
x	Project Name	Mound Basin GSA and GSP
x	Implementing Organization	Mound Basin Groundwater Sustainability Agency
x	Secondary Implementing Organization	
x	Proposed Start Date	Jan 1, 2015
x	Proposed End Date	June 30, 2022
x	Scope of Work (500 character limit)	This proposal involves one project: the Mound Basin Groundwater Sustainability Agency will create a GSA; address the basin's significant data gaps and complete foundational studies to support GSP development; and prepare a GSP that meets legislative and regulatory requirements using a process that includes active stakeholder involvement.

x	Project Description (2000 characters)	<p>This project is for the formation of the Mound Basin Groundwater Sustainability Agency (MBGSA) and the agency’s development of a groundwater sustainability plan.</p> <p>Three local public agencies worked with stakeholders to form the MBGSA in September 2017.</p> <p>Mound Basin underlies the City of Ventura, a city noteworthy for using 100% local water supplies, all of which face challenges. Mound Basin currently meets up to 20% of the City’s water demand, and is used to irrigate 2,000 acres of agricultural lands.</p> <p>Mound Basin is a subbasin of the Santa Clara River Basin, and underlies the last 1.3 miles of the river, including its estuary. There are questions about whether groundwater pumping in the basin may affect these surface water bodies.</p> <p>Mound Basin’s water quality is generally high in minerals, and must be blended with higher quality sources before distribution. Some wells have experienced degrading water quality over recent years. As a coastal basin, <u>seawater intrusion</u> is always a risk.</p> <p>The possibility of using Mound Basin to <u>store water for indirect potable reuse</u> in is being explored by the City of Ventura. This could represent a significant opportunity to advance local water supply reliability; however, additional data and analyses and involvement of affected pumpers are needed.</p> <p>The basin is highly complex and notably understudied compared to other local basins. It includes multiple confined aquifers with varying water quality that have been extensively folded and faulted. The project, therefore, includes a number of tasks that will address data gaps and characterization needs. The basin is within the service area of United Water Conservation District, which includes five other basins; therefore the MBGSA is already part of a collaborative framework of basins working together on groundwater management.</p> <p>The basin’s stakeholders are prepared to engage and collaboratively develop a GSP for the basin to move them forward toward sustainable groundwater management.</p>
x	Project Objective (500)	<p>The project objective is to 1) form the GSA for the Mound Basin, 2) address the basin’s significant data gaps and complete foundational studies to support GSP development, and 3) develop a GSP for the basin by the end of 2021 based on accurate hydrogeological data, and that addresses the basin’s challenges in a way that reliably supports the needs of all beneficial users now and in the future.</p>

QUESTIONS TAB		
x	Q1. Project Description (25 words)	<p>The Mound Basin GSA will be formed, address data gaps and complete foundational technical studies, engage stakeholders, and produce a solid groundwater sustainability plan.</p>

x	Q2. Project Representative	Mike Mobley, Board Chair Mound Basin Groundwater Sustainability Agency 501 Poli Street Ventura, CA 93001 805-525-6033 mikemobley@hotmail.com
x	Q3. Project Manager	Kevin Brown, Ventura Water General Manager Mound Basin Groundwater Sustainability Agency, Board Member 336 Sanjon Road Ventura, CA 93002 kbrown@cityofventura.ca.gov 805-652-4518
x	Q4. Eligibility – CASGEM	Yes, CASGEM compliant.
x	Q5. Eligibility – Ag Supplier	N/A. Applicant is not an agricultural water supplier.
x	Q6. Eligibility – Urban Water Supplier	N/A. Applicant is not an urban water supplier.
x	Q7. Eligibility – Surface Water Diverter	N/A. Applicant is not a surface water diverter.
x	Q8. Eligibility – Include any of list of activities.	No. The project does not include any of the listed activities.
	Q9. DAC or EDA Cost Share Waiver or Reduction	Not applying for cost share waiver or reduction as a DAC.
x	Q10. Project Area Map	Project Area Map attached.

APPLICATION ATTACHMENTS

O	Attachment 1: Authorizing Documentation	Att1_2017SGWPC2_AuthDoc_1of2.pdf Att1_2017SGWPC2_AuthDoc_2of2.pdf (resolution)
x	Attachment 2: Eligible Documentation	Att2_2017SGWPC2_EligDoc_1of1.pdf
x	Attachment 3: Project Justification	Att3_2017SGWPC2_ProjJus_1of2 Att3_2017SGWPC2_ProjJus_2of2 (JPA Agreement)
x	Attachment 4: Work Plan	Att4_2017SGWPC2_WrkPlan_1of1
x	Attachment 5: Budget	Att5_2017SGWPC2_Budget_1of1
x	Attachment 6: Schedule	Att6_2017SGWPC2_Schedule_1of2 Att6_2017SGWPC2_Schedule_2of2

Mound Basin GSA and GSP

ATTACHMENT 1. AUTHORIZING DOCUMENTATION

A resolution designating an authorized representative to submit this grant application and execute an agreement with the State of California for a 2017 SGWP Grant was adopted by the Mound Basin Groundwater Sustainability Agency on **November 2, 2017**. A copy of that resolution is attached.

ATTACHMENT 2. ELIGIBILITY DOCUMENTATION

Applicant Organization

The applicant is the Mound Basin Groundwater Sustainability Agency (MBGSA), a new public agency. The MBGSA was designated by the state as an official Groundwater Sustainability Agency (GSA) on September 30, 2017. The MBGSA is governed by a five-member board comprised of one representative from three local public agencies—the City of Ventura, the County of Ventura, and the United Water Conservation District (UWCD), and one agricultural and one environmental stakeholder representative.

Two of the agency’s signatory members—the City of Ventura and the County of Ventura—operate wells within the Basin and are represented on the agency’s board of directors. UWCD serves as the conservator of groundwater resources in the lower Santa Clara River watershed, which includes Mound and four other basins. UWCD does not produce water from the basin, but is authorized to engage in groundwater management of the basin.

CASGEM Basin Prioritization and Compliance

The Mound Basin is a medium-priority basin in Ventura County and is in compliance with CASGEM. The Ventura County Watershed Protection District (VCWPD) is the CASGEM Monitoring Entity for the basin. VCWPD compiles the water level data gathered by Ventura County staff with that gathered by other agencies and uploads the data to the CASGEM website in accordance with CASGEM program requirements. VCWPD will continue in this role and provide data consistent with the CASGEM program.

Urban Water Management Compliance

The applicant, MBGSA, is not an urban water supplier.

Agricultural Water Management Compliance

The applicant, MBGSA, is not an agricultural water supplier.

Surface Water Diversion Compliance

The applicant, MBGSA, is not a surface water diverter.

ATTACHMENT 3. PROJECT JUSTIFICATION

Proposal Summary

This proposal includes one project that will address several needs of the Mound Basin in relation to sustainable groundwater management. The project will: 1) Form the basin's GSA, a necessary first step toward sustainable groundwater management; 2) Address gaps in data and analyses that are needed to develop an effective GSP; and 3) Develop the basin's GSP. All three activities are necessary for the success of the project, as described below.

Mound Basin (DWR# 4-004.03) is a medium-priority basin in the Santa Clara River and Buena Ventura watersheds in Ventura County. Three public agencies—the City of Ventura, the County of Ventura, and United Water Conservation District (UWCD)—formed the Mound Basin Groundwater Sustainability Agency (MBGSA), becoming an official GSA on September 30, 2017. An agricultural water users group was actively engaged in the GSA formation process; and the five-member GSA board includes an agricultural and an environmental stakeholder representative. MBGSA is the implementing agency for this project, and their service area encompasses the entire Mound Basin.

Mound Basin underlies much of the City of Ventura, a coastal city of 109,000 residents noteworthy for using 100% local water supplies. As such, all sources of water are highly valuable; unfortunately all of the City's water sources (i.e., Lake Casitas, Ventura River, and the Mound, Santa Paula, and Oxnard Subbasins) are facing challenges of one kind or another. Mound Basin currently meets up to 20% of the City's water demand, and is also used to irrigate 2,000 acres of agricultural lands, which comprise 14% of the surface area of the basin. There are about 29 active wells in the basin.

Mound Basin is a subbasin of, and marks the lower end of, the Santa Clara River Basin. It is positioned to the north of the river, largely out of the floodplain and underlying a sloping coastal plain. The basin does underlie the last 1.3 miles of the Santa Clara River, including the roughly 100-acre Santa Clara River Estuary, and 28 acres of treatment wetlands. It shares subsurface hydrologic connection to other basins to the east and south, which are sources of recharge. With the basin's position underlying the estuary and river, there are questions about groundwater-surface water interaction and whether groundwater pumping in the basin may affect these surface water bodies.

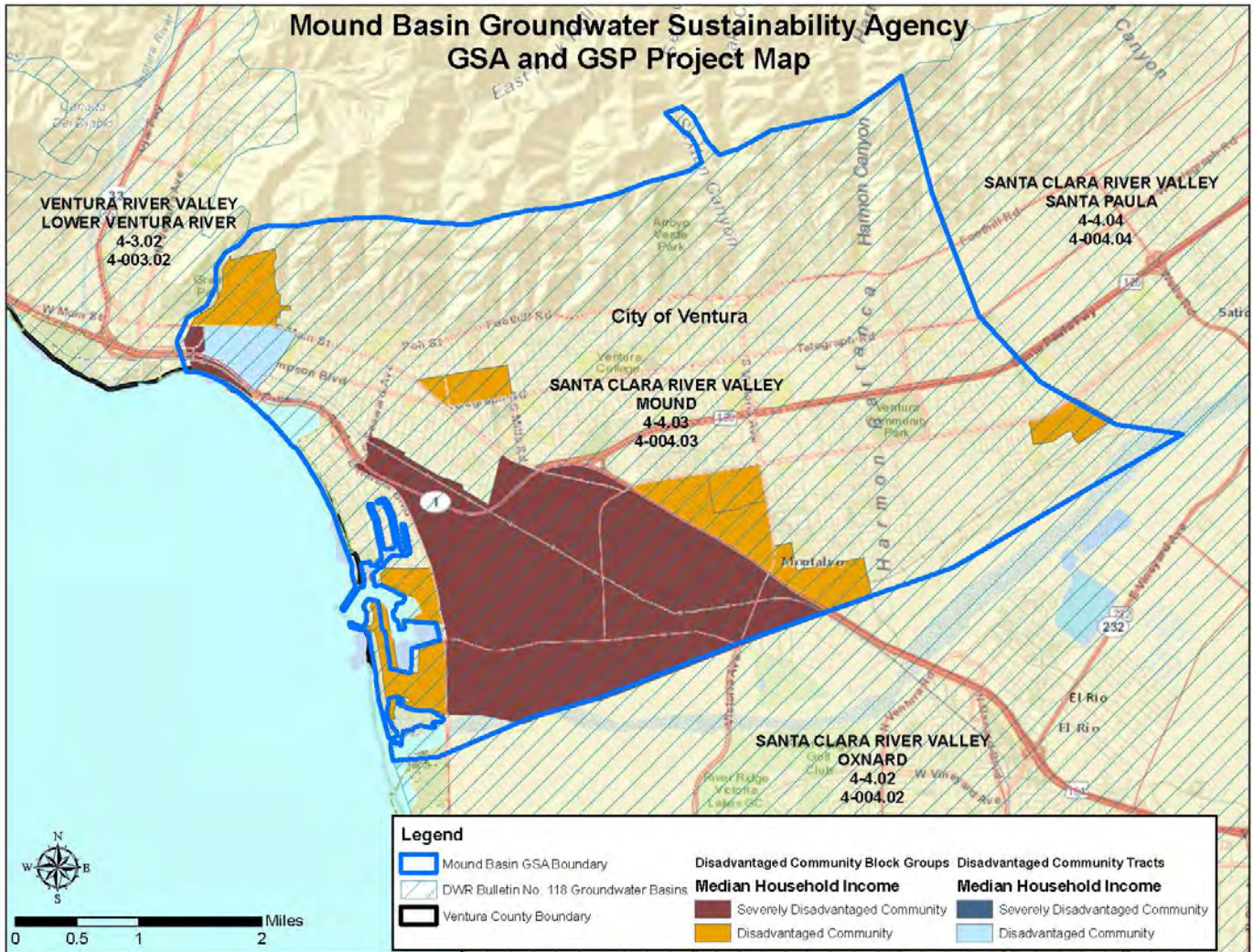
Mound Basin's water quality has been an ongoing limiting factor in its use. Water quality is variable by area, but the basin's water is generally high in TDS, sulfate, hardness, and other analytes, and must be blended with less salty water from other sources before distribution. Municipal wells near the center of the basin have experienced degrading water quality over recent years and an agricultural well has been affected by mineralized water with elevated temperatures. As a coastal basin, seawater intrusion is always a risk, and water levels in the recent extended drought reached their lowest levels since the major drought of 1989.

In recent studies by the City of Ventura analyzing alternatives for expanding recycled water delivery, the use of the Mound Basin to store water for indirect potable reuse (IPR) in drought periods surfaced as a high ranking alternative. The IPR project would involve injecting advanced-treated wastewater into the basin, thereby augmenting the water supply by up to 4,000 AF/Y, improving water supply reliability (recycled water is virtually 100% reliable), while improving basin's water quality overall. This could represent a significant opportunity to advance local water supply sustainability; however, considerable additional data and analyses are needed, and project success will require the involvement of affected pumpers and beneficial users to ensure an acceptable project strategy.

To manage the basin sustainably, the MBGSA needs to address data gaps and characterize the basin hydrogeology to support development of the GSP. This is a particularly important need because this basin is highly complex and has been studied far less than other basins in the region. The Mound Basin complexity includes multiple confined aquifers that are extensively folded and faulted and have varying water quality characteristics. The project, therefore, includes a number of tasks that will address data gaps and characterization needs that are described in the Technical Need section. Because the Mound Basin is within the service area of UWCD, which includes five other basins including the two that are contiguous with Mound Basin, the MBGSA is already part of a collaborative framework of basins working together on groundwater management. In response to SGMA, new studies have been initiated by UWCD and others, and the project's Work Plan is designed to leverage and integrate these new data, as well existing data and studies, as part of its data and analyses development.

The basin's stakeholders are prepared to engage and collaboratively develop a GSP for the basin to move them forward toward greater long-term water supply reliability and sustainability. Throughout the process of developing the GSP, the MBGSA will rely on stakeholder feedback, and will work to ensure an open and transparent process.

Figure 1: Project Map



Technical Need

The Mound Basin has a limited amount of data for characterization, has been studied far less than other basins in the region, and has complex hydrogeology. The Mound Basin consists of three primary aquifers and is characterized by an east-west trending fold axis (Ventura syncline) and two east-west trending fault systems that separate the basin into three subareas.

In contrast with many alluvial basins subject to SGMA, the Mound Basin is not a simple alluvial fill basin. The basin has a series of three aquifers with varying water quality characteristics, including relatively poor quality groundwater throughout the Mugu Aquifer Zone and at least one area of highly mineralized “warm” water in the deep aquifer zones. The mineralized water appears to be sourced from older formations underlying the basin and directed upward along an unmapped fault zone. The basin is bounded by the Pacific Ocean on the west and, although seawater intrusion has not been detected to date, the basin must be managed moving forward to prevent intrusion from occurring and impacting beneficial users. Additionally, the interaction between surface water and the principal aquifers has not been investigated.

Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies

Grant funding will help address key data gaps and complete foundational technical studies needed to support GSP development and complete a numerical groundwater flow model of the basin. These needs are described below.

Numerical Groundwater Flow Model. The GSP will necessarily rely on groundwater modeling to support development of the water budget, sustainability management criteria, and other plan elements. UWCD is developing a 13-layer MODFLOW model of the basins within its service area, including the Mound Basin. Completion of the model calibration for the Mound Basin and documentation of the model is a necessary prerequisite for its use in development of the GSP.

Geophysical Study. Groundwater levels in an eastern part of the basin have proven difficult to calibrate in UWCD’s groundwater flow model. Reports of an agricultural well affected by mineralized water with elevated temperatures suggest that unmapped faults may be affecting groundwater flow in this area. Therefore, further assessment of the basin’s geophysical structure was needed. UWCD has collected time-domain electromagnetic survey data in open areas in eastern Mound Basin to evaluate faulting. This Geophysical Study will aid in identification of unmapped faults and help UWCD better calibrate the groundwater flow model and may help identify pathways used by the water with elevated temperatures to reach the aquifers. Remaining work includes finalizing the Geophysical Study report so it can be used for the GSP.

Mound Basin Study. Historically, the Mound Basin has been less studied than other basins in the region. Efforts have been taken in recent years to improve characterization of the basin. In 2012, UWCD completed its “Hydrogeological Assessment Report of the Mound Basin.” In 2015, the City of Ventura began work on the “Mound Basin Study.” The Mound Basin Study is a hydrogeologic characterization of the basin and, together with the UWCD report, will provide a solid foundation for developing much of Basin Setting section of the GSP. Completion of the Mound Basin Study is necessary for it to be used in development of the GSP.

Water Quality and Isotope Study. Investigation of the sources of recharge to the different aquifers in the Mound Basin could help refine the basin’s hydrogeologic conceptual model and numerical groundwater flow model, and improve the MBGSA’s ability to manage the basin’s poor groundwater quality. Stable and radioactive isotope analyses can be used to investigate sources and mechanisms of groundwater recharge, groundwater age and dynamics, interconnections between aquifers, and interaction between surface water and groundwater—all of which are data gaps in the Mound Basin. This task includes four primary activities: groundwater sampling, laboratory analysis of general minerals and isotopes, data analysis, and preparation of a technical memorandum. An expert geochemist will confirm the sampling procedures and analyses, interpret the results, and prepare a technical memorandum with conclusions.

Construct a Multi-Level Monitoring Well. The basin underlies the Santa Clara River and its estuary, giving rise to questions about groundwater-surface water interaction and whether groundwater pumping in the basin may affect these surface water bodies. Thus, developing data to evaluate groundwater conditions near the Santa Clara River and its estuary will be an important part of developing the GSP. There are no monitoring wells screened in the principal aquifers of the basin in the vicinity of the Santa Clara River and the estuary and, therefore, no groundwater level data to assess interaction between these surface water bodies and the principal aquifers. This task would address this data gap by installing a multi-level groundwater monitoring well to a depth of between 1,000 to 1,500 feet below ground surface. The well will be screened separately in the principal aquifers at the depths they are encountered. At least two screen zones are anticipated, with the potential for as many as four zones.

Project Support

Communication with Neighboring GSAs

The Mound Basin is bordered by two groundwater basins: the Oxnard Subbasin of the Santa Clara River Valley Basin (4-4.02) to the east and the Santa Paula Subbasin of the Santa Clara River Valley Basin (4-4.04) to the north.

The Oxnard Subbasin of the Santa Clara River Valley Basin is a high-priority basin within the groundwater management jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA), an agency established by the State Legislature in 1982 for the preservation and management of groundwater resources within the areas or lands overlying the Fox Canyon aquifer (Oxnard Subbasin). As an exclusive agency named in SGMA, the FCGMA did not need to go through GSA formation procedures, and is already well into development of their GSPs. The Oxnard Subbasin is also in the service area of the United Water Conservation District, as is the Mound Basin. Ventura County and UWCD are governing members of both the FCGMA and the MBGSA, therefore regular and ongoing communication between these neighboring groundwater management agencies is ensured. The current MBGSA Board Chair is also UWCD's alternate director on the FCGMA Board.

The Santa Paula Subbasin of the Santa Clara River Valley Basin is an adjudicated basin exempt from SGMA, with a medium-priority status. It is managed a Technical Advisory Committee with members from UWCD, City of Ventura, and Santa Paula Basin Pumpers Association, subject to continuing court jurisdiction. The City of Ventura and UWCD are also represented on the MBGSA, therefore through these agencies, regular communication with this neighboring basin is ensured.

Communication with Beneficial Users

During development of the MBGSA, two stakeholder outreach meetings were held and numerous meetings were held between the public agencies overlying the basin.

The first meeting, held on June 1, 2015, was intended to provide a general overview of SGMA and to invite interested stakeholders to participate in a GSA formation advisory committee. Slide presentations provided information on the Mound Basin and the general process and timeline for forming the GSA. The meeting was well attended, with 21 participants in attendance. An "Interested Stakeholders" email list was begun at this meeting and has been steadily growing ever since. A public announcement about this meeting is included below.

A second meeting was held on June 16, 2016. At this meeting, a preliminary draft of the JPA agreement between the eligible entities (i.e., County of Ventura, City of Ventura, and UWCD) was available for review by the stakeholders. Those in attendance were asked to submit written comments on the draft JPA agreement, as appropriate. A public announcement about this meeting is included below.

In spring of 2016, agricultural groundwater pumpers in the Mound Basin organized themselves as a nonprofit mutual benefit organization, the Mound Basin Ag Water Group (MBAWG), to ensure that their interests were well represented under SGMA and the new local groundwater management agency. MBAWG became active in Mound Basin JPA and GSA development meetings, and their request to be considered for direct representation on the GSA board of directors was ultimately successful.

In addition to an agricultural stakeholder representative, the final adopted JPA specified that the board should include an environmental stakeholder representative. Nominees for this position were solicited and candidates interviewed. These two board members are counted on to solicit input from the interests they represent on relevant GSA business and keep the Board informed of any concerns or other feedback.

Many MBGSA participants and stakeholders also actively participate in the Santa Clara River Watershed Committee (SCRWC), which was formed in 2006 as an open coalition of stakeholders addressing issues critical to the watershed. The SCRWC is engaged in a variety of local planning efforts, including development and implementation of an integrated regional water management plan. Participation in SCRWC is a significant means by which communication with interested stakeholders and beneficial users is achieved. The SCRWC has been instrumental in keeping

groundwater managers abreast of the projects, interests, and concerns of other groundwater managers in the watershed, as well as of other stakeholder activities that may have a nexus with groundwater. Meetings include updates by participants, as well as special presentations and reports about projects or subjects of interest. Specifically for the Mound Basin, the SCRWC has been instrumental in notifying stakeholders of the JPA and GSA development progress and continues to fill an important role in ongoing outreach for MBGSA.

In June 2017, the City of Ventura added a Mound Basin GSA page to its website for posting meeting agendas and board packets.

Disadvantaged Communities. Approximately 20% of the Mound Basin land area is mapped as severely disadvantaged (SDAC); however, the land use in this area is mostly agriculture with some commercial/industrial. There are few if any residents. Additionally, because the agricultural landowners of the Mound Basin are very actively involved with the MBGSA, communication with these stakeholders is already occurring.

Figure 2: Stakeholder Outreach Meeting Announcement - June 2015



Published on *City Of Ventura* (<http://www.cityofventura.net>)

Public invited to attend meeting regarding formation of a groundwater sustainability agency, June 1

Thu, 2015-05-28 10:29

For Immediate Release

May 28, 2015

Contact: Shana Epstein, Ventura Water, 805/652-4503

Mike Solomon, United Water Conservation District, 805/525-4431

Tony Morgan, United Water Conservation District, 805/525-4431

Tully Clifford, Ventura County Watershed Protection District, 805/654-2040

Public invited to attend meeting regarding formation of a groundwater sustainability agency for the Mound Groundwater Sub-basin, June 1

Members of the public are invited to provide their ideas, comments and concerns at a meeting regarding the formation of a groundwater sustainability agency for the Mound Groundwater Sub-basin to comply with a new state law. The meeting will be held Monday, June 1 at 6:00 P.M. at Ventura City Hall, 501 Poli Street in the Community Meeting Room.

As California enters its fourth consecutive year of drought with far-reaching impacts on the water supply, local water agencies are taking action. The meeting will include a brief presentation on the new state groundwater management law as well as background information on the groundwater basin. The focus of the meeting is to obtain comments from the public, answer questions, and to develop a list of people and organizations who would like to be involved in the formation of this new agency.

The Mound Sub-basin underlies the western portion of the Santa Clara River Valley Groundwater Basin. The agencies currently working together to form a groundwater sustainability agency are the City of Ventura, Ventura County Watershed Protection District, and the United Water Conservation District.

For information about the new agency or to be added to the e-mail distribution list for future updates, contact Shana Epstein at (805) 652-4503 or sepstein@venturawater.net ^[1].

This release is available on the City of Ventura website at www.cityofventura.net ^[2]. -### -

Source URL: <http://www.cityofventura.net/press-release/public-invited-attend-meeting-regarding-formation-groundwater-sustainability-agency-ju>

Links:

[1] <mailto:sepstein@venturawater.net>

[2] <http://www.cityofventura.net>

Figure 3: Stakeholder Outreach Meeting Announcement - June 2016

Board of Directors
Bruce E. Dandy, President
Robert Eranio, Vice President
Daniel C. Naumann, Secretary/Treasurer
Sheldon G. Berger
Lynn E. Maulhardt
Edwin T. McFadden III
Michael W. Mobley



UNITED WATER CONSERVATION DISTRICT
“Conserving Water since 1927”

Legal Counsel
Anthony H. Trembley

General Manager
Mauricio E. Guardado, Jr.

June 9, 2016

LOCAL CONTROL FOR GROUNDWATER BASINS

Over the past year, various water agencies and Ventura County have joined forces to address new state legislation known as the Sustainable Groundwater Management Act (SGMA). This legislation offers local agencies the opportunity to manage the future sustainability of groundwater basins.

On Thursday, June 16, United Water Conservation District, the City of Ventura, and County of Ventura will be holding a Groundwater Sustainability Agency Formation Forum, providing you with an opportunity to participate in a discussion on how to organize the Mound Basin Groundwater Sustainability Agency (GSA). This forum is open to the general public and we strongly encourage the participation of stakeholders, inviting you to share your views and opinions regarding the organizational structure for the basin’s GSA.

The next step in the formation of a Mound Basin Groundwater Sustainability Agency will be for each local government agency/special district to review and incorporate, as appropriate, the expressed opinions and suggestions of stakeholders regarding the organizational structure of the GSA.

Each entity will then present to its respective Board of Directors a request for approval of the organizational structure and agreements resulting from this forum. At that time, the entities will also request that the respective Boards appoint a representative to the GSA. Once all of the GSA representatives are appointed, the newly formed GSA will notice a public hearing (probably in the fall of 2016) to designate themselves as the Groundwater Sustainability Agency for the Mound Basin and will then submit that designation to the State of California for approval.

This meeting is just the beginning of much more engagement in the process of preserving our groundwater resources and we strongly encourage your participation.

Forum for the Discussion of the Mound Groundwater Basin Groundwater Sustainability Agency Formation

Thursday, June 16, 2016 – 6 p.m.
Community Meeting Room, City of Ventura City Hall
501 Poli Street, Ventura CA

To learn more,

visit: www.venturawater.net

or

contact: Tony Morgan,
Deputy General Manager, Groundwater & Water Resources
United Water Conservation District

Phone: (805) 525-4431

Email: tonym@unitedwater.org

ATTACHMENT 4. WORK PLAN

The project's Work Plan is organized into ten tasks, which together address the project's three overall objectives:

- 1. Create the GSA.** This work consists of creating the MBGSA, becoming a GSA, and setting up an office with an Executive Director and necessary business support. This work is nearly complete.
- 2. Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies.** This work has been ongoing by GSA member agencies and will be completed in 2018. Completing these activities will provide a solid foundation for development of the GSP.
- 3. Prepare the GSP.** Preparing the GSP will comprise the bulk of the effort and is expected to be completed by the end of 2021.

Environmental Compliance and Permitting. Based on the nature of the work, scientific data collection, analysis, and plan preparation, all project related activities qualify for an exemption under the California Environmental Quality Act. One monitoring well will be drilled as part of this project. As described under Subtask 2.5 below, the well will be permitted as a monitoring well through the County of Ventura.

Note on Task and Subtask Structure: Every effort was made to provide a thorough Work Plan, addressing all the required elements with enough detail to make clear to reviewers the level of effort of the proposed work and to substantiate the project's cost estimates. The Work Plan was also purposefully designed around the GSP chapters laid out in DWR's GSP annotated outline, with the goal of providing a reasonable level of task definition for project tracking, grant reporting, and progress review by DWR. Further subdivision of the GSP work into subtasks would imply a level of precision in costs estimation and schedule prediction that is not appropriate at this time.

Task 1. Create the GSA (85% Complete)

This task involves the following two major actions:

Stakeholder Engagement

The first step in creating the GSA involved stakeholder outreach and engagement. The first stakeholder meeting, held on June 1, 2015, provided the 21 participants in attendance with a general overview of SGMA and to invited interested stakeholders to participate in a GSA formation advisory committee. The second meeting was held on June 16, 2016. At this meeting, a preliminary draft of the JPA agreement between the eligible public entities was available for review, and participants were asked to submit written comments on the draft JPA agreement. In addition, as the public agency representatives worked to form the Mound Basin GSA, they made announcements and provided updates about the formation process at their respective governing board meetings, and at various watershed, groundwater, and other appropriate meetings.

The commitment to stakeholder engagement is reflected in the composition of the MBGSA's five-member board, which includes two stakeholder seats: one for agricultural interests and one for environmental interests. Ongoing stakeholder engagement relative to the GSP is addressed in the relevant GSP development tasks below.

Form Joint Powers Authority and Groundwater Sustainability Agency

The major part of creating the GSA was negotiating the language of the Joint Powers Authority agreement that would govern agency. An initial Memorandum of Understanding between the three public agencies (City of Ventura, United Water Conservation District, and County of Ventura) was established in March 2015. Following this, the staff and legal counsels of the agencies and the Mound Basin Agricultural Water Group worked on the details of a formal agreement. This process took over two years. On June 14, 2017, the agencies approved their Joint Powers Authority agreement. The Notice of Intent to form the GSA was posted on DWR's website on June 29, 2017 and the MBGSA

officially became a GSA on September 30, 2017. An interim executive director, provided temporarily by the City of Ventura, began work in August 2017. Remaining work to establish the GSA includes developing foundational policies and procedures that will guide and support the organization, acquiring liability insurance, and establishing accounting services.

Deliverables: List of public meetings regarding GSA formation; JPA agreement; approved GSA status as verified on DWR website.

Task 2. Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies

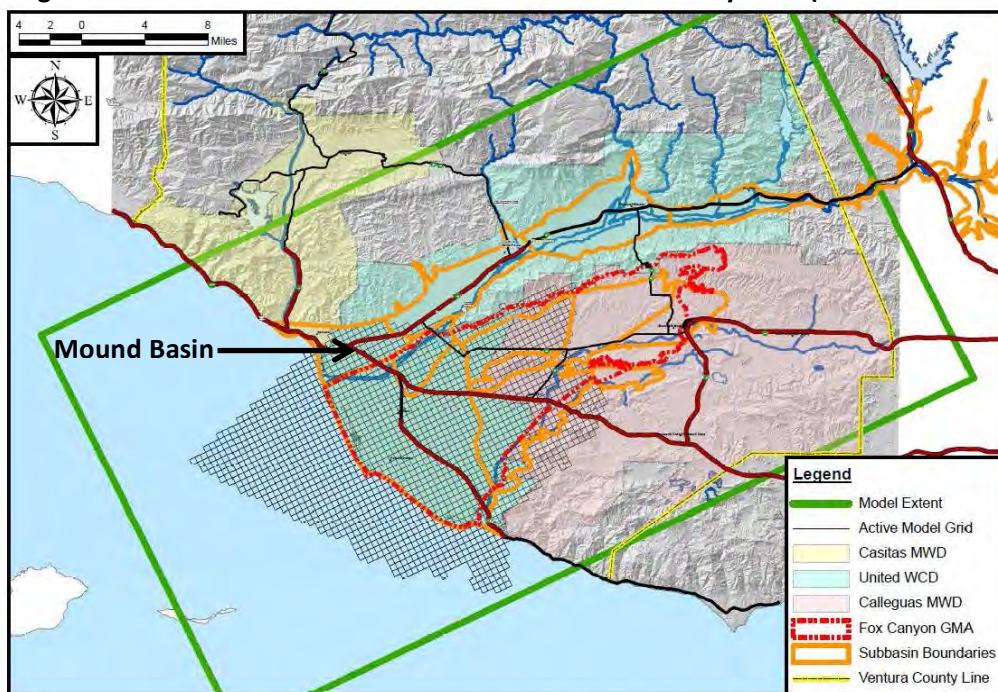
Task 2 includes five subtasks designed to address key data gaps, completion of foundational technical studies needed to support GSP development, and completion of a numerical groundwater flow model of the basin.

Subtask 2.1 Develop Numerical Groundwater Flow Model (80% Complete)

Prior to promulgation of SGMA in 2014, UWCD and others in the region realized that a detailed numerical groundwater flow model would be needed to effectively interpret historic groundwater-level trends and, more importantly, forecast impacts of potential future groundwater extraction, recharge, and management scenarios under consideration in the basins within its service area, including the Mound Basin. As a result, UWCD began developing a detailed groundwater flow model in 2012 to address aquifer-specific issues and to evaluate the feasibility of potential water-supply-development projects within the model's study area.

The numerical groundwater flow model is anticipated to be used for planning and groundwater management activities, which will require predictive simulations of potential future pumping, recharge, and land- and water-use scenarios. The model will be used to evaluate the effectiveness of groundwater management strategies and regulatory policies for the GSPs. UWCD has been going to considerable effort to review and update their hydrostratigraphy for the study area, and has been constructing a 13-layer MODFLOW model.

Figure 4: UWCD Numerical Groundwater Flow Model Study Area (Model Domain)



The GSP will necessarily rely on groundwater modeling to support development of the water budget, sustainability management criteria, and other plan elements. This subtask captures UWCD's efforts since January 1, 2015 to develop the numerical groundwater flow model for the Mound Basin. Costs are reflective of the proportional share of efforts for the Mound Basin in the overall modeling project for UWCD's entire service area. Remaining work includes completion of the model documentation, which is a necessary prerequisite for its use in development of the GSP.

Deliverables: Numerical Groundwater Flow Model Description and Documentation.

Subtask 2.2 Geophysical Study (90% Complete)

Groundwater levels in a portion of the eastern part of the basin have proved difficult to calibrate in UWCD's groundwater flow model. Recent reports of an agricultural well affected by mineralized water with elevated temperatures suggest that unmapped faults may be affecting groundwater flow in this area. Therefore, further assessment of the basin's geophysical structure was needed. UWCD has collected time-domain electromagnetic survey data in open areas in eastern Mound Basin to evaluate faulting. Identification of unmapped faults will help UWCD better calibrate the groundwater flow model and may help identify pathways for water with elevated temperatures to reach the aquifers. Remaining work includes finalizing the Geophysical Study report, which is a necessary prerequisite for its use in development of the GSP.

Deliverables: Geophysical Study Report.

Subtask 2.3 Mound Basin Study (85% Complete)

In 2015, the City of Ventura began work on the "Mound Basin Study," a comprehensive hydrogeologic characterization of the Mound Basin. The study, which is still underway, will include hydrogeologic cross-sections of the basin, evaluation of groundwater level and quality data, and preliminary water budget work. As mentioned earlier, this study, together with UWCD's 2012 "Hydrogeological Assessment Report of the Mound Basin" will provide a solid foundation for developing much of Basin Setting section of the GSP.

Remaining work on this subtask includes finalizing the data analysis and preparation of draft and final reports.

Deliverables: Mound Basin Study Report.

Subtask 2.4 Water Quality and Isotope Study (0% Complete)

In contrast with many alluvial basins subject to SGMA requirements, the Mound Basin is not a simple alluvial fill basin. The basin has a series of three aquifers with varying water quality characteristics, including relatively poor quality groundwater throughout the Mugu Aquifer Zone and at least one area of highly mineralized "warm" water in the deep aquifer zones. The mineralized water appears to be sourced from older formations underlying the basin and directed upward along an unmapped fault zone. Additionally, groundwater levels in this area have proven difficult to calibrate in UWCD's groundwater flow model. Investigation of the sources of recharge to the different aquifers could help refine the basin's hydrogeologic conceptual model and numerical groundwater flow model. Moreover, insights gained would improve the MBGSA's ability to manage groundwater quality.

Stable and radioactive isotope analyses can be used to investigate sources and mechanisms of groundwater recharge, groundwater age and dynamics, interconnections between aquifers, and interaction between surface water and

Figure 5: TDEM Field Setup

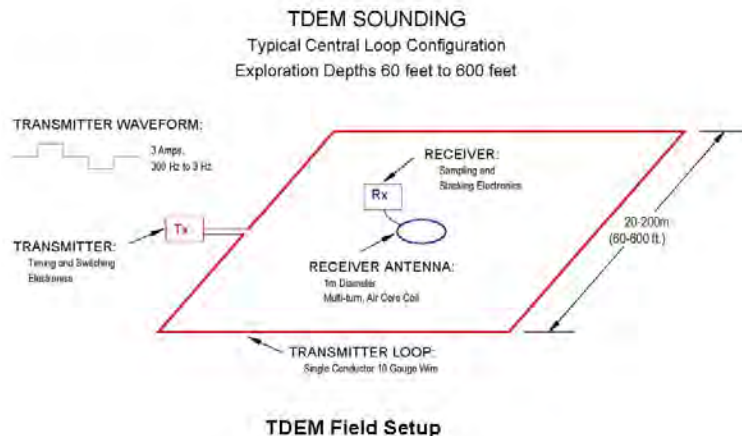
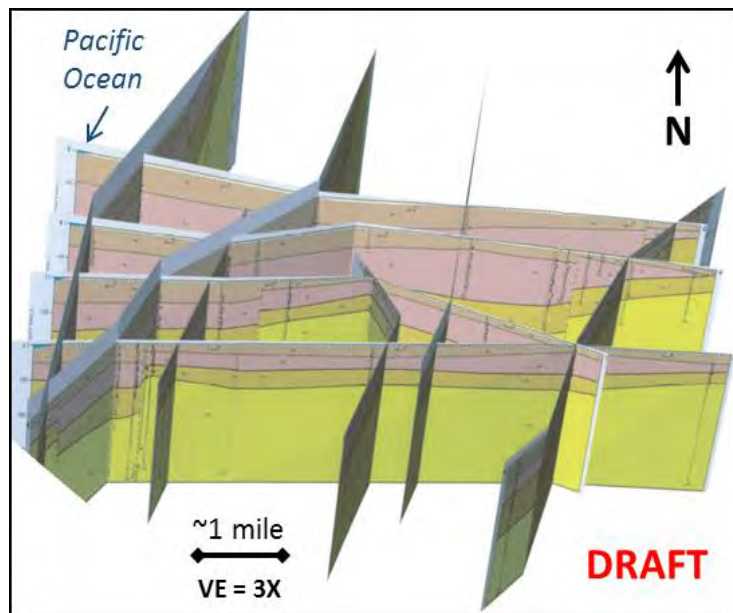


Figure 6: Cross-Sections from the Draft Mound Basin Study



groundwater—all of which are data gaps in the Mound Basin. For example, the isotopic composition of groundwater (expressed as abundance of oxygen-18 and deuterium) can give insights into the recharge sources (precipitation vs. surface water vs. connate waters). Groundwater dating with radioactive isotopes can be used to assess the recharge rate and flow velocity of groundwater and is typically accomplished by measuring tritium (^3H) and radiocarbon (^{14}C) in groundwater samples. Additionally, USGS used stable isotope ratios of sulfur in sulfate ($\delta^{34}\text{S}$) to help further evaluate sources of recharge and in-situ reactions (Izbicki, et al, 2005).

This subtask includes four primary activities: groundwater sampling, laboratory analysis of general minerals and isotopes, data analysis, and preparation of a technical memorandum. Groundwater samples will be collected by UWCD staff as part of their routine groundwater monitoring program. It is anticipated that each discrete zone of the three nested/cluster monitoring wells in the basin will be sampled (8 total samples). Additionally, the monitoring well proposed in Task 2.5 will be sampled if it is constructed prior to the sampling activities. This would add another two to four samples. All samples will be analyzed for general minerals and the following isotopes: $^2\text{H}/^1\text{H}$ (δD), $^{18}\text{O}/^{16}\text{O}$ ($\delta^{18}\text{O}$), $^{34}\text{S}/^{32}\text{S}$ ($\delta^{34}\text{S}$), ^3H , ^{14}C , and $^{13}\text{C}/^{12}\text{C}$ ($\delta^{13}\text{C}$). Laboratory fees are approximately \$1,800 per sample for the above-listed analyses. MBGSA will consult with an expert geochemist prior to sampling to confirm the sampling procedures and analyses. The expert geochemist will also be asked to review and interpret the results and prepare a technical memorandum that includes conclusions that will be used to refine the hydrogeologic conceptual model of the basin. We anticipate working with John Izbicki (USGS) or other expert with similar isotope experience.

(Reference: Izbicki, J. A, Christensen, A.H, Newhouse, M.W., and Aiken, G.R., 2005. Inorganic, isotopic, and organic composition of high-chloride water from wells in a coastal southern California aquifer. *Applied Geochemistry*. 20, 1496-1517.)

Deliverable: Isotope Technical Memorandum.

Subtask 2.5 Construct One Multi-Level Monitoring Well (0% Complete)

The Mound Basin underlies the Santa Clara River and its estuary giving rise to questions about groundwater-surface water interaction and whether groundwater pumping in the basin may affect these surface water bodies. Thus, developing data to evaluate groundwater conditions near the Santa Clara River and its estuary will be an important part of developing the GSP. There are no monitoring wells screened in the principal aquifers of the basin in the vicinity of the Santa Clara River and the estuary, therefore, there are no groundwater level data to assess interaction between these surface water bodies and the principal aquifers. This task will address this data gap by installing a multi-level groundwater monitoring well.

The subtask includes three primary activities: right-of-way acquisition, well design and construction, and preparation of a well installation report. Efforts to acquire right-of-way will focus on City- or County-owned property in the data gap area. Relationships with members of the Mound Basin Agricultural Water Group (MBAWG) will be leveraged to identify potential well sites on agricultural lands. Specifications will be developed by a consulting hydrogeologist and/or UWCD staff for bidding purposes. Bidding and contracting will be performed by one of the JPA agencies.

The well will be drilled using mud rotary techniques. A pilot hole will be drilled to a depth of approximately 1,500 feet below ground surface. The pilot hole will be logged by a professional geologist and a standard borehole geophysical survey will be performed to delineate the hydrostratigraphy (short and long normal resistivity, lateral, spontaneous potential, and gamma logs). The well design will be determined based on geologic and geophysical logs and is anticipated to consist of a multi-level well to a depth of between 1,000 to 1,500 feet below ground surface, with discreet schedule 80 PVC screen zones in the principal aquifers at the depths they are encountered. At least two screen zones are anticipated, with the potential for as many as four zones.

The final borehole diameter and casing/screen diameters will be dependent on the pilot hole findings. Each discrete monitoring well zone will be developed and sampled twice for general minerals, once after development and again after one quarter. Each discrete zone will be instrumented with a pressure transducer and data logger to continuously record groundwater levels. After at least one quarter of groundwater level monitoring, the data collected during and

following well construction will be evaluated and used to update the hydrogeologic conceptual model for the basin and make a preliminary evaluation of the interaction between surface water and the principal aquifers of the basin. These evaluations and the well construction activities will be documented in a well installation report. The well will be added to UWCD’s monitoring network for long-term monitoring under the GSP.

Deliverables: Well Installation Report (with summary of hydrogeologic conceptual model insights and preliminary evaluation of surface water and principal aquifer interaction).

Figure 7: Task 2.4 and 2.5 Locations

Four Nested/Cluster Monitoring Well Locations for Water Quality and Isotope Study (Task 2.4)
 New Multi-Level Monitoring Well (Task 2.5)

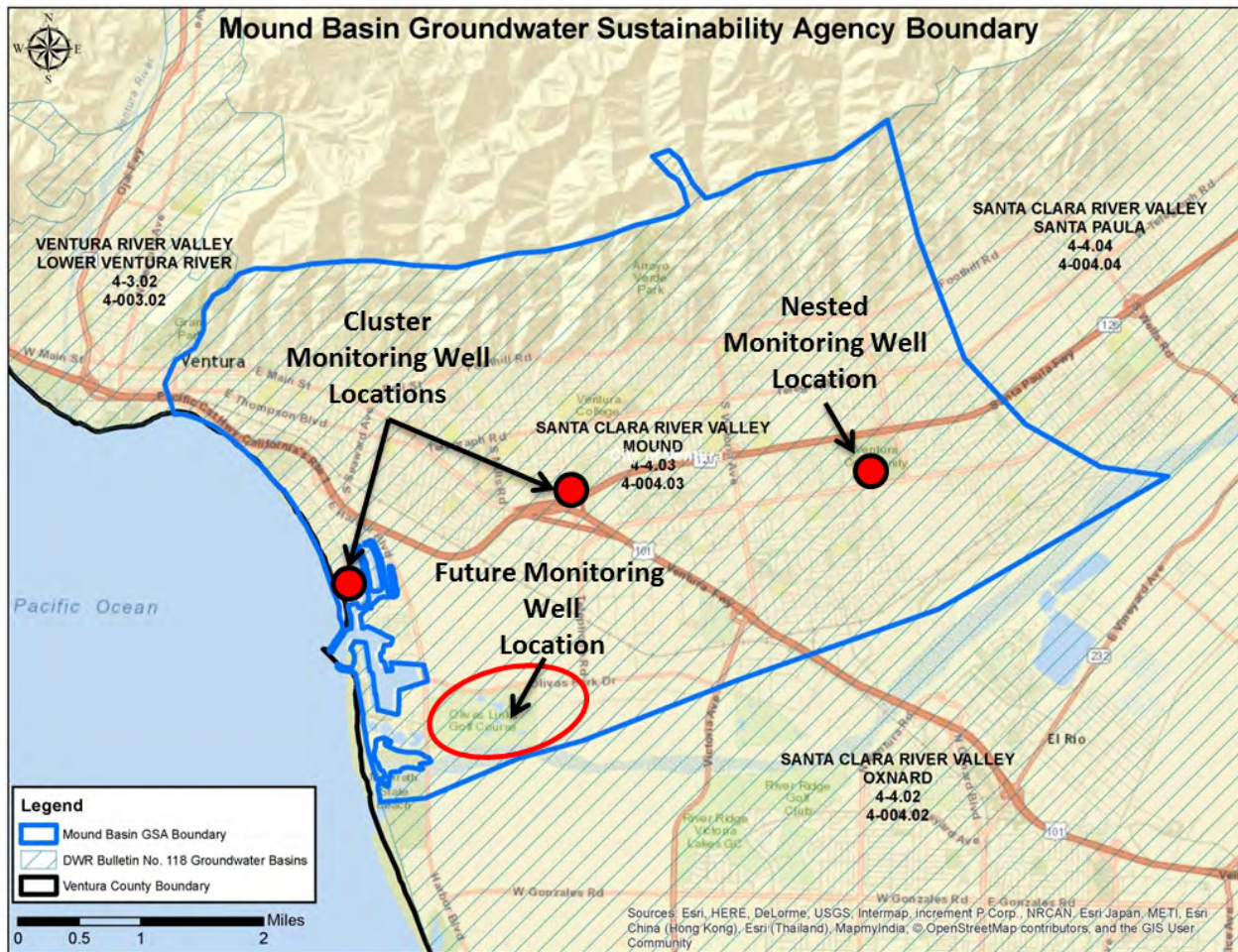


Figure 8: Geophysical Study Location (Task 2.3)

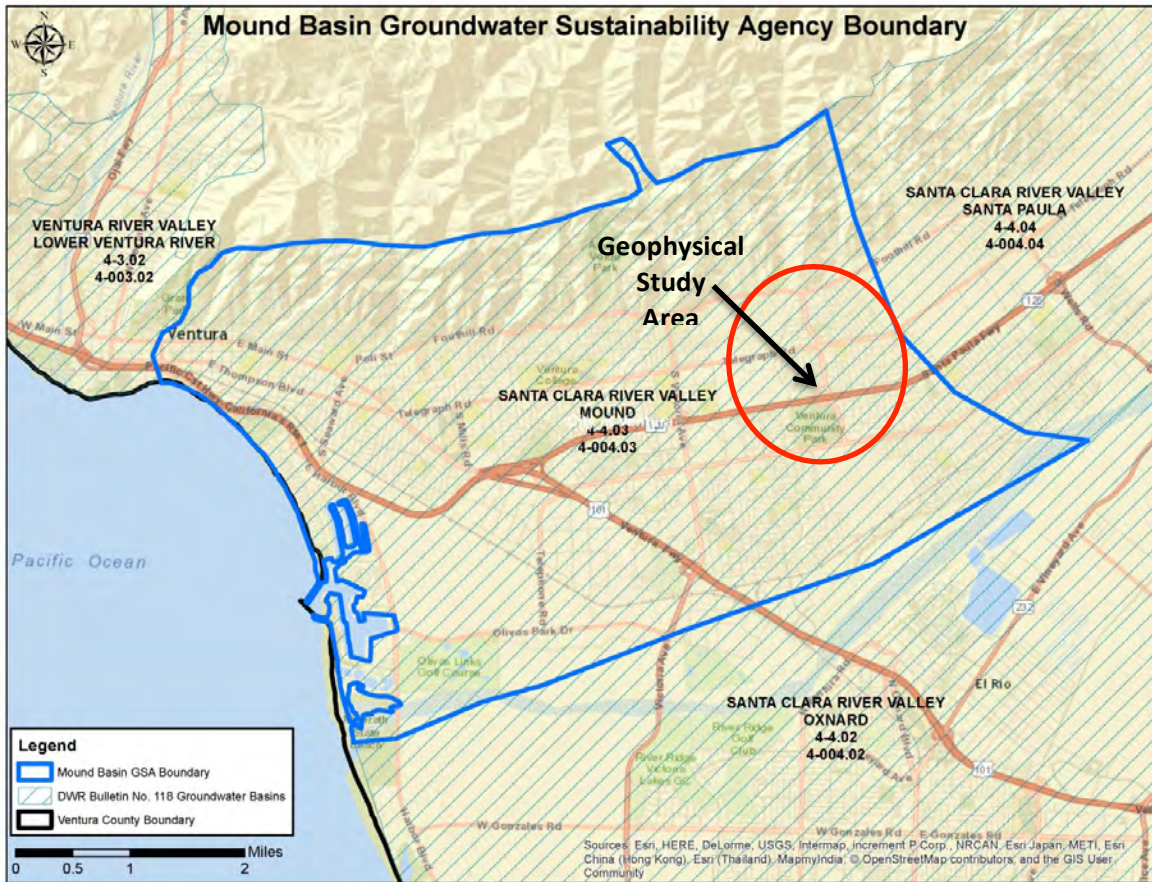


Figure 9: Mound Basin Water Quality Trends in Three Parameters

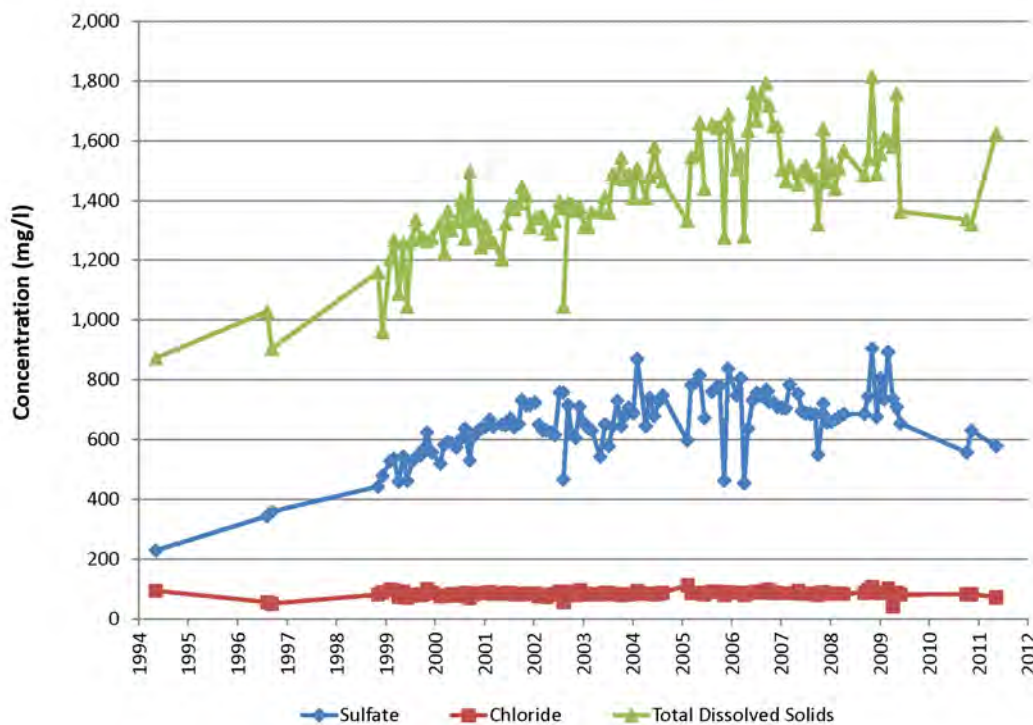


Figure 10: Mound Basin Cross-Section Illustrating Basin Structural Complexity

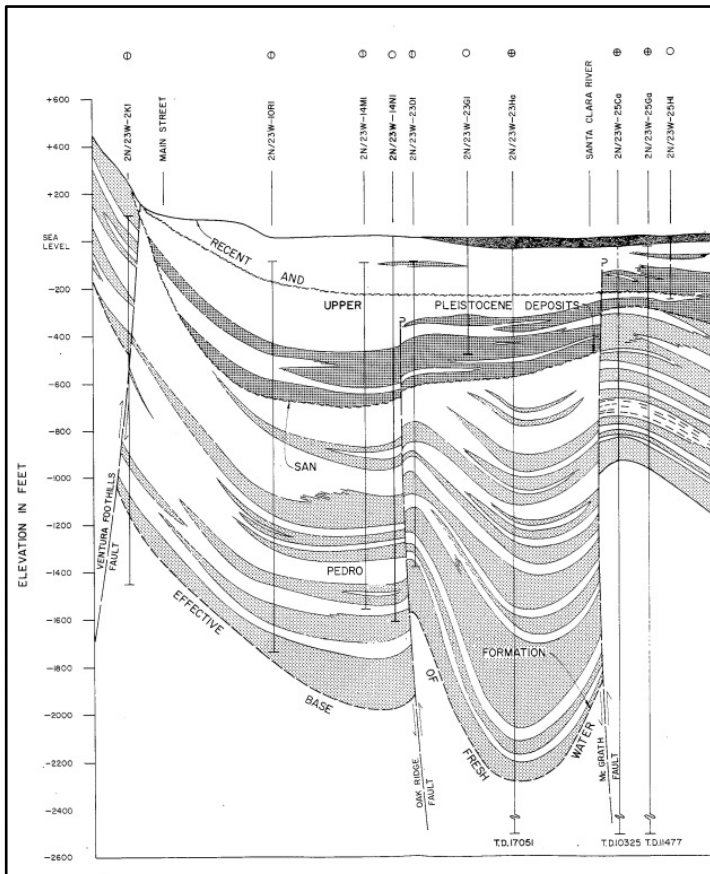
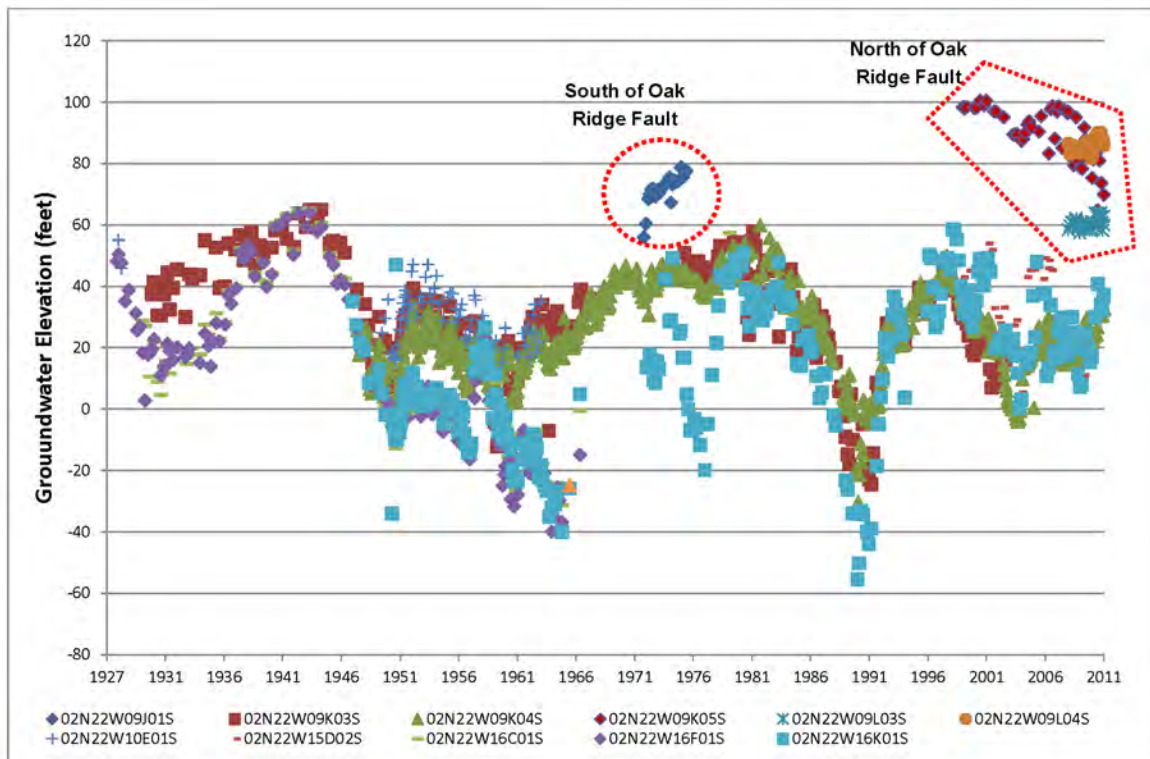


Figure 11: Hydrograph Depicting Groundwater Elevations & the Influence of Faults



Task 3. GSP Preliminary Activities

Subtask 3.1 SGWP Grant Application (100% Complete)

This task involved producing this grant proposal. Grant funding will allow development of a more thorough and detailed GSP, and with potentially greater acceptance by pumpers because their costs will be lower as a result. The need to produce the grant proposal motivated the MBGSA to aggressively think through the nuances of their GSP planning process as it will develop over time, as well as the financial implications of acquiring the various data and analyses needed for the level of analysis demanded by the plan.

Deliverables: SGWP Grant Application.

Subtask 3.2 Basin Boundary Modification (5% Complete)

The groundwater basins delineated by the California Department of Water Resources (DWR) in Bulletin 118 and used for the establishment of the MBGSA were established many years ago using relatively low-resolution data. In the intervening time period, significant new hydrogeologic data have been developed and modern, high-resolution geologic mapping and aerial photography provide an opportunity to refine the groundwater basins boundaries to better reflect real-world conditions.

DWR's boundaries for the Mound Basin are in conflict with the Fox

Canyon Groundwater Management Agency (FCGMA) to the south and the adjudicated Santa Paula Subbasin of the Santa Clara River Valley Basin to the east.

In places, portions of the Santa Paula Subbasin as defined by DWR fall outside of the boundaries of all of the adjacent entities (“white areas” or “unmanaged areas”) and the Mound Basin and Santa Paula Subbasin adjudication areas overlap. The County of Ventura has filed to be the GSA for the “white areas” to ensure all portions of the basins are contained within a GSA. The County’s role as the GSA for the “white areas” is meant to be a temporary situation and ultimately the County will work with nearby GSAs to transfer management responsibilities to those agencies. The basin boundary modification effort would work to eliminate the overlaps and white area(s), as well as more precisely define the areal extent of the aquifers.

The MBGSA agencies have been in discussion with the Santa Paula Basin Technical Advisory Committee (TAC) and the FCGMA Technical Advisory Group about approaches to modifying basin boundaries to address the above discrepancies, and a preliminary approach to boundary modifications has been developed. Further analysis is now underway: the potential impact on existing wells is being reviewed, and the northwestern edge of the basin is being evaluated to ensure that it includes all the outcrop areas and the relevant drainage from the foothills.

Figure 12: Basin Boundary Conflicts



At their September 2017 meeting, the MGBSA Board moved to file an Initial Notification with DWR of their intent to revise the Mound Basin's boundaries. The filing the Initial Notification will allow the MBGSA to submit their official Basin Boundary Modification Request during the January – March 2018 submission period. This subtask will cover the activities necessary to coordinate with the FCGMA and Santa Paula Basin TAC and complete the basin boundary modification submission via DWR's Basin Boundary Modification Request System.

Deliverables: Basin Boundary modification application.

Subtask 3.3 Organizational Activities (10% Complete)

This task involves the planning and initial activities involved in launching a multi-year effort to prepare the GSP.

A plan for noticing, communicating with, and handling input from stakeholders, public agencies, and other interested parties during the preparation of the GSP will be developed. The MBGSA Board will consider establishing a GSP Stakeholder Advisory Committee as a forum for encouraging the involvement of all beneficial uses and users of groundwater and other stakeholders, and for soliciting their feedback about draft sections of the GSP. Other opportunities for the public to participate in the GSP planning process will include:

- GSA Board meetings, which will be noticed and open to the public
- Public workshops
- The GSA's updated website
- Interested parties e-mail list
- Announcements and updates at the Santa Clara River Watershed Committee.

The MBGSA will strive for a process that is transparent, inclusive, and responsive to concerns raised by stakeholders. Written and oral communications received or generated by the project will be retained.

This task also includes submitting the Initial Notification to DWR, developing relevant data and records management systems, retaining other expertise needed on the GSP preparation team, and assessment of the funding plan over the term of the project. Planning meetings will involve the MBGSA Board and a GSP project manager to review and modify the GSP Work Plan.

Deliverables: Stakeholder Engagement Plan and Initial Notification to prepare GSP.

Task 4. GSP Chapter 2: Plan Area and Basin Setting (0% Complete)

This and the following tasks follow the GSP Annotated Outline Guidance Document.

This task involves preparation of the Plan Area and Basin Setting chapter to inform the MBGSA Board and public about the plan area and current understanding of the basin. This chapter will benefit from existing background and technical information, as well as new data and information being developed in Task 2. Some of the key existing resource documents and analyses are indicated by section below. New information needs are also described.

Description of Plan Area

Summary of Jurisdictional Areas and Other Features (354.8b)

Relevant regulatory entities and their jurisdictional boundaries will be described and illustrated in this section.

Water Resources Monitoring and Management Programs (354.8 c, d, e)

Much information already exists on water resources monitoring and management programs, but some new work on operational flexibility, conjunctive use, and use of recycled water will be required. Some of the relevant data sources on water resources monitoring and management programs in the basin include: the Santa Clara River Enhancement & Management Plan, the Ventura County Watershed Protection District's Annual Report of Groundwater Conditions, Lower Santa Clara River Salt and Nutrient Management Plan, City of Ventura's Urban Water Management Plan and their annual Comprehensive Water Resources Report, the Ventura County

Integrated Regional Water Management Plan, the City of Ventura’s various Estuary Special Studies, and the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands within the Los Angeles Region.

This section will also include a summary of well permitting processes and a map illustrating current well density.

Land Use Elements or Topical Categories of Applicable General Plans (354.8 f)

This section will include a discussion on the land use planning policies of the City of Ventura and the County of Ventura that could have a bearing on or be impacted by the GSP planning effort and long-term groundwater sustainability overall. The primary relevant land use policies are contained in the City of Ventura’s General Plan, Municipal Code, and Save Open Space and Agricultural Resources (SOAR) Ordinance; and Ventura County’s Guidelines for Orderly Development, SOAR Ordinance, General Plan, and Zoning Ordinance. The discussion will include an analysis of how these land use policies may limit operational flexibility in the basin.

Additional GSP Components (354.8 g)

The GSP will address the items listed in Water Code section 10727.04 that are applicable to the basin as identified during work on the Plan Area and Basin Setting chapter.

Basin Setting

Hydrogeologic Conceptual Model (354.14)

In 2012, UWCD completed its “Hydrogeological Assessment Report of the Mound Basin.” In 2015, the City of Ventura began work on the “Mound Basin Study,” which is a hydrogeologic characterization of the Mound Basin. Together, these two reports will provide a solid foundation for developing much of Basin Setting section of the GSP, including development of a hydrogeologic conceptual model.

Current and Historical Groundwater Conditions (354.16)

This section of the GSP will include background information on the basin, its context in the watershed, water users and suppliers, hydrogeological properties of the aquifer system, recharge and discharge areas, groundwater storage, water quality, inelastic land surface subsidence, surface water hydrology, surface water-groundwater interactions, and groundwater-dependent ecosystems. The section will also address the basin’s groundwater elevation trends over time, including annual and cumulative change in groundwater storage. Much of this information exists in ongoing monitoring reports, or is available in the other watershed and groundwater documents cited in the Water Resourced Monitoring and Management Programs and Hydrogeologic Conceptual Model sections. Groundwater hydrographs and contours maps will be included.

This section sets the stage for the sustainability indicators that will be addressed in Task 5 (Sustainable Management Criteria).

The identification of groundwater-dependent ecosystems will be a new analysis, and will be informed by the methodology under development by The Nature Conservancy in partnership with the Fox Canyon Groundwater Management Agency.

In describing water quality issues, the MBGSA will seek to collaborate with the Ventura County Agriculture Irrigated Lands Group (VCAILG). VCAILG acts as one unified discharger group for agricultural landowners and growers for compliance with the Los Angeles Regional Water Quality Control Board’s Conditional Waiver program. As part of that program, growers in the basin must comply with requirements related to groundwater quality tracking and trend monitoring of groundwater beneath irrigated agricultural lands.

Water Budget (354.18)

Development of the basin’s water budget will make use of the data derived from two of the data gaps subtasks described above, the Numerical Groundwater Flow Model (Subtask 2.1) and the Mound Basin Study (Subtask 2.3), along with groundwater extraction data compiled by the City of Ventura and United Water Conservation

District, and the City’s water demand projections. New work will involve projections of future water conditions, including assessing the effects of climate change.

Management Areas (354.20)

The need for management areas will be evaluated and this section will be included if any are established.

Stakeholder Involvement and Draft Reviews

Communication with stakeholders and the MBGSA Board will occur during the development of Chapter 2 and their input on preliminary draft material will be solicited. Draft text, figures, and tables for the chapter will be provided in online posting of Board’s meeting materials; and announcements about opportunities for review and input will be emailed directly to all those on the MBGSA’s Interested Stakeholders list.

Because the hydrogeologic conceptual model is so foundational to the GSP, and its findings could directly impact stakeholders, a special public workshop will also be held to address this one element of GSP. The preliminary draft of Chapter 2 will be updated based on input received, and the revised draft will be posted on MBGSA’s website for access by the public.

Data Management System (352.6)

The MBGSA will develop a data management system (DMS) to support groundwater monitoring, analyses, and reporting related to GSP development and implementation as well as ongoing monitoring. In developing the DMS, MBGSA will work with managers of groundwater in neighboring basins to design a system that ensures data integration among the basins. Additionally, building off of an existing DMS should help control the overall cost of the system’s design and development.

Deliverables: Data Management System, and Draft of GSP Chapter 2: Plan Area and Basin Setting.

Task 5. GSP Chapter 3: Sustainable Management Criteria (0% Complete)

Developing this chapter of GSP—the sustainable management criteria—will involve a high level of stakeholder and community engagement, as it involves the establishment of new criteria for managing the basin to sustainability.

Sustainability Goal (354.24)

In this section, the MBGSA’s basin-specific definition of sustainability will be developed. Included will be a description of how the goal was established, and how it is likely to be achieved within 20 years of plan implementation as well as maintained through the planning and implementation horizon. Setting of the goal will occur through a local stakeholder process.

Undesirable Results (354.26)

In this section each of the six sustainability indicators will be evaluated to determine the potential for undesirable results. This analysis will depend on the information developed in Task 4 (Chapter 2: Plan Area and Basin Setting), includes the development of minimum thresholds and measurable objectives, and will be accomplished through a variety of analytical and numerical modeling assessments. The data and rationale for determining what constitutes undesirable results for each sustainability indicator will be presented.

Minimum Thresholds (354.28)

Minimum thresholds for each sustainability indicator will be established based on analysis in the Undesirable Results section. The potential minimum thresholds will be developed from information gained from Task 2.

Measurable Objectives (354.30)

The need for measurable objectives for all sustainability indicators will be evaluated based on analysis in the Undesirable Results and Minimum Thresholds sections. Measurable objectives will be developed over 5-year intervals

to ensure the minimum threshold for each sustainability indicator is not exceeded within a reasonable margin of operational flexibility.

Monitoring Network (354.34, 354.36, and 354.38)

This section will provide a characterization of the monitoring network in the basin. This characterization will comply with the specific requirements detailed in the Water Code, including a description of the monitoring network, monitoring protocols for data collection and monitoring, representative monitoring, and an assessment of the need for improvement of the monitoring network. Both the Ventura County Watershed Protection District (VCWPD) and UWCD currently conduct groundwater monitoring in the Mound Basin. VCWPD monitors seven wells and UWCD monitors 20 wells. Transducers in three nested monitoring wells provide readings every four hours in and are downloaded in January, April, July, and October. Water quality is also monitored in selected wells on a periodic basis.

Additional monitoring will be added pursuant to Subtask 2.5 (Construct a Multi-Level Monitoring Well) in a location that is unrepresented by the existing monitoring network and where data is critical to assessing interaction between the Santa Clara River and estuary and the principal aquifers in the basin. The basin's monitoring network will be evaluated and additional monitoring will occur as the need arises through adaptive management.

Stakeholder Involvement and Draft Reviews

Communication with stakeholders and the MBGSA Board will occur during the development of Chapter 3 and their input on preliminary draft material will be solicited. Draft text, figures, and tables for the chapter will be provided in online posting of Board's meeting materials; and announcements about opportunities for review and input will be emailed directly to all those on the MBGSA's Interested Stakeholders list. Two public workshops will be held to allow for education, input on the sustainable management criteria, and comments.

The preliminary draft of Chapter 3 will be updated based on input received, and the revised draft will be posted on MBGSA's website for access by the public.

Deliverables: Draft of GSP Chapter 3: Sustainable Management Criteria.

Task 6. GSP Chapter 4: Projects and Management Actions (0% Complete)

Projects and Management Actions

This section of the GSP will describe specific projects and management actions that will be created to address undesirable results, minimum thresholds, and measurable objectives identified in Task 5 (Sustainable Management Criteria). Speculation about those is premature. As the GSP is implemented, projects and management actions will be periodically re-evaluated through adaptive management to achieve sustainability through attainment of interim goals. Regulatory requirements are clearly listed in 354.44 and those will be rigorously followed.

Stakeholder Involvement and Draft Reviews

Communication with stakeholders and the MBGSA Board will occur during the development of Chapter 4 and their input on preliminary draft material will be solicited. Draft text, figures, and tables for the chapter will be provided in online posting of Board's meeting materials; and announcements about opportunities for review and input will be emailed directly to all those on the MBGSA's Interested Stakeholders list. Two public workshops will be held to allow for education, input on the proposed projects and management actions, and comments.

The preliminary draft of Chapter 4 will be updated based on input received, and the revised draft will be posted on MBGSA's website for access by the public.

Deliverables: GSP Chapter 4: Projects and Management Actions.

Task 7. GSP Chapter 5: Plan Implementation (0% Complete)

Implementation Schedule, Costs, Reporting & Evaluations

This section of the GSP will describe the approach, schedule, and approximate costs of implementing the plan. Strategies for obtaining funding will be outlined. Efforts required and specific responsibilities for improving data and for refining the GSP's uncertainties to manageable levels will be identified.

A plan for complying with the annual reporting requirement will also be presented. MBGSA's process for complying with the requirement for periodic evaluations by DWR will also be described.

Adaptive Management

This section will address how the planning goals, objectives, and/or actions of the MBGSA's GSP may be further developed, modified, or replaced based on the discovery of new knowledge in response to changing physical conditions or reduction of uncertainty. This section will specify a framework for application of adaptive management strategies to adjust management based on new information and changing conditions.

Stakeholder Involvement

This section will describe MBGSA's plans for keeping stakeholders informed and engaged on an ongoing basis during GSP implementation. This will include stakeholder involvement in the decision-making process, and the means by which MBGSA will keep the public informed on GSP implementation progress.

Stakeholder Involvement and Draft Reviews

Communication with stakeholders and the MBGSA Board will occur during the development of Chapter 5 and their input on preliminary draft material will be solicited. Draft text, figures, and tables for the chapter will be provided in online posting of Board's meeting materials; and announcements about opportunities for review and input will be emailed directly to all those on the MBGSA's Interested Stakeholders list. One public workshop will be held to allow for education, input on the equitable allocation of costs as well as the implementation schedule, and comments.

The preliminary draft of Chapter 5 will be updated based on input received, and the revised draft will be posted on MBGSA's website for access by the public.

Deliverables: Draft of GSP Chapter 5: Plan Implementation.

Task 8. GSP Introduction, Executive Summary References and Appendices (0% Complete)

This task involves researching and writing the GSP's "Introduction" chapter. The Introduction will summarize the various chapters of the plan, and will have overview sections including: the purpose of the plan, the MBGSA's sustainability goal, the Mound Basin Groundwater Sustainability Agency (its history, members, decision-making process, and funding), the planning process, and public and partner involvement.

This task also involves preparing the document's References and Appendices, and Executive Summary. Appendix information will include: contact information for the plan manager and the MBGSA's mailing address, a list of public meetings, the comments and responses received during the GSP's 90-day public review period, and technical documentation.

Review of these chapters and elements of the plan will occur as part of final plan review (see Task 9).

Deliverables: Drafts of GSP Chapter 1: Introduction, Executive Summary, References, and Appendices.

Task 9. GSP Reviews and Approvals and Final Document Preparation (0% Complete)

This task involves preparing a preliminary final GSP document and ensuring that all information required by the SGMA legislation is addressed. Comments on the preliminary final draft will be solicited from stakeholders, and after being updated in response to their comments, the draft will be presented to the MBGSA Board. Once approved by the Board, the draft final GSP shall be posted on the MBGSA's website and a 90-day public comment period initiated. During the 90-day public comment period, a public workshop will be held to answer questions regarding the draft final GSP. All stakeholder comments received during the 90-day comment period and responses to these comments will be documented.

After one more round of review by stakeholders and opportunity for the MBGSA Board to review revisions made in response to comments, including a second public workshop, the final GSP will be submitted to the Board for approval. After receiving approval from the Board, the final GSP will be submitted to DWR and posted on MBGSA's website.

Deliverables: Final GSP.

Task 10. Project Administration (0% Complete)

This task involves general grant project administrative activities, including setting up a project execution strategy; contracting; setting up financial tracking systems; preparing grant progress and final reports; cost, budget, and schedule tracking; invoicing; coordination with DWR; and data management.

Deliverables: Required grant reports.

Mound Basin GSA and GSP

ATTACHMENT 5. BUDGET

Project Budget					
Upper Ventura River Groundwater Sustainability Agency and Plan					
Project serves a need of a DAC?: Yes					
Cost Share Waiver request?: No					
Tasks		(a)	(b)	(c)	(d)
		Requested Grant Amount	Cost Share: Non-State Source ¹	Other Cost Share	Total Cost
1	Create the GSA		\$139,200		\$139,200
2	Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies				
2.1	Develop Numerical Groundwater Flow Model		\$34,800		\$34,800
2.2	Geophysical Study		\$28,240		\$28,240
2.3	Mound Basin Study		\$65,200		\$65,200
2.4	Water Quality & Isotope Study	\$39,600	\$5,730		\$45,330
2.5	Construct One Multi-Level Monitoring Well	\$160,000	\$240,000		\$400,000
3	GSP Preliminary Activities				
3.1	SGWP Grant Application		\$20,600		\$20,600
3.2	Basin Boundary Modification	\$5,000	\$6,200		\$11,200
3.3	Organizational Activities	\$5,600	\$6,300		\$11,900
4	GSP Chapter 2: Plan Area and Basin Setting	\$149,400	\$22,200		\$171,600
5	GSP Chapter 3: Sustainable Management Criteria	\$102,500	\$32,200		\$134,700
6	GSP Chapter 4: Projects and Management Actions	\$89,300	\$27,900		\$117,200
7	GSP Chapter 5: Plan Implementation	\$41,250	\$16,100		\$57,350
8	GSP Introduction, Executive Summary, References & Appendices	\$19,850	\$7,700		\$27,550
9	GSP Reviews and Approvals and Final Document Preparation	\$90,600	\$65,100		\$155,700
10	Project Administration	\$40,000	\$40,000		\$80,000
TOTALS		\$743,100	\$757,470		\$1,500,570

¹ Sources of funding: 1) Mound Basin GSA/JPA Board Members and agencies (County of Ventura, City of Ventura, United Water Conservation District) for in-kind staff time, and administrative, outreach, legal, and hydrogeological expertise costs; 2) other Mound Basin GSA Board member in-kind-staff time.

Budget Narrative

The total project budget is \$1,500,570, with \$743,100 in requested grant funds. The MBGSA considers this the minimum required cost to fulfill the project’s objectives.

The budget includes as local cost share expenses for technical, administrative, and governance work already conducted as part of GSA formation, beginning in January 2015. The cost share for past work amounts to \$274,000 for in-kind staff work, studies, and grant writing. The remaining \$483,000 in cost share will be met through approximately \$387,000 in cash contributions for monitoring well costs, legal expenses, and administrative staff; plus \$96,000 in-kind staff time from MBGSA member agencies and Board members. Given that these cost share expenses will be fairly evenly spaced over the four-year term of the grant, meeting this obligation is anticipated to be within the MBGSA’s capacity.

Estimated costs in the budget are based on the experience of MBGSA Board members, the agency’s hydrogeologist consultant, and United Water Conservation District’s review of work plans and budgets of other groundwater management planning efforts, and the grant writer’s experience working on GSPs in four other basins since 2015 (i.e. Fox Canyon Groundwater Management Agency, which is an exclusive GSA that began working on GSPs for four basins in 2015).

Every effort has been made to be realistic in estimating the costs that will be required to complete the project. As stated above in the Schedule section, this is a long-term project, a potentially controversial project, and the first attempt at meeting a very ambitious set of new State requirements. Unforeseen costs will certainly arise. Given what is known at this time about the GSP requirements (with some BMPs and data from DWR still forthcoming) and how the planning process will unfold in this basin, the budget is believed to be a reasonable estimate of the cost to complete the project.

Budget Detail Table 1 below summarizes the project budget by the main project objectives, plus project administration.

Budget Detail Table 1

Tasks		Total Project Cost	
		%	Amount
Task 1	Create the GSA	9.3%	\$139,200
Task 2	Address Data Gaps, Groundwater Model Development, and Foundational Technical Studies	38.2%	\$573,570
Tasks 3-9	GSP Planning	47.2%	\$707,800
Task 10	Project Administration	5.3%	\$80,000
			\$1,500,570

Budget Detail Tables 2 and 3 below outline labor rates and non-labor expenses.

Budget Detail Table 2

Labor/Consultant Type	Estimated Rates
Executive Director	\$60/hr
Project Manager and Hydrogeologists (Consultant & UWCD Staff)	\$70-200/hr (\$165 blended rate used for cost estimates)
Geochemist	\$225/hr
Legal Services	\$166-350/hr depending on issue
GSA Member Agencies and Board Members	\$145/hr (avg)

Budget Detail Table 3

Other Cost Categories	Rate	Total Cost
Non-Labor Costs		
Mound Basin Study		\$65,200
Water Quality Analyses (gen. min & isotopes)		\$21,600
Drilling one multi-level monitoring well (Incl. right-of-way, design, construction, and report).		\$400,000
TOTAL		\$486,800

ATTACHMENT 6. SCHEDULE

Proposal Schedule

The proposal involves only one project, so the project schedule below is the only one for this proposal.

Project Schedule

A schedule for the Mound Basin Groundwater Sustainability Agency and Plan Project is provided below and graphically in attachment Att6_2017SGWPC2_Schedule_2of2. The tasks shown are consistent with the tasks in the project Work Plan and Budget.

Work on the project has been underway since 2015. This includes most of the effort involved in formation of the GSA. Development of a GSP—the primary goal of the project—is scheduled for completion by Dec 31, 2021.

Estimated dates are based on the experience of MBGSA Board members, MOU agency staff, and the agency's hydrogeologist consultant. Together these individuals have extensive knowledge of the basin and its assets and challenges, and the available technical data, publications, and other relevant resources. The schedule is also based on precursory data collection tasks, explained in the Work Plan, specific to the project and occurring or planned prior to having a the project start date.

The proposed schedule is believed to be realistic, reasonable, and accomplishable, with the caveat that over the course of a four-year project, there may be unforeseen schedule delays, especially given the potentially controversial nature of establishing groundwater management where none existed before. Additionally, DWR is still developing some of the criteria that must be used in plan development, which means that assumptions had to be made with regard to these external factors.

Key Schedule Dependencies

Finalizing the hydrogeologic conceptual model and water budget (part of Task 4) are dependent upon completion of all five subtasks in Task 2 (Address Data Gaps, Groundwater Model Completion, and Foundational Technical Analyses), as illustrated in the Schedule below.

Developing appropriate sustainability criteria (Task 5) and management actions (Task 6) are dependent upon the numerical groundwater flow model (Task 2.1) and hydrogeologic conceptual model, current and historical groundwater conditions, and water budget (Task 4).

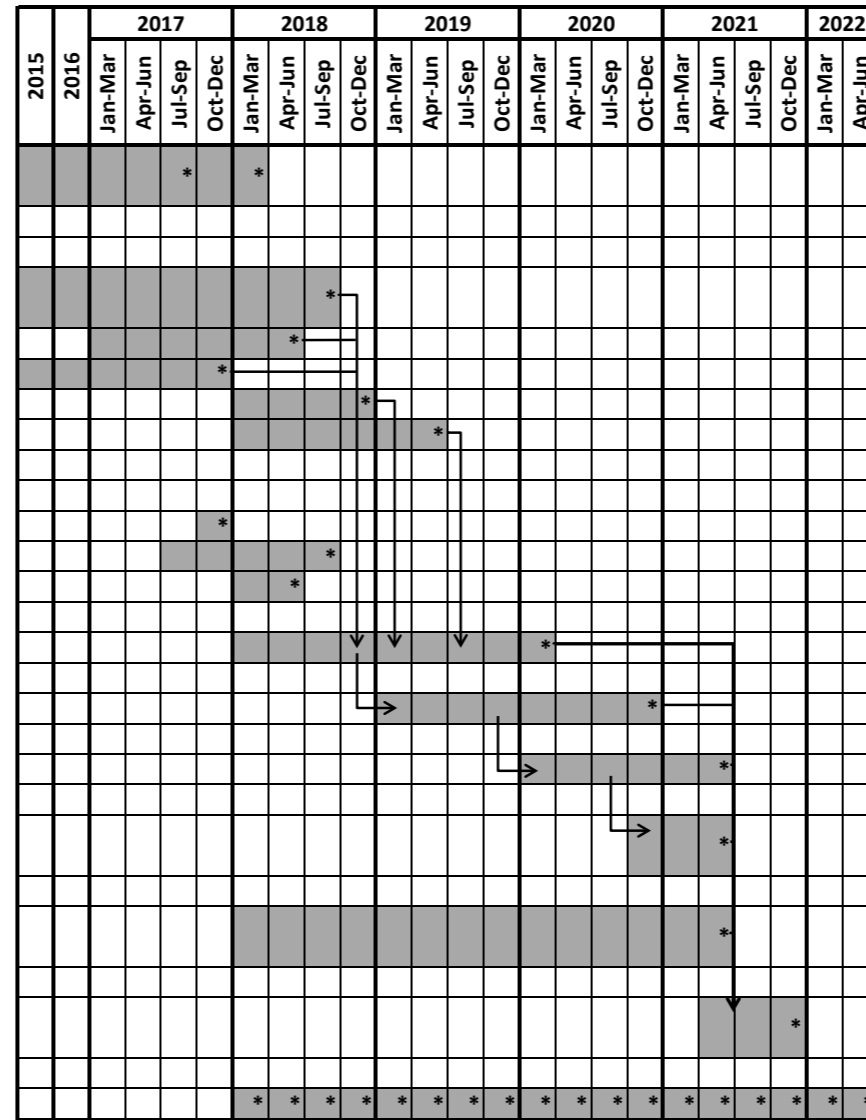
Plan development Tasks 3, 4, 5, 6, 7, 8, and 9 are generally sequential in nature, with the data and information developed in each preceding task needed for completion of the next task. However, as data are gathered and analyzed in Task 2, this will likely influence the direction of later tasks. For that reason, the schedule shows many tasks as overlapping.

Schedule
Mound Basin GSA and GSP Project

Task	Task Name	2015	2016	2017				2018				2019				2020				2021				2022		Milestones/Deliverables	
				Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun		
1	Create the GSA					*		*																			List of public meetings regarding GSA formation (6-2017); JPA agreement (6-2017); approved GSA status as verified on DWR website (9-2017).
2	Address Data Gaps and Perform Technical Analysis																										
2.1	Develop Numerical Groundwater Flow Model (UWCD)									*																	Numerical Groundwater Flow Model Description and Documentation.
2.2	Geophysical Study (UWCD)								*																		Geophysical Study Report.
2.3	Mound Basin Study (Ventura)							*																			Mound Basin Study Report.
2.4	Water Quality & Isotope Study									*																	Isotope Technical Memorandum.
2.5	Construct Two Multi-Level Monitoring Wells												*														Well installation Report (with summary of hydrogeologic conceptual model insights and prelim. eval. of surface water and principal aquifer interaction).
3	GSP Preliminary Activities																										
3.1	Grant Application							*																			SGWP Grant Application.
3.2	Basin Boundary Modification								*																		Boundary Modification Application.
3.3	Organizational Activities								*																		Stakeholder Engagement Plan, Initial Notification to prepare GSP.
4	GSP Chapter 2: Plan Area and Basin Setting															*											Data Mgmt. System; Draft of GSP Chapter 2: Plan Area and Basin Setting.
5	GSP Chapter 3: Sustainable Management Criteria																	*									Draft of GSP Chapter 3: Sustainable Management Criteria.
6	GSP Chapter 4: Projects and Management Actions																		*								Draft of GSP Chapter 4: Projects and Management Actions.
7	GSP Chapter 5: Plan Implementation																			*							Draft of GSP Chapter 5: Plan Implementation.
8	GSP Introduction, Executive Summary, References & Appendices																			*							Drafts of GSP Chapter 1: Intro, Executive Summary, References, & Appendices.
9	GSP Reviews and Approvals and Final Document Preparation																				*						Final GSP.
10	Project Administration							*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Required grant reports.

MOUND BASIN GSA GRANT BUDGET WITH ONE MONITORING WELL
PRELIMINARY DRAFT

Task	Task Name	Requested Grant Amount	Cost Share: Non-State Source ¹	Other Cost Share	Total Cost
1	Create the GSA	\$0	\$139,200	\$0	\$139,200
2	Address Data Gaps and Perform Technical Analysis				
2.1	Develop Numerical Groundwater Flow Model (UWCD)	\$0	\$34,800	\$0	\$34,800
2.2	Geophysical Study (UWCD)	\$0	\$28,240	\$0	\$28,240
2.3	Mound Basin Study (Ventura)	\$0	\$65,200	\$0	\$65,200
2.4	Water Quality & Isotope Study	\$39,600	\$5,730	\$0	\$45,330
2.5	Construct One Multi-Level Monitoring Wells	\$160,000	\$240,000	\$0	\$400,000
3	GSP Preliminary Activities				
3.1	Grant Application	\$0	\$20,600	\$0	\$20,600
3.2	Basin Boundary Modification	\$5,000	\$6,200	\$0	\$11,200
3.3	Organizational Activities	\$5,600	\$6,300	\$0	\$11,900
4	GSP Chapter 2: Plan Area and Basin Setting	\$149,400	\$22,200	\$0	\$171,600
5	GSP Chapter 3: Sustainable Management Criteria	\$102,500	\$32,200	\$0	\$134,700
6	GSP Chapter 4: Projects and Management Actions	\$89,300	\$27,900	\$0	\$117,200
7	GSP Chapter 5: Plan Implementation	\$41,250	\$16,100	\$0	\$57,350
8	GSP Introduction, Executive Summary, References & Appendices	\$19,850	\$7,700	\$0	\$27,550
9	GSP Reviews and Approvals and Final Document Preparation	\$90,600	\$65,100	\$0	\$155,700
10	Project Administration	\$40,000	\$40,000	\$0	\$80,000



Deliverables
Stakeholder engagement meeting documentation, JPA agreement. Approved GSA status is verified on DWR website
Groundwater Modeling Report Geophysical Study Report Study Report Isotope Technical Memorandum Well installation report with summary of HCM insights
SGWP Grant Application Basin boundary modification application Stakeholder Engagement Plan, GSP Initial Notification
Draft of GSP Chapter 2: Plan Area and Basin Setting; Data Mgmt. Sys.
Draft of GSP Chapter 3: Sustainable Management Criteria
Draft of GSP Chapter 4: Projects and Management Actions
Draft of GSP Chapter 5: Plan Implementation (schedule, costs, reporting GPS updates, adaptive management approach)
Drafts of GSP Chapter 1: Introduction, Executive Summary, References, and Appendices
Final GSP
Required grant reports

Totals:	\$743,100	\$757,470	\$0	\$1,500,570
Percentages:	50%	50%	0%	100%
Mound GSA In-Kind Cost Share:	N/A	\$292,510	N/A	N/A
Mound GSA Cash Cost Share:	N/A	\$464,960	N/A	N/A

NOTE: TOTALS MAY NOT MATCH SUM OF VALUES DUE TO ROUNDING

Annualized Cash Expenses for Grant Tasks:	\$ 116,240 per year
Estimated Pump Fee for Grant Tasks (assume 8,000 AFY):	\$ 14.53 per AF per year

NOTE: VALUES TO LEFT DO NOT INCLUDE NON-GSP RELATED ADMINISTRATIVE COSTS TO RUN THE GSA