



Stakeholder Advisory Committee (SHAC)

July 27, 2022, 9:00 a.m. to 12:00 p.m.

Chico Old Municipal Building Conference Room, 441 Main Street Chico
and Online Via Zoom

This meeting will be held **in person at the Chico Old Municipal Building at 441 Main Street** and **via teleconference** using the ZOOM platform.

ACCESSING THE ONLINE MEETING

The public may listen to and/or participate in the Vina Stakeholder Advisory Committee (SHAC) Meetings via landline or mobile telephone or via computer, with both video and audio enabled or audio only. Here are two methods for joining the meeting:

1) **Easiest Option: One-Click to Join:**

<https://us02web.zoom.us/j/82598978298>

2) **... or call in by phone:** One-Tap Mobile 16699006833,,82598978298#

Or

Manually Dial: then enter Meeting ID

Phone: +1 669 900 6833

Meeting ID: 825 9897 8298

A member of the public may indicate their intent to speak by raising their hand any time after the item number has been called. Speakers will be called in the order they appear on the host's screen.

1. If attending by Zoom application click the raise hand button.
2. If attending by telephone dial *9 to raise your hand. *6 to mute/unmute yourself.

Comments are limited to one comment, per item, per attendee and are to be no more than three (3) minutes in length.



Stakeholder Advisory Committee (SHAC)

July 27, 2022, 9:00 a.m. to 12:00 p.m.

Chico Old Municipal Building Conference Room, 441 Main Street Chico
and Online Via Zoom

MEETING AGENDA

1. CALL TO ORDER

2. ROLL CALL

3. BUSINESS FROM THE FLOOR

The public and SHAC members will have an opportunity to comment on items not on the agenda and that are relevant to the SHAC. Committee members and Management Committee staff are not required to respond to any issues raised during the public comment period. Commenters are asked to respect differing perspectives and to keep remarks within three minutes.

4. *REVIEW AND APPROVAL OF THE 6/22/22 SHAC MEETING MINUTES

5. *DISCUSSION AND POSSIBLE RECOMMENDATION OF SPECIFIC PROJECTS OR ACTIVITIES FOR WHICH A SCOPE OF WORK, BUDGET, AND SCHEDULE WOULD BE DEVELOPED FOR FUTURE CONSIDERATION AND POSSIBLE INCLUSION IN A SGM GRANT PROGRAM FUNDING APPLICATION (Report - Christina Buck, Management Committee)

6. MANAGEMENT COMMITTEE UPDATE (Verbal Report - Kamie Loeser, Management Committee)

7. SHAC FUTURE AGENDA REQUESTS – SHAC members may verbally request an item to be agendized at a future meeting. After stating what the item would be, a majority vote of the SHAC is needed in order for the Management Committee to agendize the item. SHAC members may also submit requests in writing for the SHAC's consideration.

8. ADJOURNMENT

The Committee will adjourn to their next meeting on August 24, 2022 at the Chico Old Municipal Building Conference Room at 441 Main Street, Chico CA

*Materials included in Agenda Packet.

Agenda Posted: 7/21/2022

**MINUTES OF THE
VINA STAKEHOLDER ADVISORY COMMITTEE (SHAC)
REGULAR MEETING**

Meeting of
June 22, 2022, 9:00 a.m.
ONLINE MEETING VIA ZOOM

1. ROLL CALL

Committee Members Present:

Jim Brobeck
Anne Dawson
Sam Geopp
Samantha Lewis
Chris Madden
Joanne Parsley
Bruce Smith
Greg Sohnrey

Committee Members Absent: Todd Greene, Evan Markey

Member Agency Staff Present:

Christina Buck and Kamie Loeser (Butte County Department of Water & Resource Conservation (BCDWRC),
Jeannie Trizzino (Durham Irrigation District).

2. ELECTION OF CHAIR AND VICE CHAIR

(Video timestamp 0:03:28)

The SHAC nominated a Chair and Vice Chair per the changes to the SHAC Charter.

a. Chair Election

Motion made by SHAC member Sohnrey to nominate SHAC member Samantha Lewis as the Chair; seconded by SHAC member Brobeck.

SHAC member comments were received from Anne Dawson, noting her concern of a potential conflict with Ms. Lewis being married to a member of the Vina GSA Board.

No public comments were received.

Motion carried as follows:

AYES: Committee Members Brobeck, Geopp, Madden, Parsley, Smith, Sohnrey, and Lewis.

NOES: None.

ABSTAIN: Committee Member Dawson.

ABSENT: Committee Members Greene and Markey.

b. Vice Chair Election

(Video timestamp 0:06:59)

Motion made by SHAC member Sohnrey to nominate SHAC member Sam Goepp as the Vice-Chair; seconded by SHAC member Parsley.

SHAC member comments were received from Sam Goepp, noting that he would not be available for the July meeting.

No public comments were received.

Motion carried as follows:

AYES: Committee Members Brobeck, Madden, Parsley, Smith, Sohnrey, Lewis, and Goepp.

NOES: Committee Member Dawson.
ABSTAIN: None.
ABSENT: Committee Members Greene and Markey.

3. BUSINESS FROM THE FLOOR

(Video timestamp 0:10:15)

Members of the public may address the Board at this time on any matter not already listed on the agenda; comments are limited to three minutes. The Board cannot take any action at this meeting on requests made under this section of the agenda.

SHAC member Jim Brobeck reviewed his email correspondence that was submitted to member agency staff and subsequently forwarded to the SHAC via email on June 21, 2022. This correspondence is attached for reference. Mr. Brobeck requested that the Vina SHAC agendize a discussion on what future Drought Impact Analysis Studies might consider. SHAC member Bruce Smith added to the discussion with regard to well data that is available.

No public comments were received.

4. REVIEW AND APPROVAL OF 3/23/22 SHAC MEETING MINUTES

a. Minutes from March 15, 2022

(Video timestamp 0:22:15)

The SHAC had no changes to the March 15, 2022 Meeting Minutes. SHAC Chair Lewis noted that she would provide typographical changes.

No public comments were received.

Motion made by SHAC member Sohnrey to approve the March 15, 2022 Meeting Minutes; seconded by SHAC member Brobeck.

Motion carried as follows:

AYES: Committee Members Brobeck, Dawson, Madden, Parsley, Smith, Sohnrey, Goepp, and Lewis.
NOES: None.
ABSTAIN: None.
ABSENT: Committee Members Greene and Markey.

b. Minutes from April 27, 2022

(Video timestamp 0:22:45)

The SHAC had no changes to the April 27, 2022 Meeting Minutes.

Public comments were received from Pam Stoesser discussing the format of the meeting minutes and recordings.

Motion made by SHAC member Sohnrey to approve the April 27, 2022 Meeting Minutes; seconded by SHAC member Brobeck.

Motion carried as follows:

AYES: Committee Members Brobeck, Dawson, Madden, Parsley, Smith, Sohnrey, Goepp, and Lewis.
NOES: None.
ABSTAIN: None.
ABSENT: Committee Members Greene and Markey.

5. UPDATE AND DISCUSSION OF VINA GSA FINANCING OPTIONS

(Video timestamp 0:27:40)

Management Committee member Loeser provided a summary of the Butte County Department of Water and Resource Conservation's request to the Board of Supervisors for a one-time funding request to be added to the Department's recommended budget.

SHAC comments and questions were received from Jim Brobeck, asking if staff would be writing the grant applications for state funding.

Public comments were received from Debra Lucero.

No Action was taken, this item was for informational purposes only.

6. OVERVIEW OF SGMA IMPLEMENTATION GRANT APPLICATION AND PROCESS (REPORT - CHRISTINA BUCK, MANAGEMENT COMMITTEE)

(Video timestamp 0:44:33)

Item 6 was discussed after Item 7.

Management Committee member Buck provided an overview of the Sustainable Groundwater Management (SGM) Grant Program and anticipated process and timeline that will be followed for the grant application submittal.

SHAC comments and questions were received from Jim Brobeck and Samantha Lewis. Mr. Brobeck's comments were in regard to the Ag Survey of Farmers within the Vina Subbasin, interbasin coordination, and other questions regarding some of the projects listed for further review for the grant applications. Ms. Lewis's comments were in regard to retroactively recouping litigation costs through grant funds.

Public comments were received from Pam Stoesser and Debra Lucero.

No Action was taken, this item was for informational purposes only.

7. UPDATE ON VINA GSA BOARD'S APPROVAL FOR THE MANAGEMENT COMMITTEE TO REQUEST FACILITATION AND SUPPORT SERVICES (FSS) FROM THE DEPARTMENT OF WATER RESOURCES (VERBAL REPORT - KAMIE LOESER, MANAGEMENT COMMITTEE)

(Video timestamp 0:42:00)

Item 7 was moved up and discussed prior to Item 6.

Management Committee member Loeser provided an update to the SHAC noting that the Vina GSA Board approved a request for the Management Committee to submit an application for Facilitation Support Services (FSS) to the Department of Water Resources. The update included a review of the purpose of using FSS for the preparation of upcoming grant applications.

There was no discussion from the SHAC on this item.

No public comments were made.

No Action was taken, this item was for informational purposes only.

8. CONSIDERATION OF FUTURE SHAC MEETING DATE, TIME, AND FORMAT (REPORT - KAMIE LOESER, MANAGEMENT COMMITTEE)

(Video timestamp 1:15:15)

Management Committee member Loeser provided meeting options for the SHAC's consideration including meeting in-person and hybrid formats.

SHAC members Jim Brobeck, Sam Goepp, and Anne Dawson provided comments regarding their preferences with regard to in-person, zoom, or hybrid. SHAC members Greg Sohnrey and Jim Brobeck provided comments regarding days and times.

Public comments were received from Pam Stoesser.

Motion made by SHAC member Greg Sohnrey that beginning July 27, 2022 meetings will be on 4th Wednesday of the month, starting at 9:00 a.m. in the City of Chico Old Municipal Building with a hybrid option available for SHAC members and the public to attend; seconded by Jim Brobeck.

Motion carried as follows:

AYES: Committee Members Brobeck, Dawson, Madden, Parsley, Smith, Sohnrey, Geopp, and Lewis.

NOES: None

ABSTAIN: None

ABSENT: Committee Members Greene and Markey.

9. MANAGEMENT COMMITTEE UPDATE (VERBAL REPORT - KAMIE LOESER, MANAGEMENT COMMITTEE)

a. Executive Order N-7-22
(Video timestamp 1:27:20)

Management Committee member Loeser provided an update on the additional steps for processing well permits through the Butte County Division of Environmental Health as a result of the Executive Order, noting that the County has resumed processing permits.

No discussion from the SHAC on this item.

Public comments were made by Pam Stoesser expressing her concern that wells are continuing .

No Action was taken by the SHAC as this item was for informational purposes only.

10. ADJOURNMENT
(Video timestamp 1:30:12)

The Committee will adjourn to their next meeting on July 27, 2022 or another date be confirmed at this meeting.

Motion made by SHAC member Sam Goepp to adjourn the meeting at 10:30 a.m. to the regular SHAC meeting to be held on July 27, 2022 with a hybrid in-person/zoom format; seconded by Greg Sohnrey.

Motion carried as follows:

AYES: Committee Members Brobeck, Dawson, Madden, Parsley, Smith, Sohnrey, Geopp, and Lewis.

NOES: None

ABSTAIN: None

ABSENT: Committee Members Greene and Markey.



Sustainable Groundwater Management Grant Program

Vina Subbasin

Vina GSA SHAC Meeting

July 27, 2022



SGM Grant Program Overview

- ▶ DWR is administering the Sustainable Groundwater Management (SGM) Grant Program
- ▶ Final Guidelines and Proposal Solicitation Package (PSP) were released in December 2021
- ▶ Two rounds of grant solicitations.
 - ▶ Round 1 – funds were awarded spring 2022 for Critically Overdrafted Basins ~\$150 million
 - ▶ Round 2- solicitation expected to open late 2022 (timing uncertain)
 - ▶ **Grant awards will be: Minimum** – \$1 million per basin; **Maximum**– \$20 million per basin
- ▶ Only one application will be accepted per basin/subbasin
- ▶ Eligible expenses incurred back to December 2021 can be reimbursed



Anticipated Process and Tentative Timeline

- ▶ June SHAC/July Board Meetings: Introduce topic
- ▶ July SHAC meeting: begin discussion of potential projects to include in a grant application.
Goal: SHAC recommendation to Vina GSA Board on which projects should be further developed and brought back for future consideration for possible inclusion in the application for funding
- ▶ August: Joint GSA Board meeting (Vina GSA and Rock Creek GSA) to give direction on list of projects to develop a more detailed scope/schedule budget for
- ▶ Late Summer/Early Fall: Begin facilitated public process to finalize package of projects to include in a grant application. This will include further discussion and recommendations from the SHAC, coordination with Rock Creek Reclamation District GSA, and ultimate decision by the GSA Boards (RCRD and Vina GSAs)
- ▶ October/November(tentative): Joint GSA Board meeting to establish the list of projects to include in a SGM Grant Program application
- ▶ Late 2022- Staff/consultants to prepare grant application and submit by deadline (exact deadline unknown at this time)



Attachments Included for Reference

1. Summary table of sorted topics/activities/projects/management actions compiled from the PMA and Implementation sections of the GSP.

- ▶ Projects/activities in gray are recommended to be further developed for inclusion in the grant application
- ▶ Some projects removed and recommended to not be included in application at this time. They are either ineligible, not ready for implementation, or do not need funding at this time.

2. Table 7: Application Evaluation Criteria

- ▶ Pulled from the [SGM Implementation Proposal Solicitation Package](#). This set of criteria is what DWR will use to evaluate projects submitted for funding. Please reference this when considering projects to include in the Vina Subbasin application.

3. Projects and Management Actions and Implementation Chapter from the Vina Groundwater Sustainability Plan.

- ▶ Projects, management actions, and implementation activities are described in these chapters. This is the information we have available at this time to evaluate these projects.

Summary of Vina GSP Implementation Activities
SHAC Meeting, July 27, 2022

Row #	Project/Activity	Cost	Category	Implementing Agency	Staff Recommendation	Notes	Expected GW Demand Reduction (AF/yr)
1	Monitoring- Groundwater Levels	\$20,000/yr	Monitoring	DWRC	Include		NA
2	Monitoring- Water Quality	\$8000/yr	Monitoring	DWRC	Include		NA
3	Data Management System (Section 6.4)	\$5,000/yr	Data Analysis	DWRC	Include		NA
4	Update Data Management System	\$50,000	Data Analysis	DWRC	Include		NA
5	Review of Groundwater Data	\$5,000/yr	Data Analysis	DWRC	Include		NA
6	Annual Report	30,000/yr	Reporting and Evaluation	GSAs	Include		NA
7	GSP Updates and Response to DWR Comments	TBD	Implementation Activity	Vina GSA	Include	Include updates to address UR #6- deadline 2025	NA
8	5.4.2 Butte Basin Model Update	\$50,000 - \$100,000	Data Collection	DWRC	Include	Incorporate into other projects	NA
9	5.4.4 Interconnected Surface Water/Associated impacts on Groundwater Dependent Ecosystems	\$100,000 – \$250,000	Data Collection	DWRC/GSAs	Include	Address data gap	NA
10	5-year Evaluation Report	\$100,000	Reporting and Evaluation	GSAs	Include		NA
11	6.7 Interbasin Coordination		Implementation Activity	DWRC/GSAs	Include		NA
12	5.4.3 Community Monitoring	\$50,000 - \$150,000	Data Collection	Vina GSA	Include	Address data gap re establishing SMC based on domestic wells	NA
13	5.2.3.1 Agricultural Irrigation Efficiency	TBD **	Project (planned)	TBD	Include		Up to 4,000
14	5.2.3.3 Scoping for Flood MAR/Surface Water Supply and Recharge	TBD	Project (planned)	Vina GSA/RCRD GSA	Include		NA
15	5.2.3.4 Community Water Education Initiative	Component 1: \$50-100K annually Component 2: \$10,000-\$200,000	Project (planned)	CSUC CWE	Include	Outreach and Education	NA
16	Sand Creek Phase 2 Implementation (5.2.4.8 Surface Water Supply and Recharge)	TBD	Project (potential)	RCRD	Develop Project for Consideration	A feasibility study is currently underway funded by Prop 1 IRWM grant	TBD
17	5.2.4.1 Paradise Irrigation District Intertie	TBD	Project (potential)	Paradise Irrigation District	Discuss		5,000
18	5.2.4.2 Agricultural Surface Water Supplies	TBD	Project (potential)	TBD	Discuss		2,000 – 3,000
19	5.2.4.3 Streamflow Augmentation	TBD	Project (potential)	Vina GSA	Discuss		1,000 – 5,000
20	5.2.4.4 Community Monitoring Program	TBD	Project (potential)	CSUC	Discuss		NA
21	5.2.4.5 Recycled Wastewater	TBD	Project (potential)	City of Chico/Vina GSA	Discuss		5,000
22	5.2.4.7 Removal of Invasive Species	TBD	Project (potential)	CSUC	Discuss		TBD
23	5.2.4.8 Surface Water Supply and Recharge (ex. Sand Creek, Lindo Channel)	TBD	Project (potential)	TBD	Discuss		1,000 per project
24	5.2.5.1 Extend Orchard Replacement	TBD	Project (conceptual)	TBD	Discuss		4,000 – 8,000
25	5.4.1 Contour Mapping	\$20,000 - \$50,000	Data Collection	Vina GSA	Discuss	Could incorporate into Interbasin Coordination and/or GWL monitoring	NA
26	5.3.2 Domestic Well Mitigation	TBD	Management Action	TBD	Discuss		NA
27	5.3.3 Well Permitting Ordinance	TBD	Management Action	Butte County	Discuss		NA
28	5.3.4 Landscape Ordinance	TBD	Management Action	Butte County/Chico	Discuss		TBD
29	5.3.6 Expansion of Water Purveyors' Service Area (ex Cal Water, Durham Irrigation District)	TBD	Management Action	TBD	Discuss		TBD
30	5.3.7 Groundwater Allocation	TBD	Management Action	GSAs	Discuss		TBD

Not Considered for SGM Grant Application

Row #	Project/Activity	Cost	Category	Implementing Agency	Staff Recommendation	Notes
1	5.2.3.2 Residential Conservation	TBD	Project (planned)	Cal Water	Ineligible	
2	Identify Funding Alternatives	TBD	Implementation Activity	Butte County/Vina GSA	Ineligible	
3	5.2.3.5 Fuel Management for Watershed Health	TBD	Project (planned)	CSUC	Ineligible	Outside of the subbasin
4	Administrative Activities (Table 6-1)	\$225,000	Implementation Activity	Vina GSA	Ineligible	
5	5.3.1 General Plan Updates		Management Action	Butte County/Chico/GSAs	Not Applicable	Funding not needed.
6	5.2.5.2 Recharge from the Miocene Canal	TBD	Project (conceptual)	PGE/Vina GSA	Not Applicable	Not ready for implementation
7	5.3.5 Prohibition of Groundwater Use for Ski (Recreational) Lakes	TBD	Management Action	Butte County/Vina GSA	Not Applicable	Funding not needed. GSA would need to work with Butte County Development Services directly.
8	5.2.4.6 Rangeland Management	TBD	Project (potential)	CSUC	Not Applicable	Not ready for implementation

DWRC- Butte County Department of Water and Resource Conservation

CSUC - California State University Chico

GSA- Groundwater Sustainability Agency

RCRD- Rock Creek Reclamation District

TBD - To be determined

NA- Not applicable

Please note that the review questions outlined in Table 7 may be reworded, combined, or separated. SGM Grant Program staff may make clarifying or editorial changes to the scoring criteria following approval. SGM Grant Program staff may also make changes to Table 7 depending upon language outlined in future appropriations and legislative requirements. **Table 7 is subject to change depending on the final preparations of the review questionnaire.** No substantive changes will be made to the evaluation criteria and scoring scheme.

TABLE 7 – APPLICATION EVALUATION CRITERIA				
Section Name	Q#	Questions	Possible Points	Scoring Guidance
General	1	<p>Was a description of the proposed Project or Component provided? Did it explain why this Project or Component was chosen over all others identified in the Plan in terms of benefits provided, communities served, measurable objectives, minimum thresholds, plan implementation timeline, and feasibility? If you feel a question component does not apply to your proposed project, please explain why it is not applicable. (Example "Measurable objective not applicable because project is planning only".)</p> <ul style="list-style-type: none"> <i>No funds will be awarded without clear justification for the proposed tasks/subtasks.</i> 	4	<ul style="list-style-type: none"> 4 – Fully addressed 3 – Mostly addressed, with minor details not included or unclear 2 – Mostly addressed, with significant details missing or unclear 1 – Marginally addressed 0 – Not addressed
General Implementation Only	2- Imp	<p>Does the Project or Component provide a description of quantifiable benefits? Was an explanation of the benefits that are expected to be realized from the Project or Component provided, along with how those benefits will be evaluated and quantified?</p> <ul style="list-style-type: none"> <i>To obtain full points, 3 or more quantifiable benefits must be identified and fully supported with backup documentation.</i> 	4	<ul style="list-style-type: none"> 4- At least three quantifiable benefits with explanations and supporting documents. 3 – Two quantifiable benefits with explanations and supporting documents. 2 - Two quantifiable benefits lacking explanations and supporting documents. 1 - One quantifiable benefit with explanations and supporting documents. 0 – Benefits provided but are not explained or quantified.
General Planning Only	2- Plan	<p>Does the Project Description describe a well-coordinated proposal including a GSP(s) that encompasses the entire basin or describes why a portion of the basin is not covered in the proposal? Does it describe how well the multiple GSA(s) surrounding and within the basin are working together?</p>	4	<ul style="list-style-type: none"> 4 – Fully addressed 3 – Mostly addressed, with minor details not included or unclear 2 – Mostly addressed, with significant details missing or unclear 1 – Marginally addressed 0 – Not addressed
General	3	<p>Does the Project or Component fully describe their plan for outreaching and engaging interested parties (e.g., residents, local leaders, non-profit representing Underrepresented Communities, etc.) located within Underrepresented Communities? Does the outreach and engagement include interested parties during all phases of the Project or Component (e.g., planning, design, and implementation)? Can interested parties provide input and be involved in the decision-making processes?</p> <ul style="list-style-type: none"> <i>To obtain full points, a minimum of three comment letters are required from the Underrepresented Communities.</i> 	3	<ul style="list-style-type: none"> 3 – Interested parties included on decision-making committees and fully engaged/involved in all aspects of the Project or Component 2 – Interested parties engaged/involved, but not included on decision-making committees 1 – Marginally addressed 0 – Not addressed
General	4	<p>Was there a regional and Project map(s) depicting the site location, current conditions, and benefitting areas?</p> <ul style="list-style-type: none"> <i>The information should be clear and easy to read. If not, the point will not be given.</i> 	2	<ul style="list-style-type: none"> 2 – Provided and all necessary information provided 1 – Provided but missing some information 0 – Not provided

General	5	Does the project benefit an Underrepresented Community (-ies)? Was there a map(s) depicting the Underrepresented Community (-ies) that the project will benefit? Does the project benefit an SDAC? Was there a map(s) depicting the SDAC(s) that the project will benefit? Please provide the amount of funding that will benefit both the Underrepresented Community and SDAC. • <i>No points will be given if a map(s) is not provided.</i>	3	<ul style="list-style-type: none"> • 3- Project benefits an SDAC(s) • 2- Project benefits Underrepresented Community • 1 – Project partially benefits either • 0 – Project does not benefit either
General	6	Will the Project or Component positively impact issues associated with small water systems or private shallow domestic wells (e.g., groundwater contamination vulnerability, drawdown, etc.)? Was justification such as domestic well census results, water system maps, service area maps, etc. provided? Does the Project or Component help address the needs of the State Water Board’s SAFER Program?	3	<ul style="list-style-type: none"> • 3 – Fully addressed • 2 – Mostly addressed, with minor details not included or unclear • 1 – Marginally addressed • 0 – Not addressed
General	7	How does the proposed Project or Component address the Human Right to Water (AB 685 Section 106.3)? How will the Project or Component support 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?	4	<ul style="list-style-type: none"> • 4 – Fully addressed • 3 – Mostly addressed, with minor details not included or unclear • 2 – Mostly addressed, with significant details missing or unclear • 1 – Marginally addressed • 0 – Not addressed
Scope of Work	8	Did the proposal provide a description of the tasks/subtasks that will be completed as part of this grant Project? • <i>No funds will be awarded without clear justification for the proposed tasks/subtasks.</i>	3	<ul style="list-style-type: none"> • 3 – Fully addressed • 2 – Mostly addressed • 1 – Marginally addressed • 0 – Not addressed
Budget	9	Is a budget summary table provided? Is the budget reasonable for the project? Is the budget table tasks/subtasks provided in the scope of work coincide with the tasks/subtasks in the budget and schedule tables? Is local cost share included (minimum of 5%)? Local cost share may include costs expended on projects before grant agreement date. • <i>Local cost share is not required but necessary to obtain full points.</i>	3	<ul style="list-style-type: none"> • 3 – Local cost share is provided, and budget is consistent and feasible • 2 – Budget is consistent and feasible • 1 – Budget is consistent but not feasible • 0 – Not consistent and feasible
Schedule	10	Is the tasks/subtask in the schedule table consistent with those listed in the budget table and within the description in the application? Is the schedule feasible?	1	<ul style="list-style-type: none"> • 1 – Consistent and feasible • 0 – Not consistent and feasible
		Total Range of Possible Points	0-30	
		(a) Average of Questions 1 – 8 for Multiple Component Applications		
		(b) Total Score for Questions 9 and 10		
		Total Points Overall Project:		
		TOTAL FUNDING RECOMMENDED:		\$

5. PROJECT AND MANAGEMENT ACTIONS

This section includes relevant projects and management actions information to satisfy CCR Title 23 § 354.42 and 354.44. The projects and management actions described in this section will help achieve the Vina Subbasin’s sustainability goal.

5.1 Projects, Management Actions, and Adaptive Management Strategies

The objective and purpose of the GSP is to achieve groundwater sustainability in the Vina Subbasin. This will require projects and management actions aimed at avoiding undesirable results, achieving measurable objectives, and responding to changing conditions in the basin. The Vina GSA and the RCRD GSA have identified projects and management actions tailored to benefit the Vina Subbasin’s groundwater supply and quality for the benefit of rural areas, communities, agricultural users and the environment. The approach targets both identifying and increasing alternative sources of supply and reducing groundwater demand. The GSP identifies groundwater monitoring programs to monitor groundwater conditions, investigation of additional water sources to supplement the use of groundwater, and conservation and educational programs to reduce groundwater demand.

5.2 Projects

5.2.1 Project Identification

Projects were identified through a lengthy outreach effort involving the SHAC and the GSAs. The process included soliciting input from governmental agencies, water purveyors, and local landowners. The Vina GSA’s website allowed project proponents to input the available information on each project.

The majority of projects submitted were proposed by the Vina GSA, with some being a joint effort with the RCRD GSA. Some of the projects also include other proponents, such as CSUC, PG&E, Cal Water, local agricultural farmers, and others. The list of proponents and other entities involved in the projects is included in Table 5-1 below. The schedule to implement the projects is likely to vary depending upon Subbasin conditions, and the expected benefits of PMAs may also vary year to year.

The provided project information was compiled into an initial draft list with similar and overlapping projects combined as appropriate. The draft list was presented to the Vina GSA Stakeholder Advisory Committee in their July 15, 2021, meeting and to the GSA Boards at their August meetings. The projects were then evaluated based on the following criteria:

- Project addresses one or more of the Undesirable Results
- Project is implementable with respect to technical complexity, regulatory complexity, institutional consideration, and public acceptance
- Project is implementable within the SGMA timeframe
- Project benefits Underrepresented Communities (URCs)
- Project is in an area where water quality is suitable for use

5.2.2 Project Implementation

The purpose of planning and implementing projects is to ensure the Vina Subbasin achieves sustainability. Projects are categorized in three categories - Planned, Potential, and Conceptual – based on current stage of planning or implementation. This section includes Planned, Potential, and Conceptual projects. Additional projects may be added in the future once identified. The specific projects included in the GSP will be implemented, operated, and owned by the individual project proponent(s). Through annual reports, GSP updates, and the evaluation of IMs, MT, and MO, the GSAs will evaluate whether the implementation of projects is sufficient to achieve sustainability. Depending on how projects are achieving sustainability, or otherwise impacting the ability of the Vina Subbasin to achieve sustainability, the GSAs may prioritize the development of projects, seek funding for prioritized projects, or develop guidelines for existing projects.

5.2.2.1 List of Projects

Several projects to achieve the Vina Subbasin’s sustainability goal were identified. The initial set of projects was reviewed by the SHAC. A final list of 15 possible projects is included in this GSP, and they are categorized into several project types, including direct and in-lieu recharge, intra-basin water transfers, water recycling, demand conservation, and monitoring. Projects are further classified into three categories based on project status: Planned, Potential, and Conceptual, as defined below. All projects, regardless of status, remain subject to available funding, any required CEQA compliance, and any required approvals. The list of possible projects identified in this GSP are an initial list that may be further expanded or modified as the GSAs work toward sustainability by 2042.

- Planned Projects – Currently, five Planned Projects have been identified. Projects in this category are anticipated to move forward to help achieve the region’s sustainability before 2042.
- Potential Projects – Currently, eight Potential Projects have been identified. Projects in this category are currently in the initial planning stages and may move forward as feasibility and project requirements are determined. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects.
- Conceptual Projects – Currently, two Conceptual Projects have been identified. Projects in this category are in the early conceptual planning states and would require significant additional work to move forward. Conceptual Projects represent potential future projects that could conceptually provide a benefit to the Vina Subbasin in the future, but that would need to be further developed.

This subsection of the GSP satisfies the requirements of CCR title 23 § 354.44. Consistent with SGMA requirements, the project descriptions for projects contain information regarding:

- The MO benefitted by the project
- Permitting and regulatory processes
- Timetable for initiation and completion

- Expected benefits
- How the project will be accomplished
- Legal authority
- Estimated costs and plans to meet costs
- Implementation circumstances
- Public noticing

Table 5-1 provides a summary of the 15 projects. Full descriptions are included below.

Table 5-1: List of Sustainable Groundwater Management Act Projects

Project Name	Project Type	Identified Project Proponent and Other Potential Participating Entities	Measurable Objective Expected to Benefit	Current Status	Timetable (initiation and completion)	Estimated Costs	Expected Groundwater Demand Reduction (Acre-Feet/year)
Planned Projects							
5.2.3.1 Agricultural Irrigation Efficiency	Conservation	Vina GSA; local landowners, other entities to be determined	Groundwater Levels, Groundwater Storage	Planning Stage	2024-2030	To be determined	Up to 4,000 (based on a reduction up to 2%)
5.2.3.2 Residential Conservation	Conservation	Cal Water Chico, Vina GSA, local landowners, other entities to be determined	Groundwater Levels	Planning Stage	2022-2025	To be determined	100
5.2.3.3 Scoping for Flood Managed Aquifer Recharge (FloodMAR)/Surface Water Supply and Recharge	Direct Recharge, In-lieu Recharge	Vina GSA, RCRCD GSA, local landowners, other entities to be determined	Groundwater Levels	Planning Stage	2022-2032	To be determined	Not applicable
5.2.3.4 Community Water Education Initiative	Education and Outreach	Vina GSA, CSUC, CWE, Chico State Enterprises, local landowners, other entities to be determined	Groundwater Levels, Groundwater Storage, Water Quality, Land Subsidence, Surface Water Depletion, Education and Outreach	Ready for Implementation	Currently ongoing, expansion by 2023 depending on funding	Component 1: \$50-100K annually Component 2: \$10,000-\$200,000 annually Component 3: \$10,000-\$25,000 annually	To be determined
5.2.3.5 Fuels Management for Watershed Health	Conservation	Vina GSA, CSUC, Chico State Enterprises, local landowners, other entities to be determined	Groundwater Levels, Groundwater Storage, Water Quality, Surface Water Depletion	Part of project currently ongoing, rest in planning stage	450 acres ongoing; 4,000 acres 2021-2030; 6,000 to 10,000 acres 2025-2040	\$8.0 million - \$14.0 million	To be determined
Potential Projects							
5.2.4.1 Paradise Irrigation District Intertie	In-Lieu Recharge	Vina GSA; PID, Cal Water, local landowners, other entities to be determined	Groundwater Levels	Planning Stage	To be determined, after Spring 2022	To be determined	5,000
5.2.4.2 Agricultural Surface Water Supplies	Intra-Basin Water Transfer	Vina GSA, RCRD, local landowners, other entities to be determined	Groundwater Levels	Planning Stage	2025-2032	To be determined	2,000 – 3,000
5.2.4.3 Streamflow Augmentation	Direct Recharge, In-Lieu Recharge	Vina GSA, RCRD GSA, PID, PG&E, local landowners, other entities to be determined	Groundwater Levels, Surface Water Depletion	Initial Planning Stage	2022-2025	\$50-\$100 per acre-foot	1,000-5,000
5.2.4.4 Community Monitoring Program	Monitoring	Vina GSA, CSUC, Chico Ecological Reserves, local landowners, other entities To be determined	Groundwater Levels	Planning Stage	2022-2025	To be determined	Not applicable
5.2.4.5 Recycled Wastewater	Direct Recharge, Water Recycling	Vina GSA, City of Chico, local landowners, other entities to be determined	Groundwater Levels	Planning Stage	2030-2038	To be determined	5,000
5.2.4.6 Rangeland Management	Conservation	Vina GSA, CSUC, Chico State Enterprises, other entities to be determined	Groundwater Levels	Planning Stage	Baseline data collection (2021-2022) Development of Master Management Plan (2022-2024)	To be determined	To be determined

Project Name	Project Type	Identified Project Proponent and Other Potential Participating Entities	Measurable Objective Expected to Benefit	Current Status	Timetable (initiation and completion)	Estimated Costs	Expected Groundwater Demand Reduction (Acre-Feet/year)
5.2.4.7 Removal of Invasive Species	Conservation	Vina GSA, CSUC, Chico State Enterprises, other entities to be determined	Groundwater Levels, Groundwater Storage	Planning Stage	Inventory and mapping of properties: 2022-2023 Development of invasive management for water retention plan: 2023-2024 Identify and secure funding: 2022-2026 Implement projects and measure results: 2025 and beyond	To be determined	To be determined
5.2.4.8 Surface Water Supply and Recharge	Direct Recharge	Vina GSA, RCRD GSA, local landowners, other entities to be determined	Groundwater Levels	Planning Stage	Sand Creek / Lindo Channel – 2022-2032; Other projects – 2022 – 2042	To be determined	1,000 / project
Conceptual Projects							
5.2.5.1 Extend Orchard Replacement	Conservation	Vina GSA, local landowners, other entities to be determined	Groundwater Levels	Conceptual Planning Stage	To be determined	To be determined	4,000-8,000
5.2.5.2 Recharge from the Miocene Canal	Direct Recharge	Vina GSA PG&E, Butte County, local landowners, other entities to be determined	Groundwater Levels	Conceptual Planning Stage	After 2025	To be determined	2,000 based on 10,000 acre-feet available for recharge (20% efficiency)

5.2.3 Planned Projects

Projects categorized as Planned Projects are expected to move forward and be completed to achieve the Vina Subbasin’s sustainability goal by 2042. The estimated groundwater supply from these projects is expected to offset the projected overdraft of 10,000 AFY.

5.2.3.1 Agricultural Irrigation Efficiency

A survey is currently being conducted in North and South Vina by the Vina GSA, Agricultural Groundwater Users of Butte County, and Butte County Farm Bureau in order to evaluate current irrigation methods and practices, identify opportunities and methods to improve irrigation efficiency, determine potential issues preventing the adoption of efficiency practices, and provide recommendations for increasing participation in these practices. The results of this survey are expected to be available in September 2022, with implementation of the project expected to be initiated between 2024 and 2030. Recommendations from the survey will be made available to the local agricultural community, and implementation of the practices will be voluntary. The Vina GSA along with participating partners will pursue grant funds to help implement these practices. It is estimated that the adoption of more efficient practices could reduce groundwater demand by up to 2%, which translates to a reduction in groundwater demand of up to 4,000 AFY.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA; local landowners, other entities to be determined
Project Type:	Conservation
Estimated Groundwater Offset and/or Recharge:	–Up to 4,000 acre-feet/year

Measurable Objective Expected to Benefit: This project will address declining water levels and the declining volume of groundwater stored in the aquifer. The main objective of the project is to reduce groundwater demand by modifying irrigation practices.

Project Status: This project is in the planning stages.

Required Permitting and Regulatory Process: None

Timetable for Initiation and Completion: Project will be initiated in 2024

Expected Benefits and Evaluation: A survey that consolidates data on the adoption of irrigation methods and practices by agricultural groundwater users will identify where more efficient practices can be implemented. This can help focus efforts and finances on areas where a reduction in overall groundwater demand is needed and feasible.

How Project Will Be Accomplished/Evaluation of Water Source: This project is a demand-side conservation project. No additional water source will be utilized for this project.

Legal Authority: The project would be under the authority of Vina GSA and potential future participating partners.

Estimated Costs and Plans to Meet Costs: To be determined, funding via Proposition 1, Proposition 68, USDA, Drought Resiliency Grants

Circumstances for Implementation: This project is a Planned Project that is anticipated to move forward.

Trigger for Implementation and Termination: The project will be initiated after the recommendations from the initial survey results are available.

Process for Determining Conditions Requiring the Project to Occur: As mentioned above, the survey is already underway and once analysis is complete, recommendations based off the results will be made available for voluntary implementation.

5.2.3.2 *Project: Residential Conservation*

Cal Water Chico, which provides water to the City of Chico via groundwater, proposed a series of conservation projects under their 2020 UWMP, including toilet replacement, urinal valve and bowl replacement, clothes washer replacement, residential conservation kits, smart controllers, high efficiency irrigation nozzles, and turf buy-back.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Cal Water Chico, Vina GSA, local landowners, other entities to be determined
Project Type:	Conservation
Estimated Groundwater Offset and/or Recharge:	100 AFY

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is in the planning stages.

Required Permitting and Regulatory Process: None

Timetable for Initiation and Completion: 2022-2025

Expected Benefits and Evaluation: The implementation of several different conservation projects for residential areas is expected to reduce groundwater demand by 100 AFY in Chico.

How Project Will Be Accomplished/Evaluation of Water Source: This project is a demand-side conservation project implemented by Cal Water in residential areas. No additional water source will be utilized for this project.

Legal Authority: The project would be under the authority of Vina GSA and Cal Water Chico. Cal Water Chico would initiate the conservation programs.

Estimated Costs and Plans to Meet Costs: To be determined, funding via Proposition 1, Proposition 68, Drought Resiliency Grants, Cal Water.

Circumstances for Implementation: This project is a Planned Project that is anticipated to move forward.

Trigger for Implementation and Termination: Increased groundwater demand due to an increasing number of planned residential developments in Chico (according to the City of Chico and Butte County General Plans).

Process for Determining Conditions Requiring the Project to Occur: This is a Planned Project that is anticipated to move forward.

5.2.3.3 Project: Scoping for Flood MAR/Surface Water Supply and Recharge

Under this project, Vina GSA and RCRD GSA will expand on the Flood MAR initiative, which was originally developed by DWR to promote recharge programs that use fields, recharge basins, and/or recharge ponds to divert high flows in creeks and streams. Individual recharge projects will eventually occur, but this particular project will focus on the initial scoping and identify specific recharge opportunities in the Vina Subbasin. At first, Vina GSA and RCRD GSA will focus their efforts on areas with the greatest need for recharge and seek grants and other funding sources to implement the projects. Interested landowners would be identified and participation in the program would be voluntary.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, RCRCD GSA, local landowners, other entities to be determined
Project Type:	Direct Recharge, In-Lieu Recharge
Estimated Groundwater Offset and/or Recharge:	Not applicable

Estimated Groundwater Offset and/or Recharge: Not applicable. Future recharge projects are possible based on results of scoping.

Measurable Objective Expected to Benefit: Future increase of groundwater levels.

Project Status: This project is in the planning stages.

Required Permitting and Regulatory Process: Not applicable

Timetable for Initiation and Completion: 2022-2032

Expected Benefits and Evaluation: This project would develop the first steps of the Flood MAR initiative and recharge efforts for the Vina Subbasin region and identify specific groundwater recharge and management projects based on feasibility, need, and available funding. The initiation of this project would then lead to future recharge projects.

How Project Will Be Accomplished/Evaluation of Water Source: This project will help to identify and develop specific recharge projects in the region, which will then individually determine recharge sources.

Legal Authority: The project would be under the authority of the Vina GSA and RCRD GSA.

Estimated Costs and Plans to Meet Costs: To be determined, funding via Proposition 1 and Proposition 68.

Circumstances for Implementation: This project is a Planned Project that is anticipated to move forward.

Trigger for Implementation and Termination: None

e This is a Planned Project that is anticipated to move forward.

5.2.3.4 Project: Community Water Education Initiative

The Community Water Education Initiative, proposed by CSUC’s CWE, would consist of two main components:

Community Water Education Project – The CWE would lead this component of the project to expand on community outreach and education associated with water-related topics and issues of the region. CWE would focus on topics such as regional groundwater issues, connectivity of surface and groundwater, decision-making during drought years, basic aquifer knowledge, and more, and target agricultural well users, domestic well users, and municipal customers. The scope would also include technical seminars and field trips, as well as creating educational materials such as fact sheets, printed materials, and website content.

Big Chico Creek Watershed Tour – CWE currently hosts a Big Chico Creek Watershed Tour every year that lasts for four days (2 weekends in March and April) and that takes participants from the watershed’s headwaters to the Big Chico Creek Ecological Reserve, through CSUC campus, and to its confluence with the Sacramento River. During the program, participants learn about the watershed, explore various water issues, and help CSUC faculty research the health of the watershed. Under this project, CSUC proposes to expand the program to include community members and more groundwater education, with a focus on the Vina Subbasin, with the goal to help community members better understand their role in sustainable groundwater management.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, CSUC, CWE, Chico State Enterprises, local landowners, other entities to be determined
Project Type:	Education and Outreach
Estimated Groundwater Offset and/or Recharge:	Not applicable

Measurable Objective Expected to Benefit: Groundwater Levels, Groundwater Storage, Water Quality, Land Subsidence, Surface Water Depletion, Education and Outreach

Project Status: This project is ready for implementation. Possible expansion by 2023 depending on funding.

Required Permitting and Regulatory Process: None

Timetable for Initiation and Completion: Currently measuring and providing community education with the possibility of expansion by 2023 depending on funding.

Expected Benefits and Evaluation: This project would expand the education and outreach on important watershed and groundwater issues in the region, helping community members better understand their role in sustainable water management.

How Project Will Be Accomplished/Evaluation of Water Source: This is an education and outreach project provided through CSUC that does not require a water source.

Legal Authority: The project would be under the authority of CSUC’s CWE.

Estimated Costs and Plans to Meet Costs: \$50-100K annually (Component 1); \$10,000-\$200,000 annually (Component 2); \$10,000-\$25,000 annually (Component 3). Funding via Proposition 1 and Proposition 68

Circumstances for Implementation: This project is a Planned Project that is anticipated to move forward.

As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management. Implementation of Potential Projects will be based on long-term management or changing needs of the GSA or Subbasin. Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Subbasin.

5.2.3.5 Project: Fuel Management for Watershed Health

This project would involve fuel management in the Upper Watershed, including multiple sites on the 3,950-acre Big Chico Creek Ecological Reserve, 1,500 acres above the Reserve in the Big Chico Creek Watershed, and on private land within the watershed. Fuel reduction projects are currently ongoing at 460 acres. Further fuel reduction is planned for an additional 4,000 acres between 2021 and 2030 and another 6,000 to 10,000 acres for 2025 through 2040 with the City of Chico Parks Department and other private landowners.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, CSUC, Chico State Enterprises, local landowners, other entities to be determined
Project Type:	Conservation
Estimated Groundwater Offset and/or Recharge:	To be determined
Other Potential Participating Entities	CSUC, Chico State Enterprises

Measurable Objective Expected to Benefit: Groundwater Levels, Groundwater Storage, Water Quality, Surface Water Depletion

Project Status: Part of this project is currently ongoing, with other parts in the planning stages.

Required Permitting and Regulatory Process: CEQA

Timetable for Initiation and Completion: 450 acres have ongoing fuel reduction; 4,000 acres planned for 2021-2030; 6,000 to 10,000 acres planned for 2025-2040

Expected Benefits and Evaluation: Improved fuel management would prevent inadvertent spillage and the degradation of water quality.

How Project Will Be Accomplished/Evaluation of Water Source: This project is a demand-side conservation project conducted by CSUC. No additional water source will be utilized for this project.

Legal Authority: The project would be conducted by CSUC.

Estimated Costs and Plans to Meet Costs: \$8.0 million -\$14.0 million (based on \$2,000 and \$3,500 per acre with a target of 4,000 acres); funding via CAL FIRE, Sierra Nevada Conservancy, California Fire Safe Council, other state, and federal funding agencies

Circumstances for Implementation: This project is a Planned that is anticipated to move forward.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Subbasin.

5.2.4 Potential Projects

Projects categorized as Potential Projects are currently in the initial planning stages and may move forward as feasibility and project requirements are determined. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects.

5.2.4.1 Project: Paradise Irrigation District Intertie

After the devastation of the 2018 Camp Fire in Paradise, California, PID lost 95% of their customers. To help PID sustain their business, this project proposes that PID supply Cal Water, which serves the City of Chico, with water from one of their surface waters sources. Currently, Chico’s only water source is groundwater, and their annual demand is 25,000 AF. The additional water source would help offset the groundwater demand and help groundwater levels stabilize in the Vina Subbasin. The SWRCB is currently conducting a study through Spring 2022 to help PID evaluate their options for long-term sustainability. This study will include the feasibility of the PID-Cal Water Intertie project.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA; PID, Cal Water, local landowners, other entities to be determined
Project Type:	In-Lieu Recharge
Estimated Groundwater Offset and/or Recharge:	5,000 AFY

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is in the initial planning stages.

Required Permitting and Regulatory Process: County encroachment permit, CEQA.

Timetable for Initiation and Completion: To be determined, after Spring 2022

Expected Benefits and Evaluation: An additional source for Chico from surface water would help offset the demand on groundwater in the Vina Subbasin and allow groundwater levels to stabilize. In addition, this would help PID’s business after they lost customers during the Camp Fire.

How Project Will Be Accomplished/Evaluation of Water Source: This project will allow PID to provide a surface water source to the City of Chico to help offset groundwater demand. Groundwater is currently the only source of water for Chico.

Legal Authority: The project would be under the authority of Vina GSA, PID, and Cal Water.

Estimated Costs and Plans to Meet Costs: To be determined, funding via Proposition 1, Proposition 68, State Revolving Fund, Federal Infrastructure Funds

Circumstances for Implementation: The decision to move forward with the project will be based on discussions with PID.

Trigger for Implementation and Termination: PID’s loss of customers from the Camp Fire, decreasing groundwater levels in the Vina Subbasin, increasing groundwater demand in Chico

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSA or Subbasin.

5.2.4.2 Project: Agricultural Surface Water Supplies

Under this project, surface water from water right holders in the neighboring Butte Subbasin and the upper watershed would provide water for the Vina North and South areas. Some of these surface water sources would include the Sacramento River and Lake Oroville. Surface water would help agricultural users reduce their groundwater usage. Agricultural users may need to install a dual irrigation system that allows them to switch between groundwater and surface water depending on the availability of the surface water. Implementation of some of the projects could also lead to recharge opportunities, as additional water may be available during the off-peak irrigation season.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, RCRD, local landowners, other entities to be determined
Project Type:	Intra-Water Basin Transfer
Estimated Groundwater Offset and/or Recharge:	2,000 to 3,000 AFY

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is in the initial planning stages.

Required Permitting and Regulatory Process: Projects with diversions of surface water will require a SWRCB Water Right Permit, CEQA, others to be determined.

Timetable for Initiation and Completion: 2025-2032

Expected Benefits and Evaluation: Surface water sources from neighboring basins would decrease the Vina Subbasin’s dependence on groundwater and allow groundwater levels to stabilize.

How Project Will Be Accomplished/Evaluation of Water Source: The water sources for this project would include available surface water from the Butte Subbasin and upper watershed (Sacramento River, Lake Oroville, etc.).

Legal Authority: The project would be under the authority of Vina GSA, the RCRD GSA, local landowners or other entities to be determined.

Estimated Costs and Plans to Meet Costs: To be determined, funding via Proposition 1 and Proposition 68.

Circumstances for Implementation: This project is a Potential Project, meaning it is currently in the planning stages. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Vina Subbasin.

5.2.4.3 Project: Streamflow Augmentation

Under the management of the Vina GSA, this project would transport excess untreated surface water from PID, PG&E, and / or other water right holders in the upper watershed to various parts of the Vina Subbasin through creeks and streams. The goal of the project would be to provide additional water sources to riparian water holders such as Durham Mutual, Rancho Esquon, M&T Ranch, and Gorrill Ranches as well as increase stream flows and direct and in-lieu recharge. Prior to the start of the project, Vina GSA would conduct an investigation and feasibility study to ensure that enough surface water would be available. The project would primarily take place at Comanche Creek, Butte Creek, Little Chico Creek, and Big Chico Creek.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, RCRD GSA, PID, PG&E, local landowners, other entities to be determined
Project Type:	Direct Recharge, In-Lieu Recharge
Estimated Groundwater Offset and/or Recharge:	1,000 – 5,000 acre-feet/year

Measurable Objective Expected to Benefit: Groundwater Levels, Surface Water Depletion

Project Status: This project is in the initial planning stages.

Required Permitting and Regulatory Process: SWRCB Water Right Permit, CEQA

Timetable for Initiation and Completion: 2022-2025

Expected Benefits and Evaluation: Additional sources of surface water would help to increase surface water levels in creeks and streams, groundwater levels via direct and in-lieu recharge, and overall water availability for riparian water holders.

How Project Will Be Accomplished/Evaluation of Water Source: The additional water sources would come from any available surface water from PID, PG&E, and other water right holders in the upper watershed.

Legal Authority: The project would be under the authority of Vina GSA.

Estimated Costs and Plans to Meet Costs: \$50 - \$100/acre-foot, funding via California Wildlife Conservation Board, Resource Renewal Institute, Proposition 1, Proposition 68, Vina fees

Circumstances for Implementation: This project is a Potential Project. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management. Implementation of Potential Projects will be based on long-term management or changing needs of the GSA or Subbasin.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSA or Subbasin.

5.2.4.4 Community Monitoring Program

This project would create routine water table monitoring programs for approximately 8,000 acres of Ecological Reserves in the region between lower Forest Ranch and Cohasset Road near Chico Airport, including the Big Chico Creek, Sheep Hollow, and Cabin Hollow tributaries.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, CSUC, Chico Ecological Reserves, local landowners, other entities to be determined
Project Type:	Monitoring
Estimated Groundwater Offset and/or Recharge:	Not applicable

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is in the initial planning stages.

Required Permitting and Regulatory Process: None.

Timetable for Initiation and Completion: The establishment of these new monitoring programs is planned to take place between 2022 and 2025.

Expected Benefits and Evaluation: Routine water table monitoring programs will track overall water table trends in the region and provide important, up-to-date data for making decisions on water management.

How Project Will Be Accomplished/Evaluation of Water Source: CSUC and Chico Ecological Reserves will implement the monitoring programs on a routine basis through their university programs. No additional water source will be utilized for this project.

Legal Authority: The project would be under the authority of CSUC and Chico Ecological Reserves.

Estimated Costs and Plans to Meet Costs: To be determined, funding sources to be determined.

Circumstances for Implementation: This project is a Potential Project, meaning it is currently in the planning stages. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Vina Subbasin.

5.2.4.5 *Project: Wastewater Recycling*

The City of Chico currently operates a wastewater treatment plant with a treatment capacity of 12 million gallons (36 AF) per day and discharges 13,000 AFY of the treated wastewater into the Sacramento River (in accordance with their waste discharge permit from the California Water Resources Control Board). Under this project, the city would review the feasibility of diverting some of their recycled wastewater from the Sacramento River to recharge ponds and/or non-crop vegetation in Chico. Existing regulations will be reviewed for the use of the recycled water for crop production.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, City of Chico, local landowners, other entities to be determined
Project Type:	Direct Recharge, Water Recycling
Estimated Groundwater Offset and/or Recharge:	5,000 AFY

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is in the initial planning stages.

Required Permitting and Regulatory Process: SWRCB Water Right permit, CEQA, National Pollutant Discharge Elimination System permit, others to be determined.

Timetable for Initiation and Completion: 2030-2038

Expected Benefits and Evaluation: This project would divert treated wastewater, that would otherwise be pumped into the Sacramento River, towards recharge ponds and non-crop vegetation. This would increase groundwater recharge, decrease groundwater demand for farming, and help groundwater levels stabilize in the region.

How Project Will Be Accomplished/Evaluation of Water Source: This project would be initiated by the Vina GSA and the City of Chico, and the water source for this project would be the treated wastewater from the City of Chico’s wastewater treatment plant.

Legal Authority: The project would be under the authority of Vina GSA and the City of Chico.

Estimated Costs and Plans to Meet Costs: To be determined, funding via Proposition 1, Proposition 68, and SWRCB, and other sources to be determined.

Circumstances for Implementation: This project is a Potential Project, meaning it is currently in the planning stages. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Vina Subbasin.

5.2.4.6 Project: Rangeland Management and Water Retention

Under this project, CSUC and Chico State Enterprises would initiate a study of adaptive/regenerative grazing practices on 2,000 or more acres in the region. The study, which would take place between 2021 and 2022, would measure soil compaction, erosion, groundwater retention, and biological diversity. If this study finds that water retention engineering projects would be feasible in the region, based on the collected data on local soil, then CSUC would create a master management plan and take necessary steps to complete the water retention projects.

This project would take place in two locations across 3,850 acres of historical rangeland between Musty Buck Ridge and Cohasset Road.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, CSUC, Chico State Enterprises, other entities to be determined
Project Type:	Conservation
Estimated Groundwater Offset and/or Recharge:	To be determined

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is currently in the initial planning stages.

Required Permitting and Regulatory Process: CEQA and/or National Environmental Policy Act (NEPA), depending on project impact.

Timetable for Initiation and Completion: Baseline data collection (2021-2022); Development of Master Management Plan (2022-2024).

Expected Benefits and Evaluation: This project would evaluate characteristics of local soil and the feasibility to initiate water retention projects. Water retention would help increase the overall water supply for the region.

How Project Will Be Accomplished/Evaluation of Water Source: This project is a demand-side conservation project through CSUC. No additional water source will be utilized for this project.

Legal Authority: The project would be conducted by CSUC.

Estimated Costs and Plans to Meet Costs: To be determined, funding via state funding through watershed health grants, federal funding through USDA, private funding sources to be determined.

Circumstances for Implementation: This project is a Potential Project, meaning it is currently in the planning stages. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management.

Trigger for Implementation and Termination: Once the study is complete on soil compaction, erosion, groundwater retention, and biological diversity, and it shows that water retention is feasible, then a master management plan will be developed.

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Vina Subbasin.

5.2.4.7 *Project: Removal of Invasive Species*

Invasive species negatively impact the natural ecosystem in several ways, including consuming water and hampering recharge. Under this project, invasive species and native grasses in meadows and oak savannahs would be mapped between 2022 and 2023. This would then be followed by the development of an invasive management for water retention plan between 2023 and 2024, the acquisition of funding between 2022 and 2026, and the implementation of invasive species removal projects after 2025. This project would take place in the Upper Watershed at approximately 8,000 acres between lower Forest Ranch and the Chico Airport, including the Big Chico Creek, Sheep Hollow, and Cabin Hollow drainages.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, CSUC, Chico State Enterprises, other entities to be determined
Project Type:	Conservation
Estimated Groundwater Offset and/or Recharge:	To be determined

Measurable Objective Expected to Benefit: The project will address declining water levels and the declining volume of groundwater stored in the aquifer.

Project Status: This project is currently in the initial planning stages.

Required Permitting and Regulatory Process: CEQA and/or NEPA, depending on project location and impact.

Timetable for Initiation and Completion:

- Inventory and mapping of properties: 2022-2023
- Development of invasive management for water retention plan: 2023-2024
- Identify and secure funding: 2022-2026
- Implement projects and measure results: 2025 and beyond.

Expected Benefits and Evaluation: The removal of invasive species would benefit the natural ecosystem and prevent them from negatively affecting the amount of available water and the ability for water to recharge.

How Project Will Be Accomplished/Evaluation of Water Source: This project is a demand-side conservation project conducted through CSUC. No additional water source will be utilized for this project.

Legal Authority: The project would be conducted by CSUC.

Estimated Costs and Plans to Meet Costs: To be determined, funding via state and federal wildfire resiliency grants.

Circumstances for Implementation: This project is a Potential Project, meaning it is currently in the planning stages. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Vina Subbasin.

5.2.4.8 Project: Surface Water Supply and Recharge

Projects under this category would involve activities that increase the surface water supply to the Vina Subbasin through: 1) direct application of surface water to crops along the lines of the Agricultural Surface Water Supplies Project described above; 2) application of surface water and/or flood water to land surface (i.e. existing orchards) for recharge purposes, sometimes referred to as Flood MAR projects; 3) surface water and/or flood water application to recharge basins and/or recharge ponds; or 4) other applications.

The following are examples of potential projects in the Vina Subbasin:

Sand Creek Project – This project would take place in the North Chico and Nord areas and would involve obtaining data that would later be used to develop mitigation measures for flooding and recharge. The data may also be used to decide future actions towards habitat

restoration and runoff management to sustain groundwater. This project is currently developing a Decision Support Tool to determine future construction scope and feasibility.

Lindo Channel – This project would divert water from Big Chico Creek when flow exceeds 75 cfs and store the water in the Lindo Channel. The Lindo Channel can then be used as a recharge source for other areas and potentially provide 2,000 AF.

Other additional recharge projects would be developed by the Vina GSA, the RCRD GSA, local landowners, and/or entities to be determined.

Estimated Groundwater Offset and/or Recharge: 1,000 AFY per project.

Measurable Objective Expected to Benefit: increase of groundwater levels by enhancing in-lieu recharge opportunities.

Project Status: The Sand Creek project and Lindo Channel project are in the initial planning stages. Other projects to be developed in the future.

Required Permitting and Regulatory Process: Projects with diversions of surface water will require a SWRCB permit; CEQA and others to be determined.

Timetable for Initiation and Completion: Sand Creek and Lindo Channel – 2022-2032; Other projects – 2022 – 2042.

Expected Benefits and Evaluation: This project would reduce reliance on native groundwater supply.

How Project Will Be Accomplished/Evaluation of Water Source: Evaluate and analyze results of scoping project for potential locations of recharge activity. The Sand Creek project and Lindo Channel project are in the planning stages. The Lindo Channel project is anticipated to divert water from Big Chico Creek to the Lindo Channel, which can then be used as a recharge source on-site or at other locations. The Sand Creek project is anticipated to divert water from the creek to a recharge basin.

Legal Authority: The projects would be under the authority of the Vina GSA, the RCRD GSA, local landowners and / or other entities to be determined.

Estimated Costs and Plans to Meet Costs: To be determined, potential funding via Proposition 1 and Proposition 68.

Circumstances for Implementation: These projects are Potential Projects to bring additional resources for adaptive management. Potential Projects represent a “menu of options” for the Vina Subbasin to achieve long-term sustainability and offset the remaining imbalance above and beyond implementation of the Planned Projects. As scenarios change, the Potential Projects can come online to bring additional resources for adaptive management.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: The Sand Creek project and Lindo Channel project are in the planning stages and will be implemented, assuming that

feasibility is determined. Implementation of Potential Projects will be based on long-term management or changing needs of the GSAs or Vina Subbasin.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, RCRD GSA, local landowners, other entities to be determined
Project Type:	Direct Recharge, In-Lieu Recharge
Estimated Groundwater Offset and/or Recharge:	1,000 acre-feet/project

5.2.5 Conceptual Projects

Projects categorized as Conceptual Projects are in the early conceptual stages and would require significant additional work to move forward. Conceptual Projects represent potential future projects that could conceptually provide a benefit to the Vina Subbasin in the future, but that would need to be further developed.

5.2.5.1 Extend Orchard Replacement

Under this project, various funding sources would incentivize local growers to increase the duration of their current fallowing practice between orchard removal and replanting by one growing season. The extra time would allow the soil to fallow and decrease the overall demand on groundwater and other water sources. Additionally, this program may also reduce the need for soil treatments such as fumigation and expand recycling options for the previous orchard. This project has the potential to fallow between 1,600 and 3,200 acres per year in North and South Vina. As envisioned, this project would be dependent on the availability of financial incentives and willingness of landowners to participate. Participation in the program would be voluntary.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA, local landowners, other entities to be determined
Project Type:	Conservation
Estimated Groundwater Offset and/or Recharge:	4,000 – 8,000 acre-feet/year

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is still in the early conceptual planning stages.

Required Permitting and Regulatory Process: None

Timetable for Initiation and Completion: To be determined. The timetable would be dependent on the availability of financial incentives and willingness of farmers to participate.

Expected Benefits and Evaluation: By increasing the time between orchard removal and replanting, the soil may be allowed to fallow, restoring its fertility, and decreasing its water demand. This would decrease the overall use of groundwater in the Subbasin.

How Project Will Be Accomplished/Evaluation of Water Source: This project is a demand-side conservation project. No additional water source will be utilized for this project.

Legal Authority: The project would be under the Vina GSA, local landowners and other entities to be determined.

Estimated Costs and Plans to Meet Costs: To be determined; funding via Proposition 1, Proposition 68, USDA, National Resource Conservation Service (NRCS)

Circumstances for Implementation: This project is a Conceptual project in the early conceptual planning stages and would require significant additional work to move forward.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: The project proponents are in the process of determining the feasibility of this project including the possibility of securing the necessary finances to move forward.

5.2.5.2 Recharge from the Miocene Canal

During the 2018 Camp Fire, the upper Miocene Canal, which is operated by PG&E, was destroyed. Under this project, the upper canal would be rebuilt and re-watered. Additionally, PG&E would sell the Miocene Canal system by mid-2022 and modify the system to increase water supply reliability. One such modification might include establishing recharge ponds along the west side of the Miocene Canal in areas conducive to recharging the Vina South Subbasin.

Project Summary	
Identified project proponent(s) and other potential participating entities:	Vina GSA PG&E, Butte County, local landowners, other entities to be determined
Project Type:	Direct Recharge
Estimated Groundwater Offset and/or Recharge:	2,000 acre-feet/year based on 10,000 acre-feet available for recharge (assuming a 20% efficiency)

Measurable Objective Expected to Benefit: Groundwater Levels

Project Status: This project is still in the early conceptual planning stages.

Required Permitting and Regulatory Process: CEQA, SWRCB Water Rights Permit

Timetable for Initiation and Completion: After 2025

Expected Benefits and Evaluation: Rebuilding the upper Miocene Canal and making improvements to the overall system would increase recharge into the Vina South Subbasin and surface water availability for other uses.

How Project Will Be Accomplished/Evaluation of Water Source: This project would be initiated by PG&E, who would obtain water from the same water sources that currently supply the Miocene Canal.

Legal Authority: The project would be under the authority of Vina GSA and PG&E.

Estimated Costs and Plans to Meet Costs: To be determined, funding via state and federal grants

Circumstances for Implementation: This project is a Conceptual Project, meaning it is in the early conceptual planning stages and would require significant additional work to move forward. Conceptual Projects represent potential future projects that could conceptually provide a benefit to the Subbasin in the future. As scenarios change, Conceptual Projects can come online to bring additional resources for adaptive management. The project proponents are in the process of determining the feasibility of this project including the possibility of securing the necessary finances to move forward.

Trigger for Implementation and Termination: None

Process for Determining Conditions Requiring the Project to Occur: Implementation of Conceptual Projects will be based on long-term management or changing needs of the GSA or Subbasin.

5.2.6 Notification Process

The GSAs will continue to conduct public outreach and will be responsible for notification of the projects. Regular updates will be provided to the GSA Boards and presented on the websites www.vinagsa.org and rockcreekreclamation.com as projects are implemented. Outreach is likely to include public notices, meetings, website, social media, and email lists.

5.3 Management Actions

To achieve sustainable groundwater management, management actions can be implemented to focus on reduction of groundwater demand. The management actions can include increased data collection, education and outreach, regulatory policies, incentive programs, and enforcement actions.

An evaluation of potential GSA actions (projects or management actions) will occur on an annual basis relying on information reported in the annual report. The following sections will present a suite of management action options that the GSA may consider during GSP implementation. The schedule to implement the management actions is likely to vary depending upon Vina Subbasin conditions and the expected benefits of PMAs may also vary year to year.

5.3.1 General Plan Updates

The GSA(s) will cooperate with Butte County and the City of Chico with updates to their General Plans. The GSA(s) will participate and collaborate as appropriate with land use agencies during general plan updates to ensure that land use planning recognizes the Vina GSP. The GSAs will collaborate to ensure that the important components of the GSP are addressed in the general plans. The recognition and use of groundwater sustainability practices would remain consistent.

5.3.2 Domestic Well Mitigation

If an increasing number of domestic groundwater wells go dry in the Vina Subbasin, the GSAs could propose a series of steps to help mitigate this issue. The following steps are proposed under this management action:

1. Establish a voluntary registry of domestic wells.
2. Compile domestic well logs, screen depths, and locations.

3. Secure financial resources to improve, deepen or replace select domestic wells.
4. Provide emergency response to homes with dry domestic wells, including supplying bottled water and potable water for sanitation. Priority would be given to disadvantaged communities dependent on groundwater as a drinking water resource.

Creating a registry of domestic wells in the region, with information on well location and screen depths, would help the GSAs compile important data into a centralized location. This would allow the GSAs to determine which wells need to be updated to the current standards and which may need to be deepened, as well as to help them prioritize certain communities for emergency response.

5.3.3 Well Permitting Ordinance

According to the current Butte County code, domestic wells are required to be screened below the groundwater levels measured during the 1989 to 1994 drought. This management action proposes that the GSAs will work with Butte County to amend the well ordinance as it relates to small and large diameter wells to take into consideration the HCM based on best available data (i.e. AES data), adopted SMC, historical groundwater conditions, and impacts of new wells on existing wells. The code could be amended with requirements for well screens to account for MT established for the Vina Subbasin. This would improve water supply reliability of future agricultural and domestic wells.

5.3.4 Landscape Ordinance

Butte County and/or the City of Chico would enact an ordinance requiring new residential, commercial, and industrial development to use drought-resistant species for landscaping and to limit the size of grass lawns that require regular irrigation. The ordinance would focus efforts and money on reducing the amount of water used for landscape irrigation and swimming pools while promoting xeriscaping. The reduction in irrigation for landscaping and swimming pools would allow groundwater use for other purposes in the Vina Subbasin.

5.3.5 Prohibition of Groundwater Use for Ski (Recreational) Lakes

In the Vina Subbasin, there are several ski lakes that are currently supplied with groundwater. The Vina GSA would encourage Butte County to amend the zoning ordinance to prohibit the use of groundwater for future ski lakes.

5.3.6 Expansion of Water Purveyors' Service Area

The Vina GSA would encourage the expansion of water purveyors' service area to areas across the Vina Subbasin that are reliant on private groundwater wells. This would require action by individual water purveyors, support of residents, and governmental approval. By expanding the service area of water purveyors, areas that rely solely on groundwater would have another source of water and would reduce groundwater extraction.

5.3.7 Groundwater Allocation

SGMA requires that GSPs describe the projects and management actions to be implemented as part of bringing the Vina Subbasin into sustainability. As a last resort, in the event that the proposed projects fail to achieve IMs and the Vina Subbasin is projected to not be able to

achieve sustainability goals by 2042, the GSAs may need to consider implementation of groundwater allocations to manage groundwater demand. The implementation of this management action would be based on an evaluation by the Joint Management Committee. The consideration of groundwater allocation would be based on the groundwater budgets and updated monitoring data throughout the Vina Subbasin, as presented in annual reports.

Groundwater allocation management actions could include, but are not limited to, targeted maximum extraction levels to address specific MT violations or Vina Subbasin-wide adjustments to extractions to address overall chronic lowering of groundwater levels. Should the GSAs determine that groundwater allocation management actions are necessary, the GSAs will consider such management actions through a public process ultimately decided by the GSA Boards.

5.4 Data Collection

5.4.1 County Contour Mapping

As part of the efforts to collect the information necessary to fill the information needs and data gaps identified in Section 3, this project proposes to expand the existing monitoring program to include Butte, Glenn, Colusa, and Tehama counties and conduct these groundwater elevation surveys in the spring, summer, and fall. The monitoring program would gather data used to produce groundwater contours and estimates of lateral and vertical flow direction and volume. Producing these data for the four counties will help to identify interbasin flow patterns and influences on surface water flows and replenishment locations, thereby improving coordination between counties and water management decision-making.

Routine water table monitoring programs will track overall water table trends in the region and provide important, up-to-date data for making decisions on water management. Establishing these programs amongst the four counties will aid in the exchange of data and improve regional coordination on various water projects. The expanded water monitoring programs will be established by the Vina and RCRD GSAs, with assistance from the four counties.

5.4.2 Update the Butte Basin Groundwater Model

The existing BBGM covers the Vina, Butte, and Wyandotte Creek Subbasins. This project will help fill the identified data gaps by 1) updating the BBGM with newly acquired data; and 2) using the updated version of the model to run simulations to support evaluation of projects or GSP updates as appropriate and warranted. Some of the new data to be incorporated is the AEM data and data on the different hydraulic conductivities of each layer of the aquifer. The AEM data will be used, among other things, to adjust the various surfaces in the model to better represent the aquifer's hydrogeologic layers.

Once the model has been updated with the new data, it will be better suited for running simulations of different water or land use management scenarios as well as predictions for climate and precipitation fluctuations. Lateral and vertical connectivity between aquifer layers and connections to surface water features will be more accurate and help identify areas of the basin where groundwater recharge may be needed. Overall, this will help shape management actions by focusing efforts on those particular areas. Ongoing updates to the model will emphasize the importance of accurate and up-to-date data and help continue monitoring efforts

such as measuring water levels and stream flows. It is expected that at least two updates to the model will be prepared as the GSP is implemented and additional data is collected.

An updated groundwater model is vital for running accurate simulations that may be used to make important decisions regarding groundwater allocation, pumping, recharge, and other activities. The model should contain the most up-to-date data to represent the basin realistically and accurately.

5.4.3 Community Monitoring Program

As discussed in Section 4.10, the MT for groundwater levels is based on the depths of domestic wells. The dataset used for this assessment is limited and likely includes wells no longer in use or poorly maintained wells. To resolve this data gap, the GSAs will conduct surveys of domestic wells within the Vina Subbasin to assess if the wells are still active and collect the well construction details. As domestic well construction information may be limited, selected wells may be video logged to obtain additional information.

The GSAs will also maintain a record of verifiable domestic wells that go dry during the implementation period that will include depth of these wells, screen intervals, and available maintenance records. These data will be used to modify the MO and MT over the implementation period, as appropriate.

5.4.4 Interconnected Surface Water/Associated Impacts on Groundwater Dependent Ecosystems

Also discussed in Section 4.10 and in Section 3.8 is the lack of sufficient data to analyze the interaction of streams and groundwater pumping within the primary aquifer system. Additional wells and other monitoring networks will be installed, as appropriate, following the framework discussed in Section 3.8.

5.5 Adaptive Management Strategies

The GSAs will be requesting annual reports from the project proponents to evaluate progress on implementation. If the projects are not progressing or if monitoring efforts demonstrate that those projects are not achieving their targets, the GSAs will evaluate the need for additional or modified projects and to begin implementation of management actions.

5.6 Potential Available Funding Mechanisms

As listed above in the individual project descriptions, several funding mechanisms have been identified to help with the planning and implementation of the GSP projects. The following is an abbreviated list of some of the funding mechanisms proposed:

Project Type	Funding Type	Program	Dates
IRWM (projects included in an adopted IRWM Plan)	Implementation Grant	Proposition 1, Water Quality, Supply, and Infrastructure Improvement Act of 2014	Round 2 solicitation expected in late 2021
Recharge Projects	Planning and construction grants	Proposition 68, California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018	Round 2 solicitation to be released early 2022
Wastewater treatment for underrepresented communities projects	Planning and construction grants	Small Community Grant Fund	Applications accepted continuously
Public water systems improvement	Planning and construction grants	Drinking water grants	Applications accepted continuously
Land Conservation	USDA Farm Service Agency	Conservation Reserve Program	Applications accepted continuously

6. PLAN IMPLEMENTATION

SGMA requires the GSAs to partner with groundwater users to develop and implement GSPs to achieve groundwater sustainability. SGMA requires the Vina Subbasin to be sustainable by 2042. The GSP includes provisions to evaluate current conditions in the Vina Subbasin (Section 2), establish SMC (Section 3), gather and analyze groundwater data (Section 4), and report findings. The provisions in the GSP will be evaluated every five years and updated as necessary. The Vina Subbasin GSAs are required to submit the GSP to DWR by January 31, 2022. DWR will evaluate the GSP within 24 months of submittal. Upon submittal of this GSP to DWR, GSP implementation will begin in the Vina Subbasin. The GSAs will continue their efforts with public engagement and to secure funding to monitor and manage groundwater resources. This section presents the manner in which the GSAs will execute the GSP consistent with the requirements in CCR Title 23 § 354.6(e).

The GSP includes provisions for:

- Gathering data at RMS locations
- Evaluation of SMCs
- Report of findings and analysis
- Implementation of PMAs

Each of these provisions will require funding and schedule coordination to help achieve Vina Subbasin sustainability goals. The following sections describe the funding mechanisms and timetable for the GSP implementation.

6.1 Estimate of Groundwater Sustainability Plan Implementation Costs

Where feasible, the GSAs will use existing funding and/or programs for use in the GSP implementation. The GSAs, member agencies, and water purveyors will coordinate to implement the actions outlined in this GSP. The GSAs will fund the implementation of the GSP where other sources are not available. The cost of implementation of the GSP by activity is presented below.

6.1.1 Administrative Costs

These include the cost of annually operating the GSAs, including staff expenses, audit, outreach, legal and other administrative costs. This does not include agency-specific project implementation costs. Costs are estimated to be in the range of approximately \$200,000 to \$400,000 annually.

Table 6-1: Estimated Administrative Costs

GSP Implementation	Estimated Annual Costs
Public Outreach	\$25,000
Staff	\$150,00
Legal	\$30,000
Other	\$20,000
Total Estimate	\$225,000

Public outreach efforts will continue during GSP implementation with a focus on progress updates particularly regarding the PMAs. Staff time will likely be in-kind contribution from member agencies of the Vina and RCRD GSAs. Outside counsel will continue to provide legal advice to the GSAs Boards. The budget also includes other miscellaneous costs such as printing and insurance.

6.1.2 Monitoring

Monitoring for compliance with SGMA regulations will include semi-annual collection of groundwater levels at 17 RMS locations and annual collection of groundwater quality at 8 RMS locations. Monitoring activity costs will include labor (field data collection, surveying, laboratory analysis, project management) and equipment (vehicles, meters, pumps, field tools/supplies).

Table 6-2: Monitoring Activities and Estimated Cost

Monitoring Activity	Frequency	Estimated Annual Cost
Groundwater Levels	Semi-Annual, 2 events	\$20,000
Groundwater Quality	Annual, one event	\$8,000

Some RMS locations include wells that are monitored and funded under existing programs.

6.1.3 Data Analysis

The data gathered from the ongoing monitoring program will be analyzed to assess trends for determination of undesirable results. Analysis of the data may lead to modifications in the RMS network, the hydrogeological conceptual model, and the priority of PMAs. Data gaps that arise from analysis may require installation of new RMS locations.

Table 6-3: Data Analysis Activities and Estimated Cost

Data Analysis Activity	Frequency	Estimated Annual Cost
Data Management System	Annual	\$5,000
Review of Groundwater Data	Annual	\$5,000

6.1.4 Reporting and Evaluation

Annual reports are required after GSP adoption to provide updates to general GSP information, basin conditions, and plan implementation progress. Section 6.5 discusses the annual reporting

plan in more detail. GSAs are required to conduct an evaluation of the GSP and prepare a report every five years or whenever the GSP is amended. Section 6.6 discusses the evaluation report in more detail.

Table 6-4: Reporting and Evaluation Activities and Estimated Cost

Reporting Activity	Frequency	Estimated Cost
Annual Report	Annual	\$30,000
5-year Evaluation Report	5 Years	\$100,000

6.1.5 Data Collection

A discussion of the data collection needed to address identified data gaps is presented in Section 5.4, and the estimated costs are presented below.

Table 6-5: Estimated Costs for Implementing Data Gaps

Data Gaps	Estimated Costs
Interconnected Stream Monitoring	\$100,000 – \$250,000
Contour Mapping	\$20,000 - \$50,000
Community Monitoring	\$50,000 - \$150,000
Butte Basin Model Update 1	\$50,000 - \$100,000
Butte Basin Model Update 2	\$50,000 - \$100,000

6.1.6 Project and Management Actions

The PMAs and anticipated costs are presented in Section 5. The PMAs with a planned initiation date in or before 2032 are presented below.

Table 6-6: Estimated Project Costs

Project Name	Capital Costs	Expected Groundwater Demand Reduction (AFY)
5.2.3.1 Agricultural Irrigation Efficiency	TBD **	Up to 4,000
5.2.3.2 Residential Conservation	TBD	100
5.2.3.3 Scoping for Flood MAR/Surface Water Supply and Recharge	TBD	NA
5.2.3.4 Community Water Education Initiative	Component 1: \$50-100K annually Component 2: \$10,000-\$200,000 annually Component 3: \$10,000-\$25,000 annually	NA
5.2.3.5 Fuel Management for Watershed Health	TBD	TBD
5.2.4.1 Paradise Irrigation District Intertie	TBD	5,000
5.2.4.2 Agricultural Surface Water Supplies	TBD	2,000 – 3,000
5.2.4.3 Streamflow Augmentation	TBD	1,000 – 5,000
5.2.4.4 Community Monitoring Program	TBD	NA
5.2.4.5 Recycled Wastewater	TBD	5,000
5.2.4.6 Rangeland Management	TBD	TBD
5.2.4.7 Removal of Invasive Species	TBD	TBD
5.2.4.8 Surface Water Supply and Recharge	TBD	1,000 per project
5.2.5.1 Extend Orchard Redevelopment	TBD	4,000 – 8,000
5.2.5.2 Recharge from the Miocene Canal	TBD	2,000

Note:

**To be Determined (TBD)

6.2 Identify Funding Alternatives

The GSAs will seek to capitalize on existing funding and programs that overlap with GSP requirements. For example, Butte County, DWR, and other entities currently fund groundwater data collection programs at locations within the Vina Subbasin. The GSAs will ensure that the existing programs meet the technical requirements of the monitoring and reporting as outlined in the GSP.

In cases where no funding or programs are established, the GSAs will be responsible for securing funding for the GSP implementation. The GSAs will coordinate funding with their respective constituent members within the Vina Subbasin. GSAs may fund the GSP through a cost-sharing collaboration to be determined after adoption of GSP.

Funding is anticipated to be met from one or a combination of the following sources: direct contributions from the GSAs constituent members; state and federal grant funding, and taxes or assessments levied on landowners and groundwater users in accordance with local and state law.

The GSAs are evaluating a variety of funding mechanisms, including Proposition 218 or Proposition 26, to support ongoing operational costs and to fund agency operations. These costs include retaining consulting firms and legal counsel to provide oversight and assist with SGMA compliance. Expenses consist of administrative support, GSP development, and GSP implementation.

6.3 Schedule for Implementation

Figure 6-1 presents the estimated schedule for GSP implementation for the Vina Subbasin GSP starting in 2022 through 2042. Project schedules may shift or be altered by the GSAs Board of Directors based on funding opportunities and circumstances. Some activities such as monitoring, data analysis, and reporting will begin upon submittal of the GSP and will continue through GSP implementation. Other activities such as the PMAs will be completed by priority as funding and resources become available.

6.4 Data Management Systems

In development of this GSP, the GSAs developed a groundwater model that was calibrated to estimate future scenarios. The DMS plans to build on existing data inputs in the groundwater model and develop a more formalized approach to collecting and capturing data. As stated in Section 4, Monitoring Network, future data will be gathered to develop annual reports, as well as provide necessary information for future and ongoing updates to the groundwater model at five-year intervals upon GSP implementation. The DMS that will be used is a geographical relational database that will include information on water levels, land elevation measurements, and water quality testing. The DMS will allow the GSAs to share data and store the necessary information for annual reporting.

The DMS will be on local servers and data will be transmitted annually to form a single repository for data analysis for the Vina Subbasin's groundwater, as well as to allow for preparation of annual reports. GSA representatives will have access to data and will be able to ask for a copy of the regional DMS. The DMS currently includes the necessary elements required by the regulations, including:

- Well location and construction information for the representative monitoring points (where available)
- Water level readings and hydrographs including water year type
- Land based measurements
- Water quality testing results
- Estimate of groundwater storage change, including map and tables of estimation
- Graph with Water Year type, Groundwater Use, Annual Cumulative Storage Change

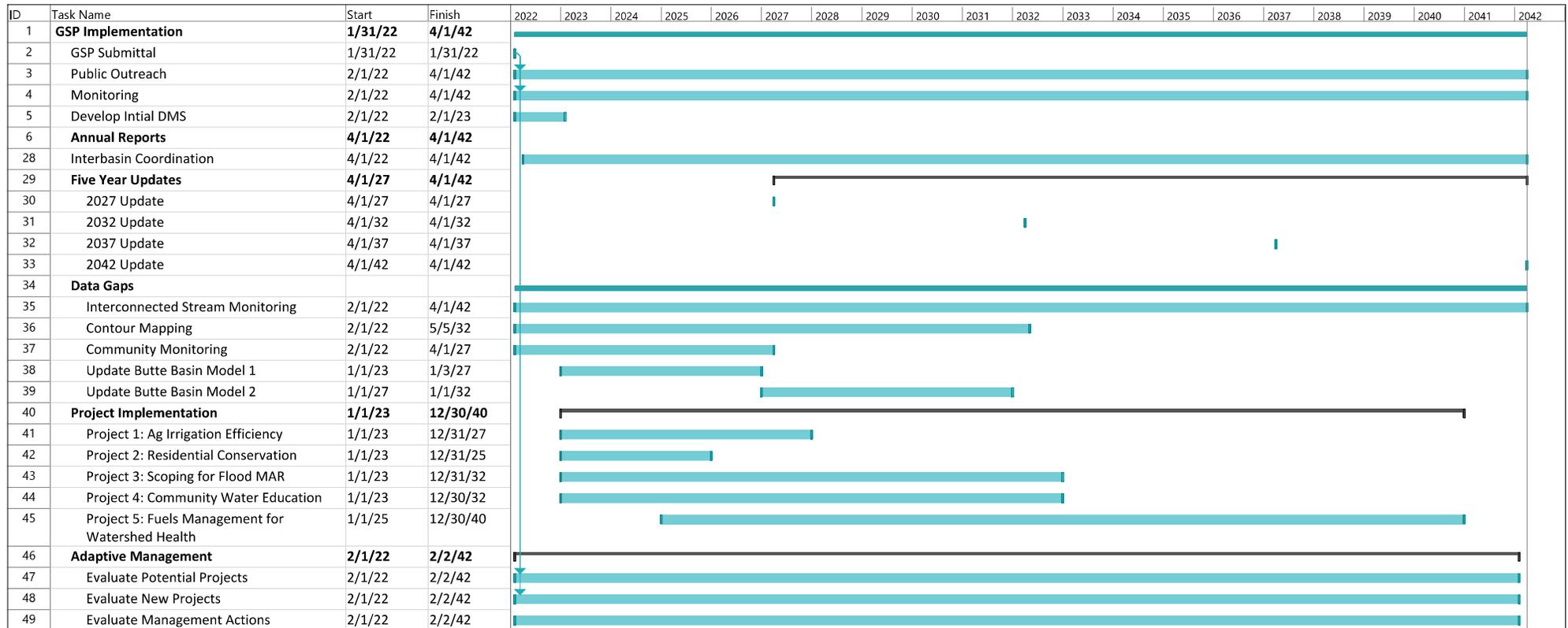


Figure 6-1
Vina Subbasin
Implementation Schedule

Summary [Dark Blue Bar] Manual Task [Light Blue Bar] Start-only [C] [Light Blue Bar] Finish-only [J]
Project Summary [Grey Bar] Manual Summary Rollup [Dark Blue Bar]

Reporting generated from data from the GSAs will include, but is not limited to:

- Seasonal groundwater elevation contours
- Estimated groundwater extraction by category
- Total water uses by source

Additional items may be added to the DMS in the future as required. Data will be entered into the DMS. The majority of the data will then be aggregated to the entity that is responsible for the regional DMS and summarized for reporting to DWR. Groundwater contours will be prepared outside of the DMS because of the need to evaluate the integrity of the data collected and generate a static contour set that has been reviewed and will not change once approved. Groundwater storage calculations will be calculated in accordance with the method described in Section 2, outside of the DMS. Results are uploaded to the DMS for annual reporting and trend monitoring. Since most of the pumping in the Vina Subbasin is not currently measured, the groundwater pumping estimates are also calculated outside of the DMS using the methods developed by GSAs and uploaded to the DMS for annual reporting and trend analysis. The GSAs may choose to have their own separate system for additional analysis.

The one-time cost of expanding the existing data systems is estimated between \$50,000 to \$200,000, as the system is still being evaluated. The Board has indicated a desire to make the data transparent and available to the public while respecting the privacy of individual landowners.

6.5 Annual Reporting

Annual reports will be submitted by April 1 for the prior year's activities. The report will include a general update in the form of an executive summary with an accompanying map of the Vina Subbasin. The body of the report will include a detailed discussion and graphical representation of the following:

- Groundwater elevation data, including contour maps at seasonal high and low conditions and hydrographs using water year type and historical data from at least 2015
- Groundwater extraction data divided into volume by water usage sectors with accompanying map, including a description of the methodology and accuracy of the groundwater extraction estimation
- Surface water volume used or available for use for groundwater recharge or in-lieu use, including a description of the water sources
- Total water volume use divided into water use sector and water source type, including a description of the methodology and accuracy of the water use estimation
- Changes in groundwater storage with accompanying map, including a graph with water year type, groundwater use, annual change in groundwater storage, and cumulative change in groundwater storage using historical data from at least 2015

The annual report will also include a discussion and update on the plan implementation, including the status of IMs and the execution of PMAs

6.6 Evaluation Report

The GSAs will evaluate the GSP and provide an evaluation report every five years or whenever the GSP is amended for submittal to DWR.

The assessment will include a detailed discussion of the following:

- Significant new information and whether the information warrants changes to the basin setting, MO, MT, and SIs, including completed or planned GSP amendments
- Current groundwater conditions relating to each MO, MT, and IMs
- Implementation of any project and management actions and the resulting effects on groundwater conditions
- Assessment of the basin setting, MAs, undesirable results, MO, and MT
- Evaluation of the basin setting and overdraft conditions to include changes in water use, along with overdraft mitigation measures (if applicable)
- Assessment of the monitoring network with analysis of data collected to date, including identification of data gaps and suggested improvements of the network
- Program to address data gaps, including timing and incorporation of data into the GSP, with prioritization on the installation of new data collection sites and analysis of new data based on the needs of the basin
- Relevant actions taken by the GSAs, including a summary of regulations, ordinances, legal enforcement or action related to the implementation of the GSP and sustainability goals

Summary of coordination by GSAs within the basin or within hydrogeologically connected basins and land use agencies.

6.7 Inter-basin Coordination

The Vina Subbasin understands that in the Sacramento Valley inter-basin coordination is critical due to the interconnectedness of groundwater, as each Vina Subbasin prepares and implements its GSP. As such, the Vina Subbasin participated with the surrounding 10 subbasins (Antelope, Bowman, Butte, Colusa, Corning, Los Molinos, Red Bluff, Sutter, Wyandotte Creek, and Yolo). Inter-basin coordination efforts were focused on establishing a foundation and guidelines for sustained inter-basin coordination by identifying priorities and resources. The main objective of the coordination efforts is to identify any significant discrepancies in the GSPs, understand why those differences exist, and evaluate to the extent they need to be reconciled.

As part of the coordination efforts, the Northern Sacramento Valley Inter-basin Coordination Report was prepared (Appendix 6-A). The report outlined a framework for inter-basin coordination for sustainable groundwater management in the Northern Sacramento Valley. It

described a menu of options for ongoing communication and collaboration between and among groundwater subbasins over the 20-year implementation of SGMA. The framework is intended to be used by the GSAs to support GSP development and implementation.

The Vina Subbasin intends to coordinate in the following ways with its neighboring subbasins and with subbasins in the North Sacramento River Corridor group (Antelope, Los Molinos, Red Bluff, Corning, Butte, and Colusa Subbasins):

1. Information Sharing

The Vina Subbasin will work with the GSA's staff of neighboring subbasins to identify lines of communication and methods for information sharing that would be agreed upon by the respective GSA Boards. This will continue throughout GSP implementation and may include:

1. Informing each other on changing conditions (i.e., surface water cutbacks, land use changes, policy changes that inform groundwater management)
2. Sharing annual reports and interim progress reports
3. Sharing data and technical information and work towards building shared data across and/or along basin boundaries (e.g., monitoring data, water budgets, modeling inputs and outputs, and Groundwater Dependent Ecosystems)

2. Conducting Joint Analysis and Evaluation of GSPs

In the near term, the Vina Subbasin intends to pursue grant funding and collaboratively work with subbasins in the North Sac River Corridor group to:

1. Contract with a consultant to conduct this work
2. Evaluate and compare contents of GSPs with a focus on establishing a common understanding of basin conditions at boundaries
3. Identify significant differences, uncertainties, and potential issues of concern related to groundwater interaction at the boundaries
4. Engage in analysis and evaluation of SMCs between GSPs to assess impacts and identify significant differences and possible impacts between subbasins that could potentially lead to undesirable results

The North Sac River Corridor is the appropriate scale of coordination for these activities due to the shared boundary of the Sacramento River, shared data gaps, and the interconnectedness of the subbasins.

3. Coordination on mutually beneficial activities

The Vina Subbasin will work collaboratively with North Sac River Corridor Subbasins to identify items in our GSPs that are ripe for a coordinated project and pursuit of funding such as Projects and Management Actions, Data Gaps (new monitoring wells, stream gaging etc.).

1. GSAs Boards will jointly identify projects/programs to coordinate on.

2. Vina Subbasin will pursue partnerships to obtain grant funding to support a consultant to conduct this work.
3. Vina Subbasin will work collaboratively with entities such as the Northern California Water Association and others in their efforts to pursue funding and support local and state agency activities to identify and fill regional data gaps.

4. Coordinated Communication and Outreach

Staff of the Vina Subbasin GSAs will continue to participate in regional public engagement activities and efforts related to implementation of SGMA in the Northern Sacramento Valley. These efforts will include GSA Board members and will foster transparency of communications.

This may include:

1. Coordinating and collaborating on regional-scale public engagement and communication strategies that promote awareness on groundwater sustainability, enhancing public trust, and maintaining institutional knowledge
2. Maintaining a list of GSP/subbasin staff contacts and websites

5. Issue Resolution Process

Vina Subbasin will pursue development of an issue-resolution process with neighboring subbasins in the North Sac River Corridor group.